Teaching Guide

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3

Secondary Social Studies for PAKISTAN

Revised Edition

With Lesson Plans and Worksheets

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Contents

Introduction

Long, long ago the world was a much simpler place. People rarely moved far beyond the place where they had been born, and met only those they had known all their lives. They were scarcely conscious of the next village, much less the wider world 'out there'. They made rules which suited their own little community and grew crops and reared animals for self-sufficiency in food. The land, the water, the winds and the Sun were their gods.

Then, gradually, the horizons broadened out as people began to move beyond their home base. They now belonged to a larger community, conquering and being conquered, and the rules of law had to be enforced so that people could exist together. Widening horizons brought trade—exchanging goods they had for those they did not: widening trade brought new demands, new restrictions and, also, new liberties. Slowly the world expanded, first to nations and later to international units until today when it is a complex mass of interconnected cultures and economies.

This series, *Secondary Social Studies for Pakistan*, tries to look at the situation, starting in the first book, with our own country, its geography, history, and outside influences that have shaped it over the years. The second book deals with the wider Muslim world in general—the geography, economy, history and political growth—and the movements for independence of Pakistan, and its achievements and national events from 1947 to 2008. The final book deals with the Earth and its place in the universe, global economies and their problems. It also deals with international institutions, problems that have been created by globalization and what democracy, citizenship, and human rights really mean. In addition to these, this series also includes environmental concerns in the developing world as populations, industries, and consumption of goods have grown, and need to be managed.

The accompanying Teaching Guides aim to facilitate teachers by providing background information and teaching strategies. The importance of planning out the teaching schedule and preparing lesson plans cannot be underestimated so that the course is covered and the teaching time allows activities, projects as well as end of month/term assessments. This revised edition of the Teaching Guides incorporates extensive lesson plans and worksheets for each chapter as well as assessment papers for the geography and history sections, along with answer keys to worksheets and the assessment papers. The lesson plans cover at least two periods per chapter so that explanation, understanding and reinforcement are covered satisfactorily. In case of a longer chapter, up to four sessions are suggested. However, schools are advised to adjust these according to their term break-up and time available.

Social Studies is an interesting subject and can be made more so through lessons that are creative, challenge students' thinking skills, and allow learning through practice. Critical thinking leads to problem-solving skills and a lesson well-planned and well taught will inculcate these skills in your students for their studies as well as in real life.

Note: In marking dates in history BC (Before Christ) and AD (Anno Domini: the year of our Lord) are now expressed as BCE (Before Common Era) and CE (Common Era), respectively. The Common Era begins with the period following the birth of the prophet Jesus, Hazrat Isa (AS).

CHAPTER ONE

THE UNIVERSE

TEXT PAGES 1–7

The great advantage of the Hubble and Chandra telescopes is that they are in space, free of the Earth's atmosphere. Not only does the air distort images, but also it is full of dust particles which distort vision. Before the space telescope, the best that could be done was to place telescopes as high as possible, on mountains far away from city pollution. A favourite place was islands such as Hawaii, as far as possible from a major land mass. With a telescope mounted outside the Earth's atmosphere, astronomers can see millions of light years deeper into space as compared with a terrestrial one.

A further development is the radio telescope which does not see images but picks up radio signals from outer space. We are not completely sure what these are, but they are steadily consistent.

Distances in space become impossible to grasp in linear measure: the only thing is that travelling even inside our own solar system—apart from the Moon—is impracticable. The stories and TV shows and films of space adventure are, of course, not possible. Light travels at 300 kilometres a second. Everything else we know of at present travels at less than this. For one thing, human beings could not live at this speed, and a journey to the nearest star would take 900 years—quite impossible, of course. Even Mars, the nearest, is an average of 228 million km away. And by the fastest rocket we have (40,000 kph), it would take almost four years, even in a direct straight line.

The photograph of the universe shows only a microscopic portion of it and, even here, every white dot is a solar system like our own. The yellowish cloud is made up of millions more solar systems, too far away to be distinguished as individual dots or spots of light.

The photograph of the Hubble telescope: The two rectangular panels are solar cells providing electricity for operating the telescope and transmitting its findings by radio to the Earth. These panels are made up of many thousands of the tiny cells as are found in pocket calculators to power these.

The solar system: As the Earth's revolution is not exactly 24 hours, the year gets a little out of step with clocks and calendars. To correct this, every fourth year is a leap year which has an extra day (366 instead of 365). This still leaves dates and the Sun a bit inaccurate, so that every century (years ending in 00) is a leap year if it is divisible by 400 and not just by 4. Thus 1900 was not a leap year, but 2000 was and had 366 days. The next time this happens will be in 2400. Actually, this still leaves a little inaccuracy—the actual period of the Earth's orbit is 365 days, 5 hours, 48 minutes, and 45 seconds but the difference is too small for us to bother about today.

The planets, as shown in the diagram on page 2, are not really equally spaced from the Sun. To show this to scale, draw a line one metre long on the board. At one end, make a circle for the Sun. Then place the planets at these intervals from the Sun:

Mercury—1.0 cm; Venus—1.8 cm; Earth—2.5 cm; Mars—3.8 cm; Jupiter—13 cm; Saturn—23.8 cm; Uranus—48 cm; Neptune—75 cm. The furthest out, at 100cm, would have been Pluto but it no longer qualifies as a planet.

There can be no life as we know it on any of the other planets in our solar system except perhaps Mars, and frantic attempts are being made by probes crawling across the surface to find traces of water which is essential for life. (The latest probe on Mars is the rover Curiosity, launched by NASA which landed on Mars in August 2012.) Scientists are beginning to think that certain features on the planet indicate that water did at least once exist there, and that there could well have been simple forms of lifelike bacteria. Some scientists believe that these bacteria may have reached the Earth and started life here.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 7:

1. Extreme temperatures on different planets in the solar system are caused by distance from the Sun, and also in some cases by speed of rotation of the planet. If one side is in the shadow (turned away from Sun), the temperatures will plummet to a point where gases (nitrogen) become liquid.
2. The Hubble telescope is a space-based observatory which was launched in 1990. It has helped scientists to look further into space because, being in space and clear of the Earth's atmosphere, it does not have problems with clouds which block the view of land-based telescopes, and is free from the dust and debris which is there. Because of its position in space and the clarity there, the Hubble can see more distant objects and also much more detail of the more familiar ones such as our planet. The information is sent back to Earth electronically.

   The Chandra telescope was launched on July 23, 1999. It consists of four pairs of mirrors and their support structure. Chandra is designed to observe X-rays from high-energy regions of the universe. Chandra is still a new telescope, but it has already made some amazing discoveries. It has found black holes all across the universe and also found proof for the first time of two super-massive black holes. It has also given clues about how the universe has evolved over time and even about the planets in our own neighborhood.

   (Students can find out more information from various sources.)
3. Eclipses occur when the Sun, Earth, and Moon come in a straight line and the light from the Sun is blocked out.

   A solar eclipse occurs when the Moon passes between the Sun and the Earth so that the Sun is fully or partially covered.

   A lunar eclipse occurs when the Earth comes between the Moon and the Sun and blocks the Sun's rays from striking the Moon; thus the shadow of the Earth falls on the Moon.
4. Students can work in groups to complete this task.
5. The spacecraft that have gone beyond the solar system are Voyagers 1 and 2. These were launched in 1977, from the Kennedy Space Centre at Cape Canaveral, Florida. By 2008, Voyager had travelled more than 10 billion miles into space. It contains a gold-plated CD with 115 messages in 55 different languages, the voice of the then US President, sounds of wind, surf, rain, heartbeats, laughter, and a mother's kiss, a plan of DNA, and an image of a sheet of music.

LESSON PLAN 1

Topic: The Universe

Duration: Four periods (40 minutes × 4)

Objectives:
- To convey the immensity and diversity of the universe and the solar system
- Use of the concept of light years to measure distances

- To promote an understanding of:
  (i) the lunar cycle and its effects (ii) the phenomenon of eclipses

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet

First period

Introduction: Ask the students when we celebrate Earth Day and why: Earth Day is celebrated on 22 April to protect our planet Earth and its atmosphere.

Talk generally about the surface of the Earth. What do we find on the surface? (rivers, mountain, plains, deserts, etc.) What is underneath the surface of the Earth? (minerals, mainly) What do we see in the sky? (The Sun, the stars, the Moon, etc.)

Explanation: Ask where this planet Earth is located: it is a part of the solar system, which in turn is a part of a huge galaxy called the Milky Way. Explain that all these stars, planets, and galaxies make up the universe.

Define the universe: it consists of all matter, light, atmosphere and other forms of energy that have been discovered. It includes everything on Earth and in the solar system and beyond.

In order to begin to understand these huge dimensions, read the text of this chapter topic by topic and explain.

What is a light year? It is the distance light would travel in a year.

i) 299,792,458 metres (approx. 300,000 km) per second
ii) 1,080,000,000 (over one billion) km per hour
iii) 25,920,000,000 km per day
iv) 9,460,800,000,000 km per year

Write the data on the board. It is mind-boggling for many of us to calculate!

Ask why scientists use the term 'light year' to measure distances in space. It is because distances in space are so vast that we cannot measure them in kilometres or miles.

The Hubble Telescope: explain the structure of the Hubble Telescope and where it is positioned. (See page 1 of the textbook)

Explain the term **nebulae** (plural of nebula). A nebula is a cloud of dust, gases, and particles, found between stars in space. The Milky Way is a galaxy comprising stars and nebulae. If possible, show the class some images of nebulae on the Internet. The Hubble telescope and Chandra X-ray laboratory have sent pictures of space showing these formations.

Second period

Suns and planets: explain the term astronomy—the science of studying the Sun, the Moon, the stars and other heavenly bodies. The Sun is a huge star, but it is just one of millions of such stars in the Universe. The Sun is important to us on Earth as it is the source of energy for all living things here.

Explain the text on pages 2 to 4 about the solar system, the Sun, its planets and their satellites. Also explain why Pluto is no more a planet.

Describe the structure of the Sun, its substance, size, diameter, and temperature. These details are given on page 3 of the textbook. Discuss why there is no life on the other planets: they are either too close to the Sun (too hot for life to survive) or too far from it (too cold for any life form to evolve and survive).

Emphasize why we should cherish the Earth and look after it—it is the only 'home' we have.

The students may make a table showing the names of the planets and their distance from the Sun. They can collect and compile more information from encyclopedias and the Internet.

How do planets move around the Sun?

a) In orbits which are oval or elliptical.
b) Length of the planet year is equal to the time it takes to complete one journey around the Sun.
c) How much time does the Earth take to revolve round the Sun? 365¼ days.

Therefore, every fourth year is a leap year, to balance the extra day.

Conclusion: Recap the main points of each lesson.

Reinforcement: Students to draw the diagram of the Solar System as shown on page 2 of the textbook.

Third period

The Solar System and its planets

Describe the positions of planets according to the distance from the Sun. (See the diagram on page 2 of the textbook.)

Mercury is the nearest to the Sun while Neptune is the farthest and takes 165 Earth years to revolve around the Sun. Calculate the time in days (365¼).

In size too, the planets vary. The smallest is Mercury (diameter = 4878 km) while the largest is Jupiter (diameter = 143,884 km). Compare these to Earth (diameter = 12,756 km).

Also explain the effect of gravity and distance from the Sun, as well as the planet's own mass.

The Hot Planets: Mercury and Venus are the hottest as they are too close to the Sun. The temperature of Venus is 462 °C and that of Mercury is 430 °C on the side facing the Sun.

The Cold Planets: Except Mars, all the others are bitterly cold, as they are further away from the Sun. Some temperatures are shown below.

- Mars: –140 °C to + 17 °C according to Earth's standards.
- Jupiter: –150 °C
- Saturn: –172 °C
- Uranus: –216 °C
- Neptune: –218 °C

Is there life on Mars? Scientists suggest that life may exist on Mars because it has a small amount of oxygen and water which are the essentials of life. Ask the students to collect more information. There are science fiction stories that imagine life on Mars, with a population of Martians. Discuss this lively topic!

Explain the term **satellite**. In the solar system, except for Mercury and Venus, other planets have satellites i.e. moons. How many moons does each planet have?

Earth—one moon; Mars—two moons; Jupiter—63 moons; Saturn—60 moons; Uranus—27 moons; Neptune—13 moons.

Why is Saturn an interesting planet?

It is the second largest planet which has very short days and nights—less than half the duration of the Earth's days and nights. It has seven gigantic rings made of ice. For details, see the textbook. Encourage students to do research on the solar system and its planets and their features. The task can be assigned to small groups. The pictures and descriptions can be put up as posters for display.

Fourth period

The Moon

This is the Earth's only natural satellite. The Moon does not have any light of its own but reflects the light of the Sun. Explain the movement of the Moon around the Earth and the different phases of the Moon: the crescent, the half moon, and the full moon, and then it seems to become smaller and smaller until there is no moon. The diagram on page 5 of the textbook can be used to explain the phases of the Moon.

Eclipses: Explain the following points: kinds of eclipses, the lunar eclipse and the solar eclipse. Why do they occur? Using the diagrams on pages 6 and 7, explain the position of the moon, Earth and the Sun during the eclipses. In a solar eclipse, the moon comes between the Earth and the Sun. In a lunar eclipse, the Earth comes between the Moon and the Sun.

Discuss the duration of the eclipses, and why complete eclipses occur. How do they affect life on Earth? See the textbook for details. Discuss how ancient civilizations feared such natural phenomena and linked them with all sorts of superstitions.

Conclusion: Recap the main points of each lesson.

Reinforcement: Students can collect interesting information about eclipses and as pair or group activity, put this up in class in the form of posters.

Homework: Ask the students to draw the following diagrams:

1. Phases of the moon (page 5 of the textbook)
2. Solar eclipse
3. Lunar eclipse.

Ask the students to search for the dates and locations of solar and lunar eclipses in the last ten years. The data can be compiled as a table.

1. Here are the names of the planets in the solar system jumbled together. Arrange them in order according to the distance from the Sun.

   Earth, Uranus, Jupiter, Mercury, Venus, Saturn, Mars, Neptune

2. Match the solar system bodies in column A with their features in column B.

	A		**B**
a.	Sun	(i)	too close to the Sun
b.	Pluto	(ii)	temp –140 °C to +17 °C
c.	Mercury	(iii)	a star, centre of the solar system
d.	Mars	(iv)	seven gigantic rings
e.	Saturn	(v)	no longer a planet

3. Choose the correct answer.

   a) Light travels at the speed of _____ per hour.

      i) over 5 billion km. ii) 5 million km.

      iii) over 1 billion km. iv) 15 million km.

   b) The Hubble telescope orbits at a height of _____ above the Earth.

      i) 200 km. ii) 600 km.

      iii) 100 km. iv) 1000 km.

   c) The planet nearest to Earth is _____ .

      i) Mars ii) Jupiter

      iii) Venus iv) Neptune

   d) The planet furthest from the Sun is _____ .

      i) Saturn ii) Uranus

      iii) Neptune iv) Jupiter

   e) The force of gravity on Jupiter is more than _____ that on Earth.

      i) five times ii) twice

      iii) three times iv) half

4. State whether the following statements are true or false.

   a) Pluto is not a planet.

   ☐ True ☐ False

   b) Venus is a hot planet.

   ☐ True ☐ False

   c) Chandra is a natural satellite of the Earth.

   ☐ True ☐ False

   d) Saturn can be seen with the naked eye.

   ☐ True ☐ False

   e) A solar eclipse occurs when the Moon is between the Sun and the Moon.

   ☐ True ☐ False

THE EARTH

TEXT PAGES 8–22

The structure of the continents and land masses has been explained in detail on pages 8–9 of the textbook.

The words Pangaea and Panthalassa are used in the text; ask the students what they understand by these words. Pangaea = all Earth. Panthalassa = all sea.

Ask what Greek word for 'all' was (pan). Can pupils think of any other words starting with 'pan' meaning 'all'?

Pandemonium: a wild uncontrolled activity; literally, 'all demons'

Pandemic: a disease that spreads all over the country

Pantheon: a temple to all the gods

Panacea: a cure for all unwanted conditions or diseases

Panorama: a view over a wide area (literally, a view over all)

The fact that the polar regions are ice-capped is of great importance today, as with global warming much of this ice will melt causing sea levels all over the Earth to rise. (The Arctic ice cover was already at its lowest in August 2012.) No one yet knows how much more melting will take place, but certainly places like Bangladesh and Maldives will experience severe inundation (flooding). We must also remember that these ice caps are the storehouses of the world's supply of fresh water.

Tectonic plates: Point out on a world map how the American continents fit in snugly with Africa. Pupils can work out how long the plate drift took. South America is about 5500 km from Africa: at 10 cm per year, it takes 10,000 years to cover one kilometre, so it took 55,000,000 years for these continents to drift apart.

Only the main plates are shown in the map on page 8: it is interesting to note that earthquake/volcanic activity occurs almost exclusively along the fault lines where plates abut. Where the Pacific and American plates touch, the actual 'crack' is clearly visible on the surface at the San Andreas Fault. Strips of glass are glued across the crack so that any movement can be seen as the glass breaks—though, of course, this is for public demonstration, and scientists use far more sensitive seismic instruments to detect any earth movements, well in advance.

The drifting apart of the great plates has brought about the difference in flora and fauna—plants such as tobacco, tomatoes, corn, cinchona (quinine), and many others were found originally only on the American continent, and animals such as kangaroos, wallabies, duck-billed platypuses, kiwis, and others existed only in Australia and New Zealand. When these plates broke away from the great land mass on Pangaea, plants and animals were in the early stages of evolution, and continued to evolve in quite separate ways. There were no horses, for example, in either the Americas or Australia until taken there by travellers from Europe. However, animals could move across easily throughout Asia, Europe, and Africa on foot as there were no barriers and no Suez Canal.

To give an idea of the plates grating, get two bricks and rub them together very firmly. Imagine the plates as 'bricks' hundreds of kilometres long and hundreds of metres thick, and grinding together with immense force. Fault lines are where two of the Earth's tectonic plates touch and jostle against each other.

Underwater earthquakes can produce tsunamis—immense waves up to 100 km long which travel at 700–800 kph. In mid-ocean these are only a metre high, but when they reach the shallower waters near land, they can mount up to 15 and even 30 metres, doing immense damage and carrying quite large ocean-going ships several kilometres inland. This can be explained giving the example of the December 2004 tsunami that was caused by an earthquake in the Indian Ocean.

When undersea volcanoes reach the surface, they can sometimes develop into islands—most of the Pacific Islands and those in the mid-Atlantic are of volcanic origin.

ANSWER TO QUESTIONS IN TEXT, PAGE 10:

- Bar chart for relative size of continents:

  Asia = 21.9 cm; Africa = 15.1 cm; North America = 12.2 cm; South America = 8.9 cm; Europe = 5.9 cm; Antarctica = 6.8 cm; Oceania = 0.3 cm

- Total land area of Earth = 148,940,000 sq km

Finding places on a map

Get pupils to orally give grid references—for example, F3—for the places marked on the map on page 10.

Any place on the Earth's surface can be located by a latitude/longitude reference, such as 23 degrees East/15 degrees North. This is refined by more accurate figures in degrees, minutes, and seconds. A full latitude/longitude reference is accurate to a metre or two on the Earth's surface.

The International Date Line is at 180 degrees longitude, north to south. This is directly opposite the Greenwich meridian which is 0 degrees longitude.

The latitude/tropics chart on page 11 may need some explanation to pupils. The lines showing the angles of the tropics and Arctic/Antarctic circles are in theory drawn as if the viewer is at the centre of the Earth. The students can use a protractor to measure these angles.

Oceans and their importance

The first two items listed on page 13 are naturally the most important: without the source of water and the regulation of temperature, life could not survive. Points c, d, and e would make life better, where it exists.

The water cycle: The amount of water on Earth is finite. No more can be created, so that the existing water goes round and round. It is a sobering thought that some of the molecules of the drink we had today have been recycled: through the millennia, it has been drunk and excreted by millions of living creatures in the past. In between, of course, the water molecules have been turned into water vapour and purified.

Water evaporating from the oceans is pure: it absorbs certain chemicals in the form of gases from the atmosphere, but far more from the land when it falls as rain. It dissolves many substances as it flows along rivers and underground—especially easily soluble ones such as salt. Although the water in rivers may seem tasteless, it does contain small amounts of salt. When it evaporates from the oceans again, it leaves this salt behind, which is why the sea is salty. Plants and creatures in the sea absorb some salt so that in

the end, a balance is reached and the sea does not generally go on getting saltier. The Dead Sea in Palestine is different though: this has no life in it, so that the salt which is constantly being brought down steadily increases by evaporation of water under the hot sun. The salt has made the sea so dense that it is impossible to sink in it—one just floats on it.

Pakistan's rainfall overall is about 250 mm/year, which is below the world average of about 400–500 mm. Naturally, this would place the country at the lower limits of grassland, but the extensive irrigation makes much of the country able to produce good crops. The fact that more water melts in the north of Pakistan each year than snow falls as precipitation, is significant for the distant future, though serious effects will not be visible in any of the pupils' lifetimes.

Temperature: The role of oceans and seas in regulating temperature on the Earth's surface is very important. Compare the climate of Pakistan's coastal regions with that of the interior or further up north, where heat or cold can be more extreme.

Tides: Students living in coastal areas can be taken on a field trip to observe the movement of the tide. Tides are important for ports, as they affect marine traffic.

Currents: Map, page 18: the Humboldt and West Wind Drift (17 and 18) sweep up the west coast of South America; the Benguela (22) flows up the west coast of South Africa, and the West Australian current (26) up the coast of western Australia. They all originate in the Antarctic regions and are (a) cold and (b) swarming with plankton (minute marine organisms). These encourage vast numbers of fish so that these seas are among the richest fishing grounds in the world. Surprisingly, the bulk of the catch is not directly for human consumption but for making fish-meal fertilizer or animal food—tinned pet food contains a lot of this fish.

Coconuts are one of the earliest fruit to develop and survive over the millennia. Their structure and that they grow along coasts allowed them to spread across the seas—fruit that fell into the water got carried by it to another place where it took root and grew into a plant. Perhaps examine a coconut in its outer case, and open it up to show the different parts: the watertight outer shell, the fibrous material inside which gives it buoyancy, the hard shell, and the points where the nut eventually sprouts.

Uses of the oceans

Food: In some areas, especially the Atlantic coastal waters, there is a severe problem of overfishing. With smaller boats, catching and breeding were kept more or less in balance. Now with huge fishing ships fitted with electronic equipment for tracking shoals of fish, and sophisticated nets, often many kilometres long, the catches are fast outrunning the rate at which the fish can breed. The European governments have forced a ban forbidding some fish to be caught at all, and the boats have strict quotas of how many of the other types they can catch. This has made fishing uneconomic for many fishermen: they are forced by law to fish, say, only three days a week. Fish prices in the shops have, of course, rocketed.

There are two solutions: (a) to go to deeper waters where new varieties of deep-sea fish live (many of these are unfamiliar and have to be disguised under fancy names) or (b) fish farming. Deep inlets in the sea are sealed off by nets, as if it were a gigantic cage, and fish inside are bred on farming lines. They are fed with concentrated food to make them grow more quickly (and taste of nothing), but when huge numbers are concentrated in a compact area there is a constant battle against diseases. Antibiotics are put in the water, which the fish absorb as do the people who eat them. Only a few species of fish will respond to farming like this, notably salmon, which two decades ago was one of the most expensive fish available, and is now one of the cheapest.

Fish farming: In Europe, salmon are farmed on a huge scale. Vast cages are anchored off the coast and billions of young salmon put into them. Where it is suitable, inlets of the sea are shut off with netting

and fish reared inside these natural cages. As with animals on land, shoals of fish in close confinement get all kinds of unnatural pests and diseases, and need constant treatment with chemicals in the water to keep them healthy. (In Pakistan, there have been efforts to set up fish farms for trout, a freshwater fish, in the northern regions.)

Whaling: In the past, the number of whales which could be caught, with hand-thrown spears (harpoons), was limited. Today with explosive harpoons fired from guns, whales can be slaughtered in vast numbers. The UN has had to ban fishing of most species of whales, but Japan and Norway, where whale meat is highly sought-after, at first defied the ban, and then under immense pressure were forced to limit their catch to a few hundred a year 'for scientific purposes'. This is very suspect, and the two countries have said that they will defy the International Whaling Commission ban and resume unlimited catching.

Perhaps a reading from the famous novel 'Moby Dick' or, if possible, a viewing of the film made on this book would be an interesting activity.

It is surprising that more use has not been made of seaweeds some of which can be excellent food, and are also eaten by some people living near the coast. The resources are limitless, and perhaps in the future the seas will be farmed for vegetation as well as fish.

Iodine from the sea is vital for human health as its deficiency causes thyroid-related problems.

Minerals are not products of the sea, but on some occasions their source is under the water. The most important are oil and gas, but recovering these is expensive—an oil well under the sea costs about ten times as much as on land, even in shallow coastal waters. As these sources are beginning to run out, the rigs have to search in deeper and deeper waters, with a consequent rapid increase in costs. There is also the question of vulnerability—in war, the offshore rigs would be easy targets for enemy submarines or fast surface boats. Life on the rigs is tough and dangerous, but the wages are phenomenal—often Rs 40,000–80, 000 A WEEK. Refer to the photograph of the Troll oil platform in the North Sea; people working there are flown in by helicopter from the mainland and back again.

As long as our world depends on oil for energy, almost any cost will have to be endured but, in the end, oil will run out so that new sources of energy must be looked for. And one of the possible alternative sources of energy is the ocean itself. All over the world, experiments are being frantically conducted to try to find a satisfactory way of extracting energy from the seas, but none has yet been found to be practical or capable of producing electricity in economic amounts.

Energy in the oceans

Tidal power: In a few places where there is a very high rise and fall in tide, inlets have been blocked off by a wall into which are set turbines and dynamos. As the tide rushes in, it turns the turbines and generates power. At high tide, the inlets are blocked off forming a lake. When the tide falls these inlets are opened and the water rushes out turning the turbines again. But there are very few places in the world where the rise and fall of the water makes this a practical system.

Various methods of trying to harness the waves: A huge row of gigantic floating tanks is connected by levers and gearing to dynamos so that as the buoys rise and fall the dynamos turn. This is not satisfactory, though. There are a number of other methods but nothing yet produces enough energy to be worth putting into serious operation.

Weathering and its main causes

Eventually—in millions of years, if it still survives—the Earth may well become flat as the mountains are worn down and the oceans filled with the debris. This is the result of weathering and erosion by natural causes—wind, water, and temperature.

Water has purely mechanical means of breaking down rock such as streams washing away the banks and beds; waves pounding the coasts, eroding cliffs, etc.

Frost: an experiment can be done to show the expansion when water freezes. Get a screw-topped glass bottle and fill to the brim with water. Screw the cap on tightly. Put inside a strong plastic bag (to prevent damage) and fasten. Put in the freezing compartment of a fridge—in school, if possible—and leave for a day. When brought out, the bottle will have broken into pieces.

Chemical action: Take the students to the lab for this experiment. Get some chips of limestone (marble chips are ideal) and put into a test tube. Get hydrochloric acid (dilute) from the lab and pour it carefully on to the marble. BE VERY CAREFUL AND POUR ON A FEW DROPS AT A TIME. The whole thing will fizz, and, if left, the marble will have dissolved in the acid.

Expansion: Get a lump of limestone, say the size of a half brick, and place in full sunshine until thoroughly hot. Then put into a plastic bag in a freezer. Repeat until it cracks and crumbles—it may take several applications. Since the school may not welcome the use of the freezer for this experiment, you could use ice in an ice box.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 22:

1. Tectonic plates are large plates of irregularly shaped massive rocks that make up the foundation of the Earth's crust and the shape of the continents. There are ten major plates on the Earth and many more minor ones. These plates are most famously known for being the source of earthquakes.

   The formation of continents is the result of the movements that caused the plates to move away—continental drift.

2. The ten biggest earthquakes in the 20th century, death toll in brackets, Richter Scale given where available: Tangshan, China, 1976 (242,500); Nanshan, China, 1927, 7.9 (200,000); Kansu, China, 1920, (180,000); Messina, Italy, 1908, (160,000); Tokyo, Japan, 1923, 7.9 (143,000); Turkmenistan, 1948, 7.3 (110,000); Kansu, China, 1932 (70,000); Peru, 1970, (68,800); Quetta, India (then), 1935 (55,000); India, 1905, 7.8 (20,000).

   The 1906 earthquake in San Francisco killed about 6000 but probably caused more damage because it was centred on a major city.

   The strongest earthquakes of the 20th century measured on the Richter scale were: Chile, 1960, 9.5; Alaska, 1964, 9.2; Aleutian Islands, 1957, 9.1; Kamchatka, 1952, 9; Ecuador, 1906, 8.8; Aleutian Islands, 1965, 8.7; Indo-China border, 1950, 8.6; Kamchatka, 1923, 8.5. But as most of these were in remote areas the loss of life was not as great as those listed above.

   Fault lines occur where tectonic plates collide. These lines demarcate plate boundaries. Volcanic activities and earthquakes also occur along these lines.

3. Benefits of seas and oceans to people living on islands and coastal areas are: (a) climate moderated—cooler in summer, warmer in winter (b) source of food—fish (c) easier transport and dock/harbour facilities and (d) relaxation on beaches.

4. Oceans moderate the temperatures on adjacent land—cooler in summer as the land heats up and air rises, drawing in cooler air from over the sea; warmer in winter as the oceans do not change their temperature more than a few degrees throughout the year, and though the air over the sea is warmer and rises, drawing cooler air from over the land, the proximity to the great mass of warmer water near the coast keeps the temperature moderate.

5. Currents are the great broad 'rivers' of water in the oceans. They move due to the temperature and saltiness in the sea. Cold and salty water is heavy and sinks down. This water along the ocean bed moves from the polar regions towards the equator where it warms up and rises and then moves towards the poles where again it cools down and the whole process is repeated. Use the maps on page 17 of the textbook and atlas, page 76, to explain how currents flow, their point of origin, and direction and category (hot/cold).

   Currents take their temperature from where they originate; those from the Arctic or Antarctic regions are cold currents and keep the climate of the land they flow past cooler. Examples are: Chile and the west coast of South America; the east and west coasts of North America; the western coast of South Africa, Australia and the east coast of Japan. Currents arising in the equatorial latitudes tend to keep the coasts they touch warmer; for example, the western coasts of Europe, especially the UK; the West Indies and the south-eastern coast of the USA; the eastern coast of South America; the eastern coast of Africa; the Gulf States and India; the East Indies; much of New Zealand.

6. Weathering is a process in which landforms such as rocks, cliffs, beaches, and soil are eroded i.e. broken down over a period of time. It is caused by the actions of wind, rain, water, temperature, and ice (glaciers). Examples are given in the textbook on pages 20–22 of how these weathering agents erode the surface of the Earth.

7. Some steps taken for conservation of marine life are: improving fresh (river) water outflow into the sea; conservation of mangroves in the coastal areas; reducing effluents' discharge into the sea; treatment of sewage and waste water; controlling human activity along the coastal belt; beach clean-ups; raising awareness about environmental issues.

   (Students may also research the local EPA—Environmental Protection Agency—websites for further information.)

LESSON PLAN 2

Topic: The Earth

Duration: Three periods (40 minutes × 3)

Objectives:
- To explain (i) the formation of continents and oceans from primitive Pangaea and Panthalassa (ii) the theory of tectonic plates with reference to earthquakes

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, globe, newspapers, encyclopedia, Internet

First period

Introduction: Ask the following questions as brainstorming.

1. Where do human beings live? (on Earth)
2. What is the Earth, a planet or a star? (a planet)
3. What are the two main components of the Earth? (land [continents] and water [oceans])
4. What is the ratio of water and land on Earth? (approximately 2/3 is water and 1/3 is land)
5. How did continents come into being? (The students have some preliminary knowledge about this. Encourage a discussion.)

Explanation: Write the topic 'Earth' on the board. Ask how many continents and oceans there are on Earth and ask the students to name them.

There are seven continents: North America, South America, Europe, Africa, Asia, Oceania (formerly Australia) and Antarctica. Early geographers counted North and South America as one—the Americas. The Arctic (the North Polar Region) is not a continent because it has no land mass—just ice, several kilometres thick, under which there is water.

Formation of Continents: According to the geologists, millions of years ago, there was only one huge mass of land and just one great ocean. They were called Pangaea (Greek for 'All Earth') and Panthalassa (Greek for 'All Sea').

Briefly mention how life began on Earth—from single-celled organisms to early reptiles to human beings.

What happened about 240 million years ago?

a. Pangaea cracked into gigantic pieces or plates.
b. The plates drifted apart on the semi-liquid interior of the Earth like icebergs on the sea.
c. The plates moved about 10 centimetres a year.

Information: The plates continue to move, causing mountains to rise at the same rate—10 centimetres a year.

Explain how the plates forming the surface of Pangaea moved, and broke into continents, as given on page 8 of the textbook.

a. When the plates moved westward the Americas were formed.
b. When they moved eastward Oceania (Australia) was formed.
c. The northward movement formed the Indo-Pak subcontinent.
d. When it bumped into the plates of Asia and Europe (collectively called Eurasian plate) huge mountain ranges (Himalayas, Hindu Kush, Karakoram, etc.) were formed.

As the plates drifted away (the process is also known as the Continental Drift) water filled in the spaces that were created, forming seas and oceans. Ask the students to name the oceans—Atlantic, Pacific, Indian, Arctic and Antarctic (now called Southern Ocean). The students may also list the major seas by locating them on the world map.

Plate tectonics: Ask the students to study the map given on page 8 of the textbook and also the one on page 74 of the *Oxford School Atlas for Pakistan* "Environmental Hazards". These maps show the main tectonic plates of the Earth. Explain what is meant by 'tectonics. (It is the scientific study of the movement of the Earth's plates.) Ask the students to read out the names of the plates from left to right (west to east) on the map on page 8 of the textbook.

As the students call out the names write them on the board.

How mountain ranges were formed: Explain in more detail how the mountain ranges of the Hindu Kush, the Pamirs, the Karakoram and the Himalayas were formed: these are called fold mountains because the edges of the plates folded upwards when the plates collided. This can be demonstrated using two newspapers folded in half, placed on a table and then pushed towards each other forcefully making the edges rise upwards. The tectonic plates of the subcontinent and Eurasia are still moving and pushing the mountain upwards.

Explain what could happen when huge rocks grate against one another. Ask the students what they think happens when two huge, hard surfaces grate or rub against each other. (They make a terrifying sound and may crack; they cause earthquakes). Weak points along the plate boundaries are called fault lines.

Where do volcanoes occur? They occur along the fault lines of the touching (or grating) plates.

Discuss the eruption of the volcano Krakatoa in Indonesia in 1883. (For details use the textbook page 9.) Ask students to look up information about major earthquakes in the 20th century. Note the locations and match these with the maps studied in the textbook and the atlas.

Where do underwater earthquakes and volcanoes take place? (Along the plate boundaries underwater.) Small islands in the Atlantic and Pacific Oceans may have been formed in this way. Discuss the earthquake in the Indian Ocean in 2004. (Consult the textbook page 9 for details.)

Conclude the discussion by studying the table showing the area of the continents. Ask which is the largest continent according to area and which is the smallest.

Calculate the total area of the world = 148,940,000 sq km (Consult the Teaching Guide notes).

Conclusion: Recap the main points of this lesson.

Reinforcement: Students to label on a world map outline the continents, oceans and the following seas (Barents Sea, Black Sea, Mediterranean Sea, Caribbean Sea, Arabian Sea, South China Sea, East China Sea, Philippine Sea, Sea of Japan)

Homework: Students are to be provided with a copy each of an outline map of the world, to mark and label plate names and boundaries (in blue or black, and earthquake zones and fault lines (in red).

The students could collect data about the earthquake in Pakistan in 2005 and prepare a chart with pictures. They could use the Internet to get information and images for this purpose.

Second period

Oceans, the water cycle

In the previous period, students have learnt about the ratio of land and water on the Earth and how oceans were formed. Begin this lesson by reinforcing the importance and value of water—it is vital for life. No living organism, plant or animal, nor humans can survive on Erath without water.

Ask the students to name the oceans of the world. Let them know that some geographers say there are really just three oceans. i.e. the Atlantic, the Pacific and the Indian Ocean, and that the Arctic Ocean is a part of the Atlantic Ocean that has spread to the north. Towards the South Pole is the Southern Ocean, surrounding Antarctica. Then there are seas and bays that are smaller bodies of water; they are around the edges of the oceans.

Tell the students that the average depth of the oceans is almost 4000 metres but the Mariana Trench which is in the Pacific Ocean plunges down to 11,002 metres. It is more than 11 kilometres and deep enough to drown the Everest, the highest peak on the Earth's surface! (See textbook page 12.)

Discuss the importance of oceans as a) source of water for rain (the water cycle), b) in regulating and maintaining the Earth's temperature to sustain life, c) as a source of marine life as well as food and d) a source of minerals, such as oil and gas.

Ask what would have happened if there were no oceans on the Earth's surface. There would be no life and the world would have been a dry, barren, desert with temperatures over 100 °C. If there were no oceans, there would be no rain: rain falls because water evaporates from oceans, rises up and forms clouds and then falls as rain.

The students have studied the water cycle in detail, so ask them to explain how it works. Recap by reminding the students that water vapour is formed not only by the evaporation of water from large surfaces like oceans, seas and lakes, but the plants also transpire water vapour into the air.

Discuss the amazing phenomenon of sea water being converted into fresh water and also of purification of used or dirty water through the natural processes. These processes when carried out mechanically require a great deal of energy and expense such as we see in desalination and water purification plants, and the output is also limited. Nature, on the other hand, provides the world with this service for free!

The amount or volume of water on the Earth today is the same as it was when it was first created. Stress the importance of not wasting but conserving this precious resource.

Discuss the record of the heaviest and the highest rainfall (Cherrapunji in north-eastern India) given on page 14 of the textbook and compare this with the driest place on Earth, the Atacama Desert in Chile. Show them some pictures of the natural conditions, vegetation, occupations and lifestyles in these two places. Students can also be asked to look these up from the Internet and their school libraries.

Tell the students that the average rainfall for the whole world is 700–800 mm but Pakistan gets 250 mm or less per year, which is very low according to world standards. How does Pakistan meet its need of water? (Through irrigation from rivers and dams).

Tell the students that global warming raises alarm for Pakistan because more ice melts than is replaced in winter.

How do oceans regulate temperature?

Explain that it is largely due to the winds which blow towards the land from the sea. Consult the textbook (page 14) for details.

Pakistan is affected by cold air blowing in from Central Asia in winter. Gilgit-Baltistan and adjoining areas, Khyber Pakhtunkhwa, Punjab, and Balochistan are very cold but the south and coastal areas have a mild winter mainly because of the effects of the Arabian Sea.

Homework: Students are to read through the text from pages 15 to 18 in preparation for the next lesson.

Third Period

Begin by recapping the main points of the previous lesson.

Tides: Explain what tides are—the regular rise and fall of the sea level due to the pull of the Moon and the Sun on the water's surface. Explain the phenomenon with the help of the diagram on page 15 of the textbook. Explain the importance of tides for large ships.

Waves: Explain what causes waves in the sea—winds blowing over the water's surface cause it to mass up as waves. Discuss why these waves are sometimes high and sometimes low.

Damages caused by waves: Water has the power to erode the surface it keeps hitting: an example of this is Paradise Point in Hawkes Bay in Karachi. The rock was carved first into an arch and gradually, the top of the arch was worn away, leaving a sea stack by the shore. Waves grind up rocks on the shore and turn them into sand; they eat away the land by several metres a year. Concrete barriers can be constructed to stop this erosion.

Currents: This topic has been explained in detail in the textbook and in the explanation in this Teaching Guide. Use the atlas, page 76, and the map and textbook page 17 to explain how currents work, where they come from and what their effects are. Discuss ocean currents, their depth, and width. They are like giant rivers, some at the lower levels of seas and oceans, and other at the surface, driven mainly by wind.

Cold currents flow along the bottom of oceans because of the temperature and salt. Explain that cold and salty water is heavy and sinks to lower levels. Describe the different kinds of currents, cold currents and warm, and how they affect the climate of the places they touch. Explain in detail and give examples from the textbook pages 16–17.

Effects of currents

The west coasts of South America, South Africa, and Australia are among the richest fishing waters in the world. The reason is that cold currents from Antarctica are very rich in plankton which attracts fish as food.

Currents also distribute plants around the world. Give the example of coconut trees (see page 17 of the textbook).

Some of the Pacific islands could have been colonized by South American people, which proves that currents may have helped them to move across the oceans to new land. Give examples from page 18 of the textbook.

Uses of oceans

The students are aware of the uses of oceans.

Food: They are a source of food. Discuss the development of the fishing industry, and why some species of fish are becoming extinct. How can this be avoided? (Ban overfishing.) Tell the students that only 60 percent of the fish caught is used by human beings. The other 40% is recycled for fish-meal or fertilizers.

Whaling: Whales are not fish but mammals. Discuss the kinds of whales, their weight and habits. Encourage students to find out more about them. Discuss why they are becoming extinct and the steps taken by the International Whaling Commission to save them. The Japanese and Norwegians still continue whaling; why? Discuss the reasons.

Seaweed: Talk about seaweeds and their use as a source of chemicals in different industries; use the information in the textbook given on page 19. Encourage students to research the uses of seaweeds and put up their findings as class displays.

Minerals: Oceans and seas are a source of salt. Students living in Karachi might have seen salt from the sea being made at Sandspit and Hawkes Bay, etc. Sea water is collected in low salt pans along the coast, and when this evaporates, the salt is left behind as a layer on the ground. This is collected and taken to factories where it is cleaned and processed for table and kitchen use besides medicinal use too. Point out that although salt is also obtained from mines, especially near Khewra and Kallar Kahar in Punjab, sea salt is a rich source of iodine which is particularly beneficial to prevent thyroid problems.

How were world oil reserves formed?

Explain how in the days of Pangaea, when the land was one huge mass, the Mediterranean Sea and the lands in Western Asia formed a huge inland sea. Over millions of years, the plants around this huge sea died and slowly got buried underground. They rotted and turned into oil. This is how the Muslim countries in West Asia acquired oil and gas reserves. Fossils of sea water creatures (fish and shellfish) are still found in Balochistan. The most valuable minerals of the ocean are oil and gas. Explain what offshore oil pumping is. Give the example of the North Sea oil rigs in Europe, and in the Persian Gulf. Efforts have been made off Pakistan's coasts too but without much success as this process is very expensive.

Conclusion: Recap the main points covered in this lesson.

Reinforcement and Homework: Questions 3, 4 and 5 from textbook page 22 should be discussed in class as reinforcement.

The same may be done in the notebooks for homework.

Project work: Divide the class into groups. Ask them to choose one of the oceans and collect interesting data about the oceans of the world. The project may be presented on completion of the chapter as "Oceans at a glance."

Fourth period

Minerals: Oceans and seas are a source of salt. Students living in Karachi might have seen salt from the sea being made at Sandspit and Hawkes Bay, etc. Sea water is collected in low salt pans along the coast, and when this evaporates, the salt is left behind as a layer on the ground. This is collected and taken to factories where it is cleaned and processed for table and kitchen use besides medicinal use too. Point out that although salt is also obtained from mines, especially near Khewra and Kallar Kahar in Punjab, sea salt is a rich source of iodine which is particularly beneficial to prevent thyroid problems.

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Energy from the oceans: The power of wind and water has been discussed both in the textbook and in class in the previous lessons. The tides, waves, and currents of the oceans are source of energy and may one day be exploited, but not in the immediate future. One of the main reasons is that fossil fuels—oil, gas, coal, are as yet the cheapest form of energy to be created. Although sunshine, wind and water are free for us, but converting them into usable sources of energy is an expensive process. Give examples from the textbook on page 20.

Weathering and its main causes: Explain what weathering is. It is a process which erodes rocks, beaches, and soil. In some cases, the action of flowing water, such as a fast flowing river, is beneficial because it brings down fertile soil to the river banks in the plains, but on the other hand water erodes Discuss the causes. The main cause is water which runs over and through the rocks in streams, and rains. Chemical actions occur with the mixing of water with minerals and acids are produced which dissolve the rocks. Waves also cause erosion as explained earlier.

Wind: Like water, wind too has strong weathering capacity. In open places particularly, strong winds wear down rock surfaces and break them into smaller pieces and eventually reduce them to sandy soil. Draw the students' attention to the picture of Balochistan (page 21) showing effects of erosion on hills. The picture overleaf shows how hot dry winds gradually change an area into a desert.

Sunshine: Discuss the constant heating and cooling effect on the rocks, which eventually breaks them up. The Teaching Guide gives an example for demonstration, using bricks as rock surfaces.

Conclusion: These four periods cover the bulk of Chapter 2.

Homework: Questions 6 and 7 from page 22 may be done for homework.

LESSON PLAN 3

Topic: Locating places on a map (pages 10–13, Chapter 2)

Duration: One period (40 minutes)

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, globe

Objective: • To explain the significance of the lines of latitude and longitude

Introduction: Begin by asking students how one can find one's way to a new place—by getting verbal directions? By being provided a guide map? Which of these methods is more effective? Obviously, it will be the map which will give the location, route and landmarks.

Ask how one reads maps: refer to the map on textbook page 10, and the maps in the atlas. ask what features they have noted in these maps—grid formed by lines of latitude and longitude.

Explanation: Read through the text and draw the students' attention to the diagrams showing the lines of latitude and longitude. Ask them to define these lines, identifying their features. These are imaginary lines which help to locate places, for measuring distances, for navigation, and to mark time zones across the world (longitude).

Latitudes are parallel horizontal lines beginning at 0 degrees at the Equator, across the widest point of the Earth, and going up to 90 degrees at the North and South poles. Define these lines—the Equator, the Tropic of Cancer and Tropic of Capricorn, the Arctic and Antarctic Circles, and explain how they are drawn and measured.

The equator, tropics and polar circles also help to identify climatic zones.

Longitudes are vertical lines that converge at the North and South poles; they begin at 0 degrees at the Prime Meridian and increase to 180 degrees east and 180 degrees west to the International Date Line on the opposite side of the Earth. Use a globe to explain these concepts.

Discuss the direction of longitude (north to south) and explain why zero degrees longitude starts at Greenwich. Explain how the International Date Line is calculated and used. Draw the students' attention to the fact that while the Prime Meridian goes in a straight line from North to South, the International Date Line follows a zig-zag pattern. What could be the reason? It is to keep the Pacific Islands in one time zone.

Explain how time is calculated using longitude and how one gains or loses a day when crossing the International Date Line east to west, and west to east respectively. There are 180 + 180 =360 degrees of longitude. 360 degrees divided by 24 (hours) is 15, hence every 15 degrees of longitude are equal to one hour.

Consult the map on page 5 of the *Oxford School Atlas for Pakistan* and note how you gain a day travelling eastward and lose a day by travelling westward. Time is also calculated the same way i.e. time increases eastward and decreases westward. This is shown by – and + signs.

(Look up the interesting history of how longitude was calculated--in the 18th century--and how time zones were established. This will also explain the choice of location for the Prime Meridian.)

What is a grid? When the lines of latitude and longitude cross each other they form a grid. Look at the figure on the textbook page, and the maps in the atlas to understand how a grid works. Use page 100 of the *Oxford School Atlas for Pakistan* to explain how to use the gazetteer. Follow the instructions given on this page. Give a short exercise to clarify the concept.

Note: If required this lesson can be taught over two periods.

Conclusion: Recap the main points of this lesson.

Reinforcement: Give short exercises to locate places on the map, and the Prime Meridian and the International Date Line.

Homework: Ask students to locate the following places on a world map and find out the time there when it is 12 hours (noon) on the Prime Meridian.

Cairo, Dhaka, Singapore, Manila, Melbourne, Tokyo, Algiers, Accra (Ghana), Brasilia (Brazil), New York, Mexico City, Los Angeles, Anchorage (Alaska)

Note: The worksheet can also be used for class work or homework for Chapter 2.

1. Complete these statements:

   a) Pangaea is the name given to _____ millions of years ago. It means _____.

   b) Panthalassa means _____ in _____; it was used to decribe _____.

   c) Continental Drift is the term used to describe _____.

   d) The Indian Ocean earthquake in _____ resulted in a_____ high _____ which killed _____.

   e) The volcanic explosion of Krakatoa in 1883 was _____ km away and the dust caused _____.

2. Match column A with Column B

A	B
a) The lines on the globe going round, parallel to equator	(i) longitudes
b) The lines going to the poles from north to south	(ii) 23.5° North
c) The equator is at	(iii) latitudes
d) For longitude, the zero line is at	(iv) Greenwich (London)
e) The Tropic of Cancer is at	(v) 23.5° South
f) The Arctic Circle is at	(vi) 66.3° North
g) The Tropic of Capricorn is at	(vii) zero degrees
h) The Antarctic Circle is at	(viii) 66.3° South

3. Choose the correct answer:

   a) The average depth of the oceans is

      i) 5000 metres ii) 1000 metres

      iii) 2000 metres iv) 4000 metres

   b. The deepest point in the ocean is

      i) Atlantic ocean ii) Pacific Oceans

      iii) Indian Ocean iv) Arabian Sea

c. The average annual rainfall for the whole world is

i) 500 – 600 mm ii) 1000 – 1500 mm

iii) 700 – 800 mm iv) 200 – 300 mm

d. The average annual rainfall for Pakistan is

i) 150 mm ii) 50 mm

iii) 500 mm iv) 250 mm

e. Easter Island (Chile) is famous for its mysterious

i) stone statues (Moai) ii) whales

iii) valuable minerals iv) plankton

MAJOR CLIMATIC REGIONS OF THE WORLD

TEXT PAGES 23–33

The monsoon climate has been covered in considerable detail in the textbook. In Asia, the monsoon climate is found mainly in the subcontinent and South-east Asia.

Mediterranean comes from Latin 'medi'—the middle of, and 'terra'—earth. It used to be believed in ancient times that this sea was in the middle of the flat Earth.

The Mediterranean climate is one of the world's most favoured, not only because of its products, but also because the hot summers and mild winters make it a favourite of wealthy people to live, and many millions to take their holidays. Virtually the whole of the Mediterranean coast and the islands off it are extensive holiday resorts. Today with air transport, the high-priced early fruits and vegetables, and even flowers, can be found in the markets of all European capitals a few hours later.

Perhaps list Mediterranean fruits and ask pupils if they know them or have tasted them. Oranges, lemons, tangerines, olives, grapes, peaches, apricots, nectarines, asparagus, figs, pistachio nuts, almonds, cherries, plums, dried fruits such as currants, raisin, sultanas. Some of these are also cultivated in Pakistan; find out where.

Cheeses made from the milk of cows, goats, and sheep are widely used in the West, and some of them are extremely expensive.

Flowers of all kinds are extensively cultivated and come into bloom much earlier than those in countries further north. Cargo planes fly in loads of expensive flowers of all kinds to the cities of northern Europe.

Countries bordering the Mediterranean (omitting Balkans on the Adriatic Sea) are Spain, France, Italy, Greece, Turkey, Syria, Lebanon, Israel, Egypt, Libya, Algeria, Tunisia, and Morocco.

Tundra: This climatic zone is virtually useless economically, from a flora/fauna point of view. Reindeer are farmed in northern Scandinavia and Russia but their meat in not exploited commercially. Minerals are significant, however: the tundra regions of Canada and Russia (Siberia) are immensely rich in several kinds of minerals—oil, gas, iron, gold, uranium, nickel, copper, tin, titanium, and diamonds. Weather conditions for mining these are often appalling: Verkhoyansk in Siberia reaches 33–34 °C in summer and MINUS 70 °C in winter. The annual average temperature is MINUS 11 °C.

The Antarctic is believed to have vast reserves of minerals, but the difficulty of exploiting them is immense. It has been agreed internationally that the territory belongs to no specific state.

Some interesting facts about lemmings: The vast migration of the lemmings westwards to drown in the sea is traditionally believed to be that they are seeking the continent of Atlantis which was supposed to exist millions of years ago in the present Atlantic Ocean. That there ever was such a continent is arguable, of course, and the lemmings probably feel that the ocean is just another river of the many they have crossed in their westward migration.

Chamois is a type of goat found mainly in the Alps and the highlands of Central Asia. A swift animal, much like an antelope, the chamois was hunted for its fine supple skin which, when prepared, is very soft and will absorb a huge amount of water. It is used for polishing and many washing and drying purposes as for glass windows, cars, etc. The chamois is now a protected species.

Equatorial climate: The natural vegetation in this hot and wet climate is dense forest. These forests, especially the Amazon Basin in Brazil, which is believed to provide nearly half of the oxygen in the world's atmosphere, are absolutely vital; this is why their frantic destruction is of grave importance and must be controlled. Perhaps remind pupils that plants absorb carbon dioxide in daylight and with the help of chlorophyll (the green substance in leaves) turn it into sugar for growth. At night, when there is no sunshine these plants emit oxygen.

The vegetation is dense in these regions. Some trees have buttress roots that grow sideways out of the trunk to support it. The usual excuse, apart from the value of the timber, for felling the equatorial forests, is to get more land for agricultural crops. While crops can be grown initially, the rich fertile soil is a very thin layer, composed mainly of the leaves and debris from the trees and, in the absence of heavy fertilizing, soon loses is fertility.

The Peruvians had kept the properties of the cinchona tree a secret; they would bring the Europeans those parts of the tree they wanted but would not show where the trees were to be found. Eventually, these were smuggled out with other specimens by an Englishman who escaped the Peruvian customs checking. The plants were first grown in the Kew Gardens in London, and then transplanted to South-east Asia. As well as being cultivated in plantations in India, Sri Lanka, and Java, natural quinine, though still used, has been largely replaced by synthetic chemicals for the treatment of malaria. Chloroquine, proguanil, mefloquine, and doxycycline are now used but unfortunately the malaria organism rapidly develops resistance to drugs, so that scientists have to keep developing new ones. The first two in the list above are now virtually useless in most areas.

Malaria is a common problem in Pakistan, especially during the rainy season. The government, along with WHO, takes preventive measures to control the disease and also runs campaigns to raise awareness in the rural areas. Also talk about dengue fever, caused by another strain of mosquito, which causes destruction of platelets, internal bleeding, and death if not diagnosed and treated in its early stages.

ANSWERS TO QUESTIONS IN TEXT, PAGE 27:

The existence of coal and oil deep under two kilometres of ice in the Antarctic shows that at some stage of the world's history the South Pole was warm, forested land, because oil and coal are made from plant life.

People might be tempted to try to get to the Antarctic oil if supplies in other parts of the world became exhausted.

Problems would be the inhospitable nature of the region—searing winds, bitter cold, constant snow and ice, as well as drilling through two km of ice, before reaching hard land, and then perhaps more kilometres into the rock.

Temperate grasslands are perhaps agriculturally the most important areas of the world, as these are the main grain-growing regions. The soil is highly variable, the richer areas growing edible grains such as wheat, while the poorer ones, which will support only wild grasses, are used mainly for stock rearing.

In the poor regions such as the steppes of Central Asia, static farming is traditionally impossible so that, at least historically, the people are nomadic, wandering with flocks and herds of sheep, goats, and horses. As permanent settlements were impracticable, light-weight tents or yurts made of felt from the animals are usually used (see page 30).

ANSWERS TO QUESTIONS IN TEXT, PAGE 30:

a) Palangkaraya is the capital city of Kalimantan on the island of Borneo; see *Oxford School Atlas for Pakistan*, page 47, E3; at 2 degrees S, 113 degrees E; fairly low-lying—below 100 m. The natural vegetation is dense tropical forest and tropical marshes. The main product is timber, but where cleared, sugar cane, rice, rubber, coffee, etc. are grown. The climate is hot and wet; people are mainly involved in forestry and agriculture.

b) Dodge City is in Kansas, USA, mid-west of the continent and is the centre of ranching—original cowboy country; vast farms, many thousands of hectares of short sparse grass with cattle, etc; the biggest meat centre, with 12,000 cattle slaughtered daily. The climate is cold winters (–7 °C) and warm summers (32–34 °C), rainfall is about 500mm. People's occupations are largely concerned with ranching, cattle rearing, and processing.

c) Montpellier is in France. The climate is Mediterranean with mild, wet winters and hot, dry summers. Mediterranean fruit and vegetables, especially grapes, are grown here. People work on agricultural or horticultural activities, as well as processing the products. (Montpellier is the world capital of nougat!) It is also a large tourist centre.

d) Urumchi is in China. It is a remote city but surrounded by the vast Gobi desert. It has a central continental climate with bitter winters and fairly hot summers. Formerly, it was a very important staging post on the Silk Road and an important Muslim centre. The discovery of vast oil sources nearby has made it a large industrial city (population 1 million), but its isolation from the rest of China still makes it a kind of frontier town. Its remoteness has made Lop Nur (south-east of Urumchi) China's main nuclear research station.

Seasons: This is initially difficult for students. The fundamental reason is that the axis of the Earth is not 'upright' but leans at 23.5 degrees to the vertical in its orbit: it is this tilt that causes the seasons, not the distance from the Sun. If one hemisphere is tilted towards the Sun, it experiences summer, while the hemisphere tilted away from the Sun will experience winter. Any part is warmest when the Sun is overhead—or as near as it gets to being overhead—as in summer. Explain that in winter, the Sun's rays will be at a shallow angle, on the other side, and spread over a wider area, so that the heating effect is less. Also, because the Sun's rays pass through a greater thickness of the atmosphere, the heat and light are weakened by the dust particles and clouds.

Perhaps get a globe to demonstrate this. Otherwise use a large ball or a spherical balloon and make a cross at a spot half way between its equator and the poles. Hold the ball at approximately 23 degrees on one side of the teacher's desk with an object there to represent the Sun. Now move to the opposite side of the desk, keeping the ball at the same angle. The mark will now be seen not to be in line with the 'Sun'.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 35:

1. Equatorial forests are important because of the trees and their products e.g. timber, mahogany, and teak, and quinine. Apart from this, the equatorial forests keep the oxygen level steady in the atmosphere. Plants in sunlight absorb carbon dioxide which then turns into sugar to supply the plant with energy, and give off oxygen. And where the forests are cleared sugar cane, rice, oil palms, mangoes, cocoa, rubber, coffee, etc. are grown.

2. Equatorial forests are found in these continents—southern parts of North America, upper half of South America, central regions of Africa, Southern Asia, part of Northern Australia, and Indonesia.

3. Advantages of a monsoon climate: brings heavy rain, the land here is usually fertile; teak, mahogany, and bamboo are grown in these regions, which are used for making many things.

4. Crops grown in the Mediterranean regions are grapes, tomatoes, asparagus, oranges, lemons, peaches, apricots, olives, as well as cereals such as wheat.
5. Grasslands are found both in the northern and southern hemispheres between the deserts and the forest belts. These are named differently according to their situation: steppes in southern Europe and Central Asia, veldt in South Africa, pampas in South America, and prairies in North America.
6. Seasons are caused because the axis of the Earth is tilted at 23.5°. Because of this the hemisphere which is tilted towards the Sun experiences summer and it is winter in the other hemisphere.

LESSON PLAN 4

Topic: Major climatic regions of the world

Duration: Four periods (40 minutes × 4)

Objectives:
- To study the major climatic regions of the world
- To study the agricultural products of the different regions
- To understand how seasons occur

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, globe, encyclopedia, Internet, newspaper

First period

Introduction: The students have already studied in earlier classes about the factors affecting the climate of a country.

To introduce the topic, conduct a general discussion on climatic differences in countries. Ask the following questions to get quick replies.

1. Name the factors affecting the climate of a country (distance from equator, height, proximity to the sea, wind directions, currents, etc).
2. What kind of climate do European countries have? (Mostly cold, and adequate rainfall)
3. Name some of the hottest countries of the world? (Mainly in Africa and some areas in other countries)
4. What type of climate does Pakistan have? (Hot to cold; some areas are cold, others hot, still others moderate, but Pakistan does not receive enough rainfall.)

Explanation: Write the topic 'Climatic Regions of the World' on the board. Discuss the different types of climates in different parts of the world because the Earth is not a simple, flat plain. It has different physical features namely mountains, plains, rivers, deserts, etc. so climate is a complicated phenomenon. As you discuss climate, point out that different climatic zones fall in different latitudes; the students will observe this as the lesson progresses.

Let us start with the monsoon region because Pakistan is a country that receives monsoon rainfall.

1. Monsoon climate: Explain that the monsoon is a seasonal wind that blows over the northern part of the Indian Ocean. It blows from the south-west between April and October (for half the year) and from November to March from the opposite direction (north-east) for the other half of the year. This happens because the land heats up more rapidly than the sea and cools more rapidly too. (The students have already studied this. Ask them to recall what they have learnt.)

Ask which regions have a monsoon climate. It is mainly the subcontinent and South-east Asia, and small areas in Western Australia, Western Africa and Southern USA too.

Main characteristics of the monsoon climate:

- South-westerly winds (April to October) usually bring heavy rains as they blow from sea to land.
- North-easterly winds (November to March) are dry and often cool or cold because the direction of the winds is from land to sea.
- Monsoon lands are usually fertile and good for agriculture.
- The natural vegetation is deciduous forests. Teak, other hardwoods, and bamboo are typical products of monsoon regions. Discuss the uses of wood/timber, such as for furniture, construction, paper making, etc. Where forests are cleared, crops such as rice, sugar cane, banana, tea, etc. are grown.

Discuss why Pakistan receives less rain during the monsoons. The winds carrying rain change their direction and enter the country from the south-east, after crossing India where they shed most of the rain. Pakistan receives only an average of 250 mm. rainfall every year while the western coast of India receives 450 mm.

Conclusion: Recap the main points of the lesson.

Reinforcement: Students to identify monsoon climate regions on a world map.

Homework: Provide students a copy each of an outline map of the world to fill in regions with monsoon climate and label them (names).

Second period

2. Mediterranean climate:

Countries that lie between 30° to 45° latitude have this kind of a climate. The main areas are around the Mediterranean Sea (Southern Europe, West Asia, and North Africa) with small pockets in south-west Australia and the west-coast of North America.

Characteristics of this climate are mild, wet, winters and hot, dry, summers. The average annual rainfall is about 350–900 mm.

Agriculture: It is ideal for agriculture, citrus fruits, grapes, olives, and wheat.

Livestock: Cattle and sheep and their by-products flourish.

Mediterranean climate in Pakistan: Northern Balochistan has a somewhat similar climate where a variety of fruit, such as figs, apricots, peaches and cherries, is grown.

Begin with a quick reference to climatic zones and continue with the following topics.

3. Tundra:

Definition: Cold, icy deserts, waste spaces because the land and climate are inhospitable to plants, animals, and humans. There are two types of tundra: Arctic tundra and Alpine tundra.

The Arctic tundra lies in the polar regions and includes Greenland, northern Alaska, Canada, Northern Europe and Russia in the north, and Antarctica in the south. However, while there is some animal and plant life in the north, there are only seals and penguins and the most basic plant forms, such as fungi, in the south.

Natural vegetation: In summer, tough grass, fungi, and the plants that can grow in springy soil are found in the north.

Animal life: Polar bears, Arctic foxes, wolves, hares, reindeer, lemmings (rat-like animals), mountain sheep and goats all live in the Arctic tundra in summers, then move to lower levels in winter.

Explain what permafrost is: it is land which has been frozen solid to the depth of 450 metres for hundreds of thousands of years.

Population: Eskimos/Inuits live in the Arctic tundra. This is an interesting topic for discussion and study on their way of life, etc. Encourage students to find out about their occupation and lifestyle.

The Antarctic tundra is very dry (annual precipitation is 200mm or less) and very cold (temperatures down to minus 90 degrees F) and with 98 per cent of the land being covered by an ice sheet that is more than 1.5 km thick! However, these ice covers at the poles are the Earth's store of freshwater.

Vegetation: During the short but cold summers, mosses and lichen-forming plants grow here. Only those plant forms that have adapted to the poor soil and low temperatures can survive here.

Animal life: Seals, whales, penguins, and other birds, like the albatross.

Minerals: Coal, iron, and perhaps oil. No exploration of minerals or oil is allowed here because it is protected by the International Environment Treaty.

Population: There's no permanent population in the Antarctic, except for the people who come to work at the research stations. The climate and surroundings are very challenging.

Conclusion: Recap the main points of the lesson.

Reinforcement: On the world map outline, students should mark and label Mediterranean climate regions and the tundra, using different colours for each, along with a key.

Homework: Reading through the text, pages 24 to 27.

Third period

4. Equatorial climate:

Discuss the stark differences between polar and equatorial climates. The former is cold and inhospitable to life while the latter is very hot as throughout the year it faces the Sun's rays and heat. Equatorial climates are also wet, as the heat increases evaporation and precipitation.

Equatorial regions: The land about 12° north and south of the equator at normal altitude, not on mountain tops, falls within this region. Ask the students to find out the names of these countries (large regions in Africa, Asia, Central and South America, and the Pacific Islands.)

Climate: It is hot, wet, and sticky. The average temperature all the year round is 28° to 32 °C and average rainfall is 1500 to 10,000 mm a year. There is heavy cloud cover most of the time and violent thunderstorms occur about 200 days a year.

Vegetation: dense vegetation—rainforests. But the land is not fertile because the soil is washed away by heavy rain. There are huge, tall, trees (average height 45 – 50 metres), with straight trunks and a canopy at the top. These grow very close to each other so there is darkness even at midday. Huge creepers crawl up around the tree trunks. (For details of the trees and animal life, consult the textbook, page 28).

In some cases, fruits and flowers grow straight out of the main trunk. Ask the students to find out more from the Internet. The world's largest single flower, Rafflesia, is found in equatorial forests. It blooms only once a year and dies very soon leaving a very foul smell.

Rainforests are a source of valuable timber; however, logging must be carefully done to maintain the balance in the environment by replacing old trees with new plantations.

The equatorial rainforests across the world are the source of many medicinal plants. These forests are also the lungs of the world as they absorb carbons in the Earth's atmosphere and exhale oxygen.

The Amazon rainforest (South America)

Area of the Amazon rainforest: It covers 5.2 million sq km, bigger than the whole of the Indo-Pak subcontinent (area 4 million sq km).

There are hundreds of kinds of plants, birds, insects, and animals, many of which are still unknown to scientists. Plants, particularly, have high medicinal value.

Population: Very few people, mainly small communities or tribes, live here, mostly hunting and fishing for food.

Agricultural products: Where trees have been cut down, people grow rubber, coffee, cocoa, sugar-cane, oil palms, mangoes, and other tropical fruit. Trees that produce quinine (the first drug to treat malaria), and chicle (used in chewing gums) are also grown here. Another very important product is timber—mahogany, teak, and ebony—the most expensive kinds of wood. In South America these trees are cut down illegally. (For more details see the textbook page 29).

Conclusion: Recap the main points of the lesson.

Reinforcement: Discuss questions 1 and 3 on page 33. Note main points on the board.

Homework: Students to do questions 2 and 4 from page 33 for homework.

Fourth period

5. Temperate grasslands:

These are stretches across the northern and southern hemispheres, usually between the desert and the forest belts, in latitudes above the tropics from 30 to 50 degrees North and South.

Climate: Fairly dry with rainfall between 250 – 500 mm. a year; warm and hot summers and cold to icy winters.

Natural vegetation: Mainly grass because of low rainfall. However, the type of soil in various regions also determines the vegetation and crops, such as wheat, corn, barley and millet which are from the grass family and thrive well in drier climate.

The soil is variable: rich and dark, in Eastern Europe and Southern Russia, but poor soil in Mongolia and east China—only coarse grass grows here. There's rich soil in the eastern parts of the Great Plains of North America where wheat and corn are grown; but poor soil in the western parts of the plains which is a centre for great cattle ranches.

Livestock: A large number of cattle, sheep and goats are reared in the grasslands. In South America too the conditions are favourable for cattle farming; Argentina is one of the world's major producers of beef.

What are these grasslands called in different parts of the world?

1. Steppes in Southern Europe and Central Asia.
2. Veldt in South Africa
3. Pampas in South America
4. Prairies in North America

6. The seasons:

Begin by talking about seasons in general and the season in the country when this lesson is being taught. Ask how seasons occur, and how they differ across the world. Why are summers hotter in some places and just warm in others? Why are winters severe in some places but mild in others? Ask what happens when the seasons change. (Change in temperature, rainfall, wind direction, hours of daylight, etc.).

Ask the students to name the four seasons

a. Spring b. Summer c. Autumn d. Winter

Discuss what changes they observe in each season.

The northern and southern hemispheres have opposite seasons. The seasons and their changes are because of the tilt of the Earth's axis. Consult the textbook on page 32 for details. Explain the Earth's revolution with the help of the figure given on page 32 of the textbook.

Explain the terms equinox and solstice. The equinox occurs twice in a year on the following days, 20 or 21 March and 22 or 23 September when the Earth is at its furthest from the Sun in its orbit. Equinox literally means equal night in Latin, and the day and night are almost equal in duration on these days. In the Northern Hemisphere, the March equinox marks the beginning of spring and the September equinox marks the beginning of autumn. The seasons are reversed in the southern Hemisphere.

Solstices: The word literally means 'the sun standing still' (*sol* = sun, *stice* = still) in Latin. This refers to the position of the Earth in its orbit around the Sun, when it is the closest. On 20/21 June the Sun is directly overhead at the Tropic of Cancer, and this is the longest day and shortest night in the northern hemisphere and the longest night and shortest day in the southern hemisphere. On 21/22 December, the situation is reversed--it is the longest day and shortest night in the southern hemisphere whereas it is the longest night and shortest day in the southern hemisphere.

The June solstice marks mid-summer in the North and mid-winter in the South. Conversely, the December solstice marks mid-winter in the North and mid-summer in the South.

Conclusion: Recap and reinforce the main points by discussing questions 5 and 6 on page 33.

Class work: The worksheet for Chapter 3 may be completed in class.

Homework: Answer question 1 from page 33 in the notebooks.

Draw and label a diagram to show why seasons occur.

Project work:

Divide the class into groups and assign projects on

1. The tundra, with information on present day countries in this area. Collect data about Eskimos, animals, and plants.
2. Mediterranean countries, especially those that are tourist attractions.
3. Rainforests, depicting the animals and plants found in the different rainforests across the world.

Note: The teaching time may be extended by one more period if required.

1. Complete the following statements.

   a) Temperatures are hot towards the _____ and get cooler towards the _____.

   b) The climate of a region is also affected by its _____ above sea level.

   c) Monsoon winds in Asia blow from the _____.

   d) Pakistan does not receive much rainfall from the monsoons because _____.

   e) The only animal life in the Antarctic is _____.

2. Match the contents of column A with features in column B:

	A		B
a)	Mediterranean climate	(i)	on high altitudes
b)	Alpine tundra	(ii)	hot, wet, and sticky
c)	Equatorial climate	(iii)	mild, wet, winters
d)	Temperate grasslands	(iv)	extremely cold
e)	Arctic tundra	(v)	warm to hot summers and cold and icy winters

3. Write short answers to the following questions:

   a) What is the average temperature in the equatorial regions?

   _____

   b) What are lemmings and where do they live?

   _____

   c) Why is the light low inside equatorial forests even at midday?

   _____

   d) What is the main ingredient of chewing gum and where is it found?

   _____

   e) To which type of plant family do grain crops like wheat belong?

   _____

4. The grasslands have different names in different countries. Write the countries' names and the names they give the grasslands.

   a) _____

   b) _____

   c) _____

   d) _____

5. Here are some figures showing the rainfall in different climatic regions. Complete statements i) to iv) with the correct answers from a–d.

   a) 1,500 mm to 10,000 b) 350 – 900 mm.

   c) 250 mm d) 250 – 500 mm

   i) Temperate grasslands receive _____ rainfall.

   ii) Equatorial regions receive _____ rainfall.

   iii) Mediterranean regions receive _____ rainfall.

   iv) Tundra regions receive _____ rainfall.

AGRICULTURE AND MAIN CROPS

TEXT PAGES 34–43

Arable farming

Growing crops is the most important type of farming as grains are vital to life. We could manage without meat or fish (indeed many people in the west are vegetarians and eat no meat; some religions such as Buddhism forbid the killing of animals so that their diet is all vegetable or fruit). Wheat and rice are about equal in being the most eaten grains in the world. Ask pupils how rice cultivation is different from that of all the other grains (needs lots of water and back-breaking labour).

The illustrations on page 35 compare small-scale farming by peasants with large-scale mechanized farming.

- Preparing the land—a plough/hoe pulled by a man, though this would be relatively rare now as most peasants would have a buffalo or other animal for this. Note the simple wooden equipment. Also note the number of people employed: nine in the peasant land (most seem to be doing nothing), and one driving the tractor in commercial farming.
- Weeding—peasant farmer slowly pulling out one weed at a time. Commercial farming—one man in a crop-spraying aeroplane can do hundreds of hectares a day. The aircraft has tanks holding herbicide (weed-killing chemical) which it emits as a cloud over the crops at 140kph. Spraying from the air avoids machinery destroying any of the crops. Actually air spraying is not very extensive, but is often done by sprayers towed behind tractors. The boom (the pipes through which the herbicides are sprayed) can be 10–12 metres wide so that the damage by running the tractor over growing crops is minimized. This method is far cheaper than aerial spraying, but not as fast.
  Ask pupils why it is important to keep weeds down (they compete with the crop for moisture and food). Perhaps some discussion can be carried out about chemicals used in agriculture—traces remain in foods eaten, and may have harmful effects on human life.
- **Harvesting:** On the peasant farm there are again nine people in back-breaking manual labour. Commercial farming—one man in a combine harvester (they cut the grain, thresh it, bag the grain, throw out the stalks in tied up bales and put the chaff (husks) in other sacks. They can cut a swathe of corn eight metres wide at one go. On the huge farms in the USA there will be five or six of these machines in echelon—one behind the other—crossing the prairie.

Rice is the staple grain in South and South-east and East Asia. It is threshed either by beating it with flails, or often by being spread on the ground and making oxen walk over and over it. This knocks the seed from the stem and the light inedible husks from the grain. The husks are got rid of by tossing the threshed grain in the air in a gentle wind. The wind blows the light husks away, and the grain falls to the ground.

Grains of rice have been found at Mohenjo Daro, though much more primitive than the rice of today which has been bred for size, flavour, colour—in Vietnamese markets you can buy black, red, yellow as well as white rice. The terrible disease, beriberi, which affects the nervous system and heart and cripples sufferers, as well as often being fatal, is caused by eating polished rice—white rice from which the husk has been removed. When the fashion for white rice (probably to meet European tastes) was

introduced, the disease spread rapidly. It was not discovered until the 1930s that beriberi is caused by a shortage of vitamin B1 which is contained in considerable amounts in the husk of the rice seed (and also in fruit, vegetables, and milk). Once this was restored to the diet (or another source of Vitamin B1 was introduced) the condition decreased rapidly. The impact on very severely crippled people is dramatic: if an emergency injection of B1 is given, they are almost back to normal within a few hours.

Perhaps pupils could investigate (research work from websites, etc.) the question of vitamins and what each of them does to the body. You could tell them about deficiency diseases as a result of unbalanced diet.

Pellagra is a terrible disease of the skin caused by lack of vitamin B3. This is found mainly where the basic food is corn (maize) which lacks this vitamin. In Central America, where the staple grain is corn, it was traditionally treated with lime (though the people did not know why) which allowed the B3 to be absorbed by the body. In other parts of the world where corn was used without lime treatment the disease occurred.

Scurvy is a fatal disease caused by lack of vitamin C, which is found in fruit, especially oranges and lemons, and vegetables. Great open wounds appear, the teeth fall out, and the person dies. It was particularly severe on ships in the past when the crew lived on salted meat and bread. Often on long voyages, half the crew would die. In 1753 a Scottish doctor said that eating lemons would prevent the disease. As a result, Royal Navy ships forced their crews to have a daily dose of lemon juice. Scurvy virtually disappeared from these vessels. It was soon copied all over the world by all ships.

Anaemia is a very common condition of decrease in blood cells, from relatively mild to life-threatening. It is caused mainly by a lack of iron salts in the blood, which prevents the red cells from taking oxygen to various organs. It can generally be treated very simply by taking iron supplements i.e. chemicals with iron salts in them.

Stock or animal farming

There is some dispute about the earliest domesticated animals, goats or sheep. Probably it does not matter much, but some archaeologists say one, some the other.

Hybrid animals are infertile so that one cannot mate mules, but they have the qualities sought after from both parent animals—the load-bearing ability and speed of the horse with the toughness of the donkey.

The very finest karakul fleeces and 'pashmina' are said to be from unborn lambs and goat kids: this means the destruction of the animals, of course, and is rare today.

Amusing sideline: Recently (2004) a merino sheep in Australia was captured after living six years in the wild, having escaped from the flock. It was sheared on television, and had enough fine wool to provide cloth for more than 20 men's suits.

Goats are beloved of the poorer farmers in remote regions. They provide milk of high quality, wool—generally rather coarse—and meat. Their great advantage is that they can survive on the poorest of diets, foraging for every scrap of growing matter. This is also their drawback: they can devastate whole areas of landscape, turning it into desert. For this reason they are usually kept moving in flocks. The government of Pakistan is trying hard to reduce the number of goats although their meat is preferred for its leanness.

The yak is a buffalo-like animal with huge powerful shoulders, usually found in the higher mountains of Asia, especially the Himalayas and in Tibet and China. It is a primitive animal dating from millions of years ago. It is up to 1.7 m tall at the shoulders and can weigh up to 1000 kg. Its great advantage is that it can live at great heights and withstand intense cold, down to minus 50° C. It has long shaggy hair which can be made into coarse textiles, and is widely kept in Tibet and China for meat, hides, and milk. It is also

used to pull carts and ploughs but is very stubborn and will not move unless it feels like it. It is the lifeline of peoples in the wild mountain regions, supplying them with much of their food and milk.

The bison is a similar animal that roamed the whole of the northern Euro-Asian land mass and North America, where it was hunted almost to extinction. In Europe, the last wild bison was killed by poachers in Poland, but about 50 have survived in zoos. There was an extensive breeding programme, and by 1951 there were enough to release them into the wild again in Eastern Europe. The bison is again a very primitive animal, and can reach a height of 2.3 metres at its massive shoulders.

ANSWERS TO QUESTIONS IN MARGIN BOX, PAGE 37:

- The most important invention in history is fire. This enabled food to be cooked, to keep humans warm so that they could move into cooler regions, and to protect them at night from wild animals.
- The wheel almost certainly developed from a log. Men found that they could move heavier loads (stones for their primitive temples) by using logs to roll them on. From this the idea of the wheel no doubt developed, carried on skids as shown on page 37.

Cattle breeds

Red Sindhi is an indigenous breed originally from Punjab; its main qualities are ability to stand more extreme conditions of heat and humidity. The milk yield is average; this breed is now generally crossed with European breeds.

Sahiwal is again developed in the Punjab. It has high tolerance to heat and very high milk yield. Large herds are reared in South-east Asia and especially in Australia.

Jersey, originally from the Channel Islands of the UK, is immensely popular in Europe. It has a very high yield of extremely high-quality milk, and breeds more rapidly than most types and lives longer. Able to adapt to a wide range of environments, it is one of the finest breeds.

Holstein-Friesan is a European breed; it has a good milk yield. Classical black and white animals, they are very docile and easy to handle so that they can be put where the public has access. They can be very choosy feeders, however.

Tharparkar is a subcontinental breed with very high milk yield; but other disadvantages mean they are now generally crossed with European (especially Swiss) strains.

Cattle are also used as draught animals in simpler and poorer societies.

Besides meat and milk and draught, cattle—when slaughtered—provide skins for leather which is vitally important for Pakistan's large sports industry. Bones were once used for cutlery handles, but now this is largely replaced by plastics. Bones are also ground up to make fertilizer.

ANSWER TO QUESTION IN TEXT, PAGE 40:

Angora is from Ankara, the capital of Turkey, which was formerly called Angora.

Poultry is an excellent source of meat and eggs. In small numbers, chickens require little attention or feeding, able to forage for themselves with supplements from household scraps. In larger numbers, they require more attention, of course, and are often housed in what are called battery conditions. Here, their intake of food and drink is controlled to give the maximum growth. They are often crowded together in an unpleasant atmosphere which necessitates cutting off most of the beak, as they peck one another. Under such cramped conditions disease is, of course, widespread and often considerable amounts of antibiotic have to be included in the food to prevent the spread of illnesses. Many people are worried

that this antibiotic passes on to human beings when they eat battery-raised chicken. Ask pupils why this should be considered a risk; if people are continually taking antibiotics in small quantities, the germs which attack human beings become immune to the drugs so that they no longer combat disease. This is why scientists continually need to discover new antibiotics. Sometimes, diseases that afflict poultry can also affect humans, like the recent outbreak of bird flu.

Fishing: Fish farming comes from an ancient Chinese technique of breeding fish in ponds. In the past, sewage was thrown into the ponds, where microorganisms fed on it. These, in turn, were eaten by creatures slightly higher up the scale and so on, by smaller and then larger fish, and finally the fish which were being bred for food, usually carp. The modern fish farms are much more sophisticated, with special diets for quick growth. Unfortunately, the crowded conditions of modern fish farms mean that diseases are very liable to spread and food for the fish has to be laced with antibiotics, resulting in the same problems one finds in poultry farms.

Horticulture: This supplies high-cost fruits, vegetables, and flowers for towns and cities, so that market gardens crowd round the outside of urban areas. Nuts for oil tend to be grown in larger areas and can be further away from the markets as they have to be processed first to get the oil.

Pakistan's output of fruit exports has increased almost five times in the years 1991–2001. This high-value product not only goes to the growing cities, where the standard of living is rising and people want more fruit, but is also sent overseas, especially to Europe and the USA. While these areas can source oranges, lemons, apples, and grapes from closer regions, guavas and mangoes are more difficult. Dried fruits also such as dates, apricots, raisins and sultanas, and nuts, such as almonds, pistachios, walnuts and pine nuts, for which there are no problems of transport as there are with fresh fruit, are also exported widely.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 43:

1. Paddy fields have to be small because they have to be under water for the initial stages of germination. This means that the plots have to be completely level and it is difficult to find large areas which are flat enough.
2. Basmati rice grows best in the foothills of the Himalayas in Pakistan and India. Apart from the so-called 'wild rice' of Canada and northern USA, it is the most expensive of all varieties of rice, costing from £1.50 to £5 (Rs 450 to Rs 750) a kilo. It has a long, white, fluffy grain which expands to almost double its length when cooked. It is highly nutritious with a high calorie content as well as vital vitamins (B1 especially) as well as important elements for health such as iron, thiamine, and selenium. On top of all this, it has an excellent fragrance flavour. It is used as an accompaniment to any dish, and in South Asia as well as the West it is also used for puddings.
3. Animals preferred for livestock farming in Pakistan are cattle, buffalo, camel, horses, goat, sheep, and poultry birds.
4. Students can research and find out about the annual Horse and Cattle Show in Lahore. Such exhibitions are useful because they help in promoting the culture of a country and also provide a means of income and recreation to many people.
5. Fish is a valued product due to its nutritive value and varied uses, such as for fertilizer, animal feed, etc.

LESSON PLAN 5

Topic: Agriculture and main crops

Duration: Four periods (40 minutes × 45)

Objectives:
- To explain the importance of agriculture and farming, crops and livestock; the study of different agricultural products, staple crops, and their value to people
- To learn about livestock farming, poultry, and fishing, and their importance
- Learning about the processes of farming and the value of agricultural and horticultural products
- Knowing more about the importance of animal and poultry farming, and fishing

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet

Introduction: Begin with a general talk about our daily food habits. What are the main dishes of staple food in our daily routine? (Bread and rice) What are some of the main staple foods the world over? (Wheat, rice, millets, maize, etc.) Name other foods which are essential parts of our meals (Milk, dairy products, meat, tea, coffee, etc.). Where are grains and dairy products grown and produced? (On farms) What is this occupation called? (Agriculture)

Explanation: Write the topic 'Agriculture and main crops' on the board. Pakistan and most of the Asian, particularly South and South-east Asian, countries are agriculture-based. In developed countries too farming takes place, but on a larger scale.

Arable farming: Define arable farming. It means the growing of crops. It is about producing food. Discuss the difference between farming in advanced countries and developing countries.

Main differences: There is mechanized farming in the developed countries as heavy machinery is used, while farming in developing countries is labour-based (peasant based).

Mechanized farms are huge whereas the size of farms is smaller in peasant-based farming. Instead of machines, cattle and primitive tools are used.

Some of the main agricultural products of the world are grains, followed by cash crops, pulses, fruit and vegetables. Rearing of livestock and poultry also come under agriculture. Ask the students to name some crops. Begin with rice.

Rice: State its importance as the biggest single crop of the world which is used by half the world's population especially in East and South-east Asia.

Ask the students to open to page 87 of the *Oxford School Atlas for Pakistan* and note the rice producing areas of the world. Also consult pages 24, 25, and 26 of the Oxford School Atlas for Pakistan for crops and cultivated areas in Pakistan.

Discuss the use of rice from about 3000 BCE, in the subcontinent. Move on to the conditions for growing rice; plenty of water and heat. It is said that rice will grow only with 'its feet in water and its head in the sun'.

Explain the process of growing rice.

a. Seeds are planted tightly packed, in wet nurseries
b. The fields (called paddy) are flooded with water.
c. When the seedlings are 20–30 cm. high they are pulled from the nursery and replanted in the fields (flooded paddy).
d. The plant grows to a height of 1–1.25 metres and needs tropical or subtropical sun to ripen it.
e. Then it is harvested.

Talk about Basmati rice of Pakistan and India that is very popular the world over, its commercial importance the quality of the grains and its aroma.

It is also important to know the nutritional value of grains--wheat, rice, maize/corn, millet, etc. these are high in Vitamin B and its components, besides other nutrients. As suggested in the Teaching Guide explanation, organize research by students on the importance of healthy and balanced diet.

Conclusion: Recap the main points of the lesson.

Homework: Read through textbook pages 34 to 36. Students to write out the differences between mechanized and manual farming in point for in two columns.

Second period

Stock or animal farming:

Discuss its importance. It makes up about 25 percent of agriculture the world over. Discuss the various uses of farm animals—for carrying loads, for pulling ploughs, drawing water in less developed countries, and for dairy products and their meat, and eventually for their skins. Ask the students to open page 27 of the *Oxford School Atlas for Pakistan* which shows livestock farming in Pakistan. Ask the students to note all the four regions given on this page. Discuss the importance of animals in crop farming.

Talk about the most important invention in the history of mankind—the wheel—invented about 5000 years ago. How did this invention help in agriculture? The making of carts made movement and transport easier. Discuss its advantages and its use in machinery.

Explain that livestock means cattle—cows, oxen, buffaloes, and even yaks and camels—as well as sheep and goats. Move on to cattle breeding. Refer to textbook page 36 and the Teaching Guide explanation for details.

Selective breeding: Discuss the different breeds of cattle reared across the world and in Pakistan. Define what selective breeding is and why it is used. Talk about the Farming Revolution in the UK in 1700, which resulted in selective breeding.

Information: Pakistan is the world's fifth largest milk-producing country. Many multi-national manufacturers of dairy products have their plants in Punjab and Sindh. Ask students to name some dairy products and to find out how they are made.

If possible, invite someone from such a company to talk to the students about this.

Sheep: The use of sheep is widespread because they can live under harsh conditions and can survive at higher altitudes. They are reared for wool about 50 per cent and 15 per cent for meat. Sheep are valuable for the economy in Pakistan, Iran, and India. Discuss the valuable varieties merino and karakul that are found in Afghanistan, Iran, and central Asia.

Goats: Discuss their importance in harsh and relatively infertile areas such as Balochistan, Afghanistan, and Iran. What is the disadvantage of rearing goats? They can overgraze the land. Give the example of North Africa which was turned into a desert two millennia ago. Discuss the Angora goats famous for their soft wool and the small Kashmiri goat popular for the expensive cashmere wool.

Horses, donkeys, and mules: Discuss their qualities as beasts of burden. How is the mule bred? It is a cross between a female horse and a male donkey.

Conclusion: Reinforce by recapping main points and asking short questions.

Homework: Question 3 on page 43 to be answered in the notebooks.

Project work: Divide students into groups and assign topics from question 4, page 43 to be completed and displayed in class. This will need a week's time for completion.

Third period

Begin by talking about what is usually eaten for breakfast—egg. Or on a humorous note: What came first—the chicken or the egg?!

Poultry: Refer to the textbook pages 40 – 41 and to the Teaching Guide explanation. Chicken meat and eggs are a healthy, nutritious, and easily digestible source of food. Chickens are easy to rear; hence many households in Pakistani villages have their own small stock of poultry. Farm-reared poultry's eggs and meat are considered healthier as compared to commercially bred poultry.

Discuss commercial farming in western countries and its development in Pakistan. Explain what intensive poultry farming is and how it is done. Consult textbook pages 40-41 and the Teaching Guide for details. Also draw attention to the need for practising healthy poultry farming so that the birds stay healthy too and their meat is not contaminated by poor quality and unhygienic feed, the effects of which are passed on to the consumer.

Fishing: Pakistan has a nearly 1000km coastline on the Arabian Sea and there are fishing villages along the coast. The Arabian Seas waters are rich in marine life and fishing is an occupation in the coastal villages. Explain why it is included in agriculture though it produces only about one per cent of human food. Talk about its advantages for health. Discuss the difference between the fishing industry in the western countries and the developing countries.

Also discuss how Pakistan suffers because of illegal fishing in its waters by other countries: quite often there are pictures in the newspapers of Pakistani fishermen who had been arrested by India for crossing into Indian waters and of Indian fishermen arrested for fishing in Pakistani waters. Explain that beyond a certain point, the waters of seas and oceans become international and fishing vessels for other countries can also operate there. However, Pakistan's share is affected by the presence of huge trawlers from other countries which take more than their fair share.

Apart from marine fishing, there is fishing in the rivers and lakes in the country, such as trout in the mountainous regions and a variety of riverine fish such as mahaseer, palla, and rahu. Also discuss fish farming and explain how it is practised in developed countries and the feasibility of doing this in Pakistan. Refer to the Teaching Guide explanation for further detail.

Horticulture: Define horticulture. Horticulturists grow vegetables, fruits, and flowers on a large scale. Discuss the rapid increase in horticultural activities in the last ten years. Talk about the flower shows by the horticultural societies in Pakistan. Discuss the quality and export value of fruits grown in Pakistan. Ask the students which fruits have high demand abroad and have high exports. Tell the class that from 1990 to 2011, the highest production and export value was of citrus fruit, followed by mangoes.

Fruit and vegetable crops are also prey to plant diseases which affects the output at times. Economic supplements of leading newspapers carry interesting and up to date information about crops and agricultural issues. These are a useful teaching resource and should be consulted by the teachers.

Conclusion: Recap the main points of the lesson.

Reinforcement: Discuss question 5 on page 43. Also discuss the value of poultry farming both on small and large scale, and the nutritional value of seafood and poultry.

Ask students to find out about the popular cattle breeds of Pakistan. Help may be taken from the newspapers; guide students on collecting and compiling information.

Homework: Question 5 from page 43 to be answered in the notebooks. The worksheet can be done too.

1. Complete the given statements.

   a) Arable farming is _____ .

   b) Rice is the _____ single crop and is the staple diet of _____ .

   c) Rice fields are called _____ . They are small and are _____ .

   d) Rice grows with its _____ in water and _____ in the sun.

   e) The most back-breaking part of rice farming is _____ .

2. Choose the correct answer.

   a) Animal farming makes up about _____ of all agriculture.

      i) 15% ii) 25%

      iii) 60% iv) 10%

   b) The wheel was invented in _____ about 5000 years ago.

      i) China ii) Egypt

      iii) the Fertile Crescent iv) North America

   c) Sheep were domesticated in West Asia about _____ years ago.

      i) 10,000 ii) 11,000

      iii) 12,500 iv) 15,000

   d) The Rann of Kutch (India) is home to _____.

      i) llamas ii) horses

      iii) wild donkeys iv) camels

   e) Horticulture is a form of _____.

      i) garden farming ii) silkworm cultivation

      iii) cultural activity iv) honey production

3. Match the contents of column A with column B.

A	B
a) Farming Revolution in the UK.	(i) Afghanistan
b) One of the world's biggest cattle farming countries	(ii) Ankara, Turkey
c) Merino wool	(iii) Latin for a garden
d) Karakul wool	(iv) Argentina
e) Hortus	(v) 1700
f) Angora	(vi) Spain

INDUSTRY

TEXT PAGES 44–53

Perhaps ask pupils in which industrial group—primary, secondary, or tertiary—their fathers or parents work. This can be the basis of an interesting and lively discussion.

The Salt Range, page 46: Salt is vital to Pakistan's industry. It is an essential ingredient in the manufacture of hydrochloric acid (used in many other industries), chloroform, carbon tetrachloride (substance in some fire extinguishers, dry cleaners), bleach, washing soda, baking soda, dyeing industry, soap industry, and as a preservative, especially for meats.

Salt is absolutely essential to all life: animals have 'lick' bars of salt fastened to the walls of their shelter for them to lick. In hot countries, human beings can quickly die of heat exhaustion if they do not have enough salt in their diet. When people get dehydrated due to illness/heat, they are given oral rehydration salts (ORS) or a saline drip.

Primary Industries: mining, quarrying, and drilling

Deep mines: It was to drain deeper and deeper mines that the steam engine was invented; it could be said that these were the kernels of our modern industrial age. A variation of the deep mine is the drift mine found in some coal regions. Here the seam of coal tilts downward from the surface at a shallow angle, so that the tubs of coal can run directly down the mine.

Gold, though usually thought of as used for jewellery, has many uses in science and technology. It is a fine conductor of electricity, and as it does not corrode, it does not build up a resistance to small electric currents. For this reason, the contacts in computers and other scientific equipment are normally plated with gold. It is also used for replacing teeth as it is one of the few substances which will not corrode in the acids normally found in the mouth.

Miscellaneous facts on gold: It is very soft, which is why it was used for jewellery in ancient times, as it could be worked easily. It is highly malleable (can be easily shaped) and can be hammered out into sheets of gold leaf as thin as 0.00013 mm. It is also very ductile (can be stretched into a wire)—29 gm of gold can be drawn out to a fine wire that would stretch 100 km. There are vast amounts of gold in the sea water—estimated at 9 billion tonnes—but the cost of extracting it would far outweigh the value of the gold itself. Gold leaf is used for signs in shops, and gilding, especially covering religious statues, decorating fancy tableware and other items.

Limestone: To convert limestone into cement demands great amounts of heat. When this had to be derived from expensive imported oil it was a problem, but with the discovery of local natural gas, cement became much more accessible and cheaper.

Oil: A whole new geological science has been developed to find where oil might be, by examining the rocks. These geological surveys seem to indicate that oil should be found in some parts of Pakistan, but trial borings up to the moment have not found it in any great quantities as in Iran, Iraq, or the Gulf States.

However, there are abundant supplies of natural gas. Compression projects have been set up to conserve this source of energy and make it last longer.

Secondary industry: manufacturing

In the past, the process of workers making articles right through from start to finish was slow. The advent of the steam engine to power industry speeded this up: one operative could now handle fifty or more times as much work as by hand. This was particularly noticeable in the textile industries, in the UK, from the 18th century onwards. The steam engine is traditionally attributed to James Watt, a Scotsman born in 1736. There had been a kind of steam engine before but it was slow and clumsy and used an enormous amount of fuel. Watt was a kind of engineer, and was asked to repair one of these crude machines. He realized the weaknesses, and invented what was more or less a completely new system. It was much faster, used only a fraction of the coal, and eventually had a system for turning a huge flywheel. Before this, the crude engines would only go up and down to work pumps. Watts' engine was instantly a great success, and was installed in many mines, especially the tin mines of Cornwall, to pump out water. Soon it was being used in factories to turn machinery. But the great breakthrough did not come until the introduction of the assembly line system in World War I.

Assembly line or mass production: It was realized that if each worker had a single simple task to do, he or she could do it much faster than if they were to assemble a whole unit. So, on a car production line, worker A would put the nut on a bolt, and the line would move on to B who would tighten it up …and so on. It is monotonous but speeds up production. It prepares the ground for the processes being taken over by machines, apart from some supervisory staff to see that things are going correctly. It is said that the Renault car production line in France, the largest in the country, is managed by only four men.

Oil: Talk about the time when oil runs out, as it must do in the future, but probably not in the lifetimes of the pupils. But as it begins to decline—as it will do—the price will automatically rise until it becomes uneconomic for transport in its present form. A well-known international scientist—a materials' man—told the author years ago that oil was far too valuable to be squandered on transport fuel. The chemicals and other substances produced from oil were of far more importance and they could not be replaced, whereas transport could possibly be powered by something else, probably electricity. But as we have seen earlier, the search for an alternative source of electric power seems as far off as ever, barring the nuclear option.

Natural gas: Natural gas, as well as being a highly suitable fuel, is also a source of raw materials: in the refining processes, fertilizers and plastics can be produced. In many cases, the by-products of natural gas are more valuable than the purified gas itself used for fuel or transport. It is also now being used extensively in transport because it is produced at home (in Pakistan) whereas the oil-based fuels (petrol, diesel, kerosene) have to be imported and are expensive. Its main problem is convenience and storage in a vehicle. Nevertheless, there is growing popularity of dual-fuel cars: they run on gas or petrol, and can be switched from one to the other as circumstances demand.

Natural gas is also intensively used as base for making fertilizer because Pakistan desperately needs heavier crops (a) to feed its rapidly growing population and (b) to grow heavier crops which form the main exports of the country, especially cotton and fruit. Most of Pakistan's land is only moderately fertile, and cotton especially is a 'greed' crop i.e. it takes much of the fertility from the soil.

Natural gas comes to the surface in places and ignites. Certainly, the Chinese were using naturally occurring gas as early as 1000 bc, carrying it from the fissures where it appeared on the surface to the location where it was needed, using hollowed bamboo tubes. It was used in ancient China specifically for boiling brine (salt water) to extract the salt.

Transport: Perhaps get pupils to relate sizes of tankers and container ships with something local such as the area of a small park or school ground, to get an idea of a tanker's length and breadth. It brings home to them the size of a tanker especially if they realize that it is almost half a kilometre long. The tanker is not just one huge tank, but a series of separate ones: ask pupils why this is so. It limits damage in case

of accidents such as hitting a rock or another ship, when only the affected tanks will leak. Also separate tanks, or sometimes 'baffles' i.e. screens in a larger tank, prevent the contents swilling to and fro in storms or when decelerating.

Note: The difference between a ton and a tonne.

A **ton** is a unit for measuring weight. In Britain a ton equals 2240 lbs or 1016.05 kg; in the USA it is equal to 2000 lbs or 907.18 kg (metric ton). A **tonne** is a measure of weight equal to 1000 kg.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 53:

1. Industry is classified into three levels for various reasons; some are listed below followed by definition and examples of each.

   The purpose is to group industries and categorize them according to common characteristics and this system can help organize and compare specific statistical information such as import/export, employment, tax revenues, and/or wage information.

   Primary industry means those industries where raw material is developed or produced, e.g. fishing, mining, farming, etc.

   Secondary industry means those industries where raw material is used to manufacture other goods, e.g. computer manufacture, trains, shoes, satellites, etc.

   Tertiary industry does not manufacture material or obtain raw material but provides services to other industries, e.g. banking, transport, telephone, postal services, etc.

2. Importance of oil and gas to industrial development in a country:

   Oil is a raw material for many chemical products, including pharmaceuticals, solvents, fertilizers, pesticides, and plastics.

   Gas is a very flexible fuel and can be easily transported; it is clean; does not emit fumes; it is a raw material for fertilizers, and source of energy for making cement; and it is a cheap and convenient domestic fuel.

3. Container transport:

   Advantages: (a) Goods are packed in containers at the factory and locked; this prevents stealing which used to be very common. (b) As the containers are all gigantic boxes of the same size (or two different sizes), they can be packed together much more closely. (c) On arrival at the port of destination, the containers can be unloaded by special cranes very quickly and sent on trucks or by rail directly to their destination, again avoiding pilfering. (d) Goods in containers are much less likely to suffer damage because they are packed at the place of origin by men who know how to do this job in the best way, protecting them from breakage, and getting the maximum amount of goods into each box. (e) As the containers are made of metal, they can be left outside without any fear of the goods inside becoming damaged by rain, etc.

   Disadvantages: (a) Docks have to be equipped with specialist equipment for handling the containers, and container ships can face problems when the ports do not have adequate facilities for berthing, cargo handling (cranes, loading/unloading), on-land transportation, and stack height limitations.

   (b) Another equally serious problem is of carrying vulnerable dock cargo, and of being lost at sea in bad weather, causing losses worth millions. (c) A smaller and perhaps valuable item has either to be packed into someone else's container, or leave a lot of wasted space in its own container. Although containers are large, some items, especially machinery, will not fit in them: 2.5 metres width is not very big to transport machinery.

4. Craft work: The advantage is that individuals can create different designs and patterns, and if necessary according to the buyers' wishes. There is a pride in owning a handmade product as it is unique—the only one like it.

   The disadvantage is that it is slow. Different craftsmen have different skills, and some are much poorer at workmanship than others. Because it takes a long time generally to make, it is usually much more expensive.

   Early factories: The advantage was that far more articles are made, so that prices were lower and more people could own things; a move towards a higher standard of living.

   Disadvantages: Conditions in factories were terrible with very long hours and small children having to work. Although children had worked on peasant land, they were in the open air and getting exercise. The factory owners would not allow even a window to be opened as the textile mills needed a warm moist atmosphere. Factories had to be generally in towns, so that masses of the cheapest rows of houses were thrown up for the workers. People in the past had worked at their own pace, and had a rest when they felt like it. In the factories they had to keep going as long as the steam engine was running. The factory owners were often cruel about getting the maximum profit out of their workers.

   Assembly line: The advantage was that output soared so that goods became cheaper. More people could afford furniture in their home and an improved lifestyle. There was a much wider range of goods available to make people's lives better. Because the output was so much more, hours of work were steadily shortened.

   Disadvantages: As each worker did just one process, work was very boring. There was no sense of creating a good product. Workers had to keep up with the assembly line; they could not take a rest. There were, of course, emergency buttons to stop the moving belt if there was a problem, and it was not unknown that workers would deliberately cause an 'accident' and stop the line. Because there were a number of assembly lines linked, all the others had to stop too, and it took perhaps half an hour to reprogramme them again….during which time the workers had a rest.

   Automated factories: The advantage is that production again soared so that goods were cheaper and a much wider range was available. Virtually all chance of human error and faulty products are eliminated. Workers could make mistakes even with their one operation on the assembly line. Machines did not make any mistakes.

   Disadvantages: Far fewer workers are needed which can lead to unemployment. There is no pride in work or craftsmanship when all one has to do is sit at a desk and watch dials and press buttons.

5. Students can work out this activity in groups.

LESSON PLAN 6

Topic: Industry

Duration: Four periods (40 minutes × 4)

Objectives:
- To define primary, secondary, and tertiary industries
- To study Pakistan's main exports and imports
- To appreciate the significance of oil, natural gas and their by-products in the modern world

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet

First period

Introduction: Introduce the topic of this chapter by asking the students to define the word 'industry'. Expected answers would be making/manufacturing goods. Ask how and where goods are produced, and where the raw materials come from. Can Pakistan be called an industrialized country?

Explanation: Industry is divided into three levels or sectors—primary which is obtaining raw material, whether is it an ore, mineral, or agricultural product, etc.; secondary which involves processing raw material into finished goods, and tertiary , which is not about raw materials or manufactured products but is all about services, such as office workers, advertisers, sales people, finance, etc.

Requirements for industrial growth, besides raw material and labour, are educated planners, skilled/ trained manpower, finance/funds, energy resources, iron and steel for machinery. Ask the students what else they think is needed for industrialization in a country and note the answers on the board.

Work with the example of the garment industry, going back to the raw material (primary level) and the stages of processing that into yarn, then fabric, then a finished garment (secondary levels). The point of sale and the people involved are the tertiary or third level.

Primary industry is the first level. It involves collecting the raw material from agriculture, mines (e.g. coal, oil, and gas), drilling, forestry and fishing etc.

Secondary industry is the second level. At this stage, the raw material is turned into finished goods. For example, cotton is made into cloth, oil and gas into petroleum and fertilizers, forest trees into timber for construction, medicines, furniture, etc. Fishing is to do with fish and its products, in frozen form, fish-meal, etc.

3. Tertiary industry (third level) is also called the service industry. It does not produce anything but provides facilities in supplying/selling the finished goods to the consumers. Its scope is very wide—boutiques, shops, business concerns, transport workers, communication systems, banks, etc. It includes the services of doctors, health workers, lawyers, consultants, hospitals, hotels, entertainers, teachers etc. Tourism is also an important service industry in many countries.

Discuss each level separately. Give examples of countries where each type of industry is found in a larger volume. Countries rich in agriculture or minerals are examples of primary industry China, Japan and Malaysia are examples of secondary industry based economy. Singapore (state) and Hong Kong (city) are two examples of service industry-based economy. Many countries today are a combination of primary and secondary as well as tertiary industry based economies.

Conclusion: Reinforce the concepts by asking students to give an example of each type of industry, other than those explained here.

Homework: Question 1 from page 53 to be done in the notebooks.

Second period

Primary industries: Read through the text with the class, and explain the process of mining, quarrying, and drilling oil and gas. Explain the difference between deep mines and opencast mines. Quarrying is also opencast mining. Discuss the role of this industry in Pakistan's economy. Consult the textbook and the Teaching Guide. Refer to the accidents occurring in mines—especially in coal mines—In Pakistan, China, India and other developing countries often reported in the newspapers. Mostly, these are fatal incidents and very few, if any, miners are rescued alive. Ask the students whether they have seen footage

of the mining accident in Chile, South America where all the miners were rescued alive after more than a month. Ask the students to collect information from newspapers and the Internet.

Also discuss the use of coal in industry in the past and its use today as a source of energy. Talk about the advantages and disadvantages (mainly the pollution that is caused by coal). See page 28 of the atlas and note where coal is mined in Pakistan. Talk about the Thar coal fields in Sindh, yet to be exploited.

Opencast mining is done where the minerals are close to the surface. Many opencast mines, when seen from above, look like huge shallow bowls! Roads are made to transport the ore/mineral in trucks to the surface.

Oil and gas drilling: Explain how this industry functions; drilling from land and oceans. Explain what an oil drill is using a picture. (A heavy steel tube, more than 40 cm in diameter its cutting edge is made of industrial diamonds; the derrick and its working.)

Explain how oil drilling is done in Oceans. Explain about the floating, drilling platform, the rig, and the deck (40–50 metres above sea level). Give the example of the Troll Platform in the North Sea (see info on page 47 of the textbook). Ask the students to get at least one more example through the internet. Consult the textbook, pages 46 and 47 for details.

Move on to secondary industries. Explain that this means turning local or imported raw materials, into finished products. Secondary industry may be a tiny workshop producing handmade pottery or the manufacturing of heavy duty trucks, steel girders, aeroplanes, etc.

Conclusion: Recap the main points of the lesson.

Reinforcement: Draw three columns on the board under the headings handicraft, light industry, heavy industry. Ask the students to give examples of each type of product under these headings and write the answers on the board. For example, jewellery would come under handicraft; textiles or crockery under light industry, machinery under heavy industry.

Homework: Collect information about the Salt Range in Pakistan which is a source of natural rock salt.

Third period

Explain the evolution of secondary industry from ancient times to modern-day industry.

1. In earlier times, everything was made by hand. The process was slow and the finishing depended on the skill of the craftsman.

2. In the 19th century the use of steam engines became common. Then the manufacturing process became faster. Production capacity of workers increased 20 to 30 times. The quality of goods was more even than the work done by hand.

3. 20th century, distribution of work. One worker handled in one particular job with the conveyor belt production, thus capacity increased several hundred times.

4. The introduction of automated factories meant more machines, and robots. A huge factory can be managed by one or two persons sitting at a desk using electronic equipment and computers.

Oil and its by-products: This is the most important industry. Energy is the by-product of oil. Over half of the energy consumed in the world comes from oil, 45% of which comes from Muslim countries. Ask the students to name the Muslim countries producing oil; ask them to also name other oil-producing countries. Although Pakistan has reasonably rich gas reserves, oil has not been found in a quantity big enough to exploit. Read what the book says about the annual oil production of Pakistan as compared to the daily output of Saudi Arabia.

Explain the process of oil refining. List the other by-products, for example jet fuel, petrol, diesel, kerosene, liquefied petroleum gas (LPG), petrochemicals, etc. apart from products directly related to petroleum as fuel, point out the other products, such as dyes, fertilizers, and even cosmetics. Ask the students to name more by-products as they already have sufficient knowledge.

Natural gas: Ask how gas was created through a natural process and how it is transported from gas reserves to the refinery to remove impurities. Discuss its use and advantages. Ask about its importance in Pakistan's economy. Where are the sources of gas supply in Pakistan? Mainly, Sui in Balochistan and also in Sindh. Ask the students to check out the sources given on page 28 of the *Oxford School Atlas for Pakistan*.

Impress on the students the importance of using natural resources carefully instead if being wasteful. Fossil fuels particularly are produced naturally over thousands of years; it would be very expensive to replace them.

Conclusion and reinforcement: Guide the students in understanding and completing the graph In question 5 on page 53.

Homework: Question 2 on page 53 to be answered in the notebooks.

Fourth period

Move on to tertiary industry or the services industry.

Transport is a service industry essential in the movement of oil, industrial, and agricultural products. Give the examples of oil tankers, bulk oil-carriers, container ships, cargo and small ships.

Tankers in the oil industry are huge floating tanks powered by engines (not the ordinary oil tankers which we see on our cities' roads). They are huge. Workers use scooters to move from one end to the other. Discuss the tankers' speed and the volume they carry.

Container ships: They are floating warehouses. Discuss their capacity and mode of transport (in boxes). Explain the loading process, and the advantages.

Bulk Carriers: Describe their structure and capacity, their role in transporting coal, metal ores, and grain, etc. Other examples are refrigerated ships for meat and perishable goods and roll-on-roll-off ships for carrying vehicles and cars.

Conclusion: Recap the main points.

Reinforcement: Discuss questions 1 and 4 on page 53.

Class work: The worksheet may be completed in class.

Homework: Questions and Activities 1–5 from page 53.

1. Separate the following into primary, secondary, and tertiary levels of industry:

   (1) orange picking (2) oil drilling (3) skin collecting (4) oil refining (5) distribution of juice cans (6) manufacturing of shoes (7) cosmetics (8) beauty salons (9) mining (10) making of steel (11) export of steel goods (12) T.V. programmes (13) manufacturing of T.V sets (14) hotels (15) publishing

2. Complete these statements.

   a) Deep mines are reached by _____.

   b) Diamond mines in South Africa are up to _____ km deep.

   c) Opencast mines is used when the mineral lies _____.

   d) A hundred tonnes of gold-bearing rock yield _____.

   e) Deep mines are _____ to work in because of _____.

3. State whether the following statements are True or False

   a. Kerosene is a by-product of natural gas.

      ☐ True ☐ False

   b. Crude oil is a sweet-smelling liquid.

      ☐ True ☐ False

   c. The American industrialist, Henry Ford was the first person to develop the conveyer belt system.

      ☐ True ☐ False

   d. Transport is a part of the service industry.

      ☐ True ☐ False

   e. Roll-on-roll-off ships carry cars and other vehicles.

      ☐ True ☐ False

TRADE AND COMMERCE

TEXT PAGES 54–60

Make sure pupils understand the roles of the manufacturer, wholesaler, and retailer. Ask why supermarkets have acquired such popularity—a wide range of goods is on offer, so that almost everything can be bought at one place (extending from foods to clothing and furniture); convenient—they usually have car parks so that goods do not have to be carried far; often cheaper, because the supermarkets can buy in huge quantities directly from the manufacturer and so get good prices which they can pass on to customers. There is considerable criticism from farmers and other producers that the supermarkets are so large they can force wholesale prices down: if the farmer will not sell to one market, then there are other sources for it to buy from.

Disadvantages: Lack of personal service—the assistants are merely shelf-stackers or till (cash counter) operatives and know little about the goods they are selling. Till operators if confronted by a more unusual item—oysters, for example—often have to call the supervisor to ask what they are. And no one would be able to tell a customer, for example, the difference between various qualities of rice, if asked. Supermarkets cater for a mass market, and so do not usually sell more unusual items. They aim at the middle to cheap range of the market, and goods that sell in large amounts, often as the result of television advertising.

Ask pupils if they can suggest other advantages/disadvantages of supermarket shopping.

Office work: Office workers generally outnumber people actually doing creative or active work, by about five or six to one in the West. In addition to the clerical work for the actual business, there are also forms and information to be prepared for the government. Office workers also deal with the clients, provide information, and carry out necessary documentation and correspondence.

Stock exchange: It would help to be prepared for this topic by having at hand a copy of the latest share index sheet from a newspaper. The photograph on page 57 is just an example. Explain that businesses, especially those being set up, need more capital than they possess, so they often ask the general public to invest in them. This is usually done in the form of shares—people invest much money into the business and expect a share of the profits. These shares are bought and sold freely at the Stock Exchanges where dealers buy and sell shares for people. The aim is to buy when shares of a particular company are cheap—maybe they have had a bad sales year, and sell them when they are high—maybe when they are about to be taken over by a larger firm or are very successful in their business. Show the share price index from a newspaper and explain how prices and share value are determined. Perhaps students could track the shares of some companies/industries and do some mock trading.

Banking: Today banks are involved in almost all aspects of people's lives, not only just storing their money. Banks can, for example, be in charge of people's wills. Talk about banking and technology, i.e. use of credit and debit cards, 'plastic' money, telegraphic transfer of funds, etc. which have revolutionized the system and reduced the time and procedures that such transactions formerly required.

ANSWER TO QUESTION IN TEXT, PAGE 57:

Banks also give loans to businesses which need to borrow money, for example, to expand, to buy and stock goods, to pay added staff and add equipment as business expands, to branch out in a new line, and for advertising.

Interesting information: The functions of banking have been in existence even in ancient civilizations, where temples served this purpose as they were supposed to be safer than other places. There are records of Egyptian, Greek, and Roman banking practices in the pre-Christian era: the Romans had established uniform banking laws throughout their empire. The word 'bank' comes from the Latin 'bancum', a bench-like table used by medieval Italian bankers who came to be known as 'bancherius'. Find out the origin of the word 'bankrupt'—if a banker could not meet his obligations, his bench would be broken and he would have to move out!

Service industries: These involve most workers. In Pakistan, about 40 per cent of the workforce is employed in service industries (Economic Survey of Pakistan, 2006–7): in the UK it is about 75 per cent, in Japan, 68 per cent, and in Hong Kong, 91 per cent. Pakistan is rather low at the moment, but service industries are very much a function of industrialization.

Get pupils to list the type of industry/agriculture/service their parents are employed in. Also define services and brainstorm to list as many service occupations as they can, from traders to consultant surgeons, barristers, police, caterers, tailors, hotel industry, health-care providers, pop singers, dancers, and film actors. Tourism is another important service industry across the world today as it brings in income in foreign exchange; some countries with few natural resources except great beaches, for instance, have become popular destinations as they have capitalized on their tourist potential.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 60:

1. Law enforcement and the legal profession are essential for a civilized society. The government makes laws which it thinks facilitate a peaceful, profitable, and just society, and anyone who breaks these laws has to be dealt with, and punished, by society. The law enforcement investigates wrongdoings and arrests, if possible, the people responsible: the legal profession is there to ensure these people have justice, and are not wrongly punished.
2. Modern society is so complex that people must be literate to cope. Most of the best jobs depend not on physical labour and strength as they did in an agrarian economy, but on literacy and knowledge of often very complex activities and issues. Many jobs depend on analyzing a whole mass of data and working out a logical solution. Even the humblest jobs still benefit from education.

   Health services are essential to help prevent and cure illnesses and to allow people to live longer and healthier, happy lives. Some aspects of medicine treat illnesses and accidents when they have already occurred, while others try to prevent the illnesses happening with inoculations, vaccinations, and health training, even in such seemingly simple matters as what foods to eat and what not to eat.

   There is good scope here for class discussion. There are still manual jobs to be done, like cleaning the streets, digging ditches, and agriculture. Do we really need education for these? This is a problem even in the developed world, though a little less. In the West, it has been at least partly solved by immigrants from Africa, Asia, and Eastern Europe. But there still remains the problem of what to do with the indigenous people in any country who are not intelligent enough to read and write. (Provide vocational skills to make them employable.)

   Remember that education empowers people by making them aware of their rights, and not just about what is happening around them—information can be had from TV and radio, but being able to read and write means being able to keep records, plan for oneself and one's family, and lead a better life. Perhaps impress on the class how fortunate they are to be able to read and write.

The health services are advanced with well-equipped private and public hospitals and qualified doctors and paramedical staff in the cities and towns. The rural areas however lack the same level of medical services and serious cases are often brought to the cities. However, life expectancy has improved and people live longer; more children survive infancy so that the population soars.

L iteracy: Literacy rate is low: males 62% and females 35% overall, while the figures are lower in the rural areas, while life expectancy is 63 years for males and 65 for females. Compare this with life expectancy rates in developed countries (Japan: 83.5 years, highest in the world).

3. Role of communication (transfer of information between individuals) for industrial growth:

   • important for growth of business and industry;
   • provides a vast range of information—for example, international and local news, stock market, etc.
   • enables informed decision making.

4. Students can work in groups on this activity.

LESSON PLAN 7

Topic: Trade and commerce

Duration: Three periods (40 minutes × 3)

Objectives:
- To distinguish between wholesaling and retailing
- To explain the importance of stocks and shares, stock exchange, banking

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspapers, encyclopedia, Internet

First period

Introduction: Brainstorming. Talk about supermarkets and now hypermarkets in the big cities of Pakistan. Ask the students if they have visited any such places in their city or abroad, for example in Dubai. Did they like it? Why? What is the difference between a supermarket and other local markets? Which do they prefer? Why?

Ask what these supermarkets or other shops do. They buy and sell. What is the buying and selling of goods called? Write the topic on the board 'Trade and Commerce'.

Explanation:

Define what trade is. (Buying and/or selling) Ask whether the students have seen banners on shops that read, 'Exchange old refrigerators for new ones'. So trade is about buying, selling, or exchanging. We not only exchange goods but also services. We exchange the services of a doctor by paying his/her fee. Usually services are exchanged for money.

Let them know that the range of trade is very wide, small shops or huge supermarkets, all trade in goods and services.

Explain the difference between wholesaling and retailing. Wholesalers trade in bulk while retailers serve individual customers. Ask the students to name some popular wholesale markets, such as Jodia Bazaar and the Sabzi Mandi (vegetable and fruit market), in Karachi and Akbari Mandi and Shah Alami market in Lahore, which deal in a variety of items from grain and vegetables, etc. to other household and commercial items).

Also refer to the Teaching Guide to discuss advantages and disadvantages of super/hyper markets and their goods and services. On the other hand small shops giving personalized service carry a limited range of goods preferred by their customers and do not cater to a larger clientele. An example of this is buying clothes from a designer boutique and from a large scale outlet. discuss the differences.

The selling process: It involves many people, from the manufacturer to the distributor, to the shopkeeper, and eventually the customer. Everyone wants to make a profit. So at every stage i.e. from the manufacturer to the distributor to the shopkeeper, they will add their share of profit. This is all added into the price which has to be paid by the customer, who pays the price accordingly.

Office work: Explain what office work is. Any business has to keep an inventory of the goods offered for sale. They have to keep the record of bills paid, income, expenditure, and future orders. This work is performed by the employees hired for this purpose. They manage the administration which is very important in a successful business. This is office work.

Conclusion: Wind up by reminding students how manufacturing brings finished products into the market according to the people's requirements and choices.

Reinforcement: Recap the main points by asking short questions to ensure understanding. Ask students to give examples of goods in wholesale and retail markets and the difference in how these are bought and sold.

Second period

Stock exchange: Explain the functions of a stock exchange. Businessmen invest their money by buying and selling shares in a business concern or industry. If the business is successful, the share prices rise and investors earn a profit. When the business is not doing well, share prices remain the same or fall, so there's a loss. Ask the students to listen to the business news on local and international television channels, which informs us of the activities at the stock exchanges. Every big city like Karachi, Peshawar, Lahore, has its own stock exchange. The stock exchanges in New York, Tokyo, London, are very important in international business; ask students to find out more about them. Ask the students to read the business page of any newspaper. On this page the activities of the stock exchange and international and national trade are reported. The stock exchange is the backbone of the economy of a country.

Explain about other institutions that support trade and commerce, like banks and service industries.

Banking: Share with the class the interesting information about the origins of banking (Teaching Guide, page 47). Ask the students to name a few banks of Pakistan. Then ask them to explain the function of a bank; students may have some preliminary knowledge.

Discuss and note their responses on the board.

1. Keep savings or other types of accounts
2. Lend money to people
3. Invest customers' money in the stock market and other businesses
4. Settle customer debts
5. Buy and sell foreign currencies.

Ask the students whether they have seen exchange rates in the newspapers or heard about it on TV. Ask them to collect some cuttings from the newspapers and note the change in exchange rates—this happens on a daily basis.

Explain that the clients have to pay interest to the banks for the services provided (by banks). The bank too pays them a share on their investments.

Conclusion: Recap the main points.

Reinforcement: If possible, arrange for a banking professional to speak to the students about banking, its functions, and its services. This is also a good opportunity to introduce professions to the students and what skills and education are required for various professions.

Discuss questions 1, 2, and 3 in class and note the main points on the board for students to copy for future use.

Third period

Service industries: In the previous chapter the students have already learnt about service industries. Ask some questions to recap this. Do they know what call centres are? They are offices employing thousands of people who use the telephone link to deal with customer queries and issues from all over the world. Many multinational businesses have their offices in service-oriented countries. In many Asian countries, people are trained to understand foreign accents and respond in clear and correct language. Call centres are very popular in Pakistan nowadays. Thousands of people work in call centres.

Discuss some important service industries, for example, the legal profession, law enforcement, education, and health care and their importance in the development of a country.

Talk about other important service industries such as civic amenities, municipal services like water supply, cleanliness of localities, garbage collection, postal service, and communication.

Communication: Define what communication. It is the transfer of information. What are the sources? Print media (newspaper), electronic media (TV), the Internet (computer). Discuss the importance of communication. Talk about cell phones and their functions and that they are the most widely used communication devices. Discuss the features and functions of cell phones and the advantages. Ask students to work in groups to research how communication has progressed from ancient to medieval to modern times and particularly, the huge leaps in the 20th and 21st centuries. Also note the link between education and communication. They can prepare posters and display them in the class.

Tourism: It is now regarded as an industry. Why? Foreign exchange can be earned, which is very important for the country's economy. Ask how countries develop tourist attractions and also provide facilities as well as security to attract tourists. Ask the students to name countries which are favourite tourist destinations and what makes them top choices for tourists.

Discuss how Pakistan can attract more tourists. It has the remains of ancient civilizations: Mohenjo Daro, Harappa, and Taxila; while the northern areas have scenic beauty, mountaineering, spectacular mountains and passes, there are the culturally rich cities of Lahore (Mughal architecture), Multan (Sufi shrines), and Bahawalpur, etc. Pakistan needs to further develop its tourist industry for locals as well as foreigners and provide international level of hospitality, security and transport to tourists. It must be noted that the majority of visitors who come to Pakistan are awed by the natural landscapes and scenery, and appreciate the warmth and hospitality of the people.

Conclusion: Recap the main points.

Reinforcement: Question 4 from page 60: note down Rupee to US dollar exchange rates along with the date; look them up again a week later and note them down. Repeat the procedure two weeks later and bring the findings to class. Note the change in the value of the rupee, has it become stronger or weaker? Discuss the difference.

Homework: The attached worksheet is to be done for homework.

1. Write short answers to the questions below.

   a) Describe how a wholesale business works.

   _____

   _____

   b) How does a retail business work?

   _____

   _____

   c) Describe any two functions of banking.

   _____

   _____

   d) Explain, with example, what is meant by service industry.

   _____

   _____

2. Name two historical and two scenic tourist sites of Pakistan and write briefly why they are tourist attractions.

   _____

   _____

   _____

   _____

3. State whether the statements below are True or False.

   a) The Stock Exchange is where stocks and shares of various companies are bought and sold.

   b) The people in the stock exchange are paid a share from the investors' profits.

   c) Banks lend money and charge interest on the loan.

   d) Communication comprises only correspondence.

   e) Tourism is also a service industry.

EXPORTS AND IMPORTS OF PAKISTAN

TEXT PAGES 61–66

Euro: Until 2002, every country in Europe had a different currency—pounds, kroner, crowns, marks, zlotys, lira, pesetas, drachmas, francs, guilders, and so on, and each currency had varying values. Travelling in Europe was a nuisance—at each frontier one had to change currencies. Then from 2002 most countries in Europe decided to have a completely new currency, the euro. Now, one can spend the same coinage in all member countries. Britain and Denmark have voted to stay out of the European Monetary Union (EMU) for the time being as their economies were strong whereas many of the others were faltering. Note: since the last two years, 2011–12, the economy of some member countries of the European Union has taken a downturn, with the governments taking steps to curtail spending and impose austerity measures which are not popular with the public. Greece and Italy are two such countries.

Explain the term **balance of payments** by relating it to the students' own experience of handling money. Perhaps pupils could make their own balance of payments accounts: pocket money, presents at birthdays, etc. and any other money they may earn from doing jobs, noted on one side, and what they spend it on, on the other.

Foreign debts: Most developing countries are heavily in debt to various international financial institutions, such as the World Bank, International Monetary Fund (IMF), or other developed nations. At times, developed countries are also in debt while some lucky ones have a credit balance. UK owes about US$ 20 billion; the USA, about US$ 200 billion. Japan is about US$ 100 billion in credit; Saudi Arabia, about US$ 35 billion in credit; Germany, US$ 72 billion in credit.

Export: Pakistan's big five

Cotton: It should not be difficult for pupils to produce examples of cotton products. Put up a class display. Get some rayon and compare the two fabrics for absorbency, feel, warmth etc.

Rice: This has been given in detail, in Chapter 4, as well as on page 64. Compare the price of basmati rice with other varieties in your country.

Sports equipment: Pakistan is still a major exporter of sports equipment, but today much of the natural raw material is being replaced by synthetic material. Ask pupils what sports equipment they know of, made from plastics and other synthetics: footballs, cricket balls—plastic-coated instead of leather; hockey sticks—graphite instead of wood; tennis and squash rackets—frames sometimes of metal (titanium is light and very strong, and very expensive) but the stringing now, instead of gut from animals, is usually nylon. Carpets: These are highly priced export items, especially the hand-knotted ones. The price is determined by the quality of the material—wool, silk or both—and the number of knots per square inch. Antique carpets are also very expensive. Factory/machine-made carpets cost less.

Imports

Using the tables on page 65, the students can make a bar chart.

These figures can also lead to some discussion in response to the questions in text, page 65. Note the value of petroleum imports: almost twice as much, or more than the other imported items. Perhaps students can identify those imports which help to make exports for Pakistan—machinery, some chemicals and fertilizers, iron and steel, transport. Encourage and guide students to read the business supplements of the newspapers to know more about Pakistan's imports and exports.

Note: The Economic Survey of Pakistan annual journal, published by the Federal Bureau of Statistics is an authentic and up to date source of information for such data.

Much of the increase in imports is caused by increase in population, rising standards of living, and industrialization. Import of crops also grown in Pakistan, such as wheat and sugar cane, is marginal and dependent on the annual harvest—these are imported only as required. On the other hand, an essential beverage like tea, which does not grow in Pakistan, has to be imported. Some details are given below.

Wheat: marginal increase from 1996 to 2006, mainly due to better yields in interim years; 2010–11 figures show a drastic drop in wheat import, which is a good sign.

Tea: increase of almost three times, despite cost, and in line with population increase

Sugar: from 2009–10 to 2011, the import of sugar more than tripled despite the fact that Pakistan is a sugar-producing country.

Edible oil: almost doubled and still increasing; rising standards and change in lifestyle. The same observation applies to pulses and other food items for the years 2011–12.

Fertilizer: increased 2.8 times, in response to demand for food and exports.

Petroleum: increased almost five times, as a result of industrialization, and rising standards as more people have cars, motorcycles, etc.

Foreign businesses in Pakistan are mostly multinationals manufacturing pharmaceuticals, auto parts, mechanical goods, and food items, especially fast food and soft drink chains.

ANSWERS TO QUESTION IN INFO BOX, PAGE 65:

Against compulsory education: some point which could be raised.

1. In a developing economy like Pakistan where 75 per cent of the workforce is engaged in agriculture, often on a subsistence basis, there is little point in learning to read and write. Any knowledge needed is passed on by word of mouth.
2. In crafts such as carpet weaving, the skills can be taught to children at an early age, again without the need to be literate.
3. In villages, in particular, where would reading material come from? There would hardly be any libraries or bookshops, and in many no newspapers.
4. Modern media, radio and, especially, TV can give us news of the world and of events in our own country without the need to be able to read a word.

For education:

1. With more and more people moving to towns and cities, the need for literacy increases—if for nothing else, to be able to read street names, road signs, notices, shop signs, and much else.
2. As Pakistan becomes more industrialized, the need for literacy increases—instructions in factories, office work, programmes of work to be done that day.

3. Instead of having just the news and information given on the TV and radio, which in some countries is strictly controlled by governments, literate people can choose which newspapers and books to read so that they can make up their own opinions.
4. Literacy extends the whole range of leisure activities: books and magazines of special interest like fishing or speed racing, fiction, travel, biographies, etc. and lets us have a much broader picture of our world.
5. Literacy is essential to getting on in the world…getting better jobs, higher positions.

Pupils will probably throw up many more reasons.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 66:

1. Balance of payment is the record of money payments between one country and other countries incurred due to exports, imports, foreign investments, loans, and other cash flows. When imports are higher than exports, the difference calculated is called trade deficit and when exports are higher than imports and this difference calculated is called surplus.
2. Students can answer this question with reference to the tables given on pages 62 and 65.
3. 'Others' would include processed/finished consumer goods such as food items, cosmetics, toys, chemicals, medicines, etc.
4. Crude petroleum and its products are the largest imports, as these are needed for transport and energy. These come mainly from the Gulf States, and especially from Arabia.
5. Students can answer this question with reference to table given on page 65.

LESSON PLAN 8

Topic: Exports and imports of Pakistan

Duration: Three periods (40 minutes × 3)

Objectives:
- To explain simply the meaning of balance of payments
- To study Pakistan's main exports and imports
- To understand what visible and invisible exports and imports are, and their importance to Pakistan

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet

First period

Introduction: The students have already learnt something about export and import items. Ask them a few questions about the exports of Pakistan.

1. What are the agricultural products we export? (rice, cotton)
2. What are the manufactured goods that we exports? (garments and bed linen, sports items, surgical instruments etc.)
3. What raw materials does Pakistan import? (crude oil, steel, oilseeds, sometimes edible items when there is a shortage e.g. wheat, pulses, onions, etc.)
4. What are the manufactured items Pakistan imports? (heavy machinery, television sets, washing machines, tractors, cars, buses, etc. sugar, food items, and cosmetics to mention a few.)

Write the title 'Exports and imports of Pakistan' on the board.

Explanation:

Explain that exports and imports are also a form of trading, but between countries.

Define the terms. Exports are the selling of goods to other countries, thus foreign exchange, usually US dollars is earned. How do we use this foreign exchange? (Mostly to pay the bills of our imports) Imports are the goods bought from other countries into the country. The disadvantage of imports is that foreign exchange is spent. Another disadvantage with developing or agricultural countries is that they export raw materials from mines and forests and agricultural products like fruit, grains, meat and dairy products, which bring in less income than the manufactured goods they import.

Explain that manufacturing means spending more money on the product and thus demanding higher rates than for raw materials which have to go through several processes before being turned into finished goods.

Balance of payments: Balance of payments is the difference between the amount a country pays for imports and the amount it receives for exports, during a particular period. Ideally there should be more income and less expense or certainly a balance in income and expenditure.

Trade surplus: If the exports are higher than the imports, the difference is called trade surplus. For example, if Britain exports goods worth $150 million and imports goods worth $100 million, it will have a trade surplus of $50 million (150 – 100 = 50).

Trade deficit: If the imports are higher than the exports, the difference is called the trade deficit. For example,. if Pakistan exports goods worth $200 million and imports goods worth $500 million it will have a trade deficit of $300 million (500 – 200 = 300).

How can a country have a trade surplus?

It should export more manufactured goods such as aircrafts, computers, and heavy machinery which are of greater monetary value, therefore bringing in more foreign exchange.

Imports of agricultural products are cheaper than manufactured goods e.g. food items, garments etc. Countries that export more manufactured goods and import agricultural goods will have a trade surplus or a favourable balance of payments.

Does Pakistan have a trade surplus?

Pakistan does not export many manufactured goods. It mostly exports agricultural items. On the other hand, it has to pay large amounts to import expensive goods like oil and machinery. So Pakistan has a trade deficit, therefore it has to take loans from the World Bank or the IMF (International Monetary Fund) and also pay heavy interest on loans taken.

Explain that most of the developing countries and even Malaysia (which is relatively prosperous), take loans from international organizations. Study the table on page 62 of the textbook which shows the exports and imports of Pakistan for 2006. Calculate the figures of exports and imports and find out the results (Q 2, page 66). Students can do this as pair work.

If possible, look up the latest figures for Pakistan's imports and exports in the current edition of the Economic Survey of Pakistan publication and provide the details to the students.

Conclusion and reinforcement: Ask the students to read the text, including margin boxes, to consolidate learning. Recap the main points by asking short questions to ensure comprehension.

Homework: Students to do questions 1 and 3 in their notebooks.

Second period

Export: Pakistan's Big Five: Explain that these five items constitute almost three quarters of Pakistan's total exports. They are (1) cotton (2) rayon (3) rice (4) sports equipment (5) carpets.

Discuss each item separately. Consult the textbook (page 63) for details. Note the ranking.

Cotton and its products top the export item list; rayon is the second largest export item, rice is the third, sports equipment fourth, and carpets rank fifth in exports.

Study the illustrations on page 63, particularly about how rayon is produced. It is interesting to note the stages because one normally does not associate fabric with wood chips!

Discuss the issue of child labour in the carpet industry and also pointed out in the making of footballs. Pakistan is one of the major manufacturers and exporters of sports equipment. Child labour is a serious concern and even if children are being taught a skill, their health, education, and well-being should be given priority. (See margin text on page 65.)

Carpet making by hand is a cottage industry. Ask students to find out where carpets are made in Pakistan. Also discuss why children are employed in this industry—their slim fingers can knot the carpets more closely, and the higher the number of knots per square inch, the more valuable the carpets are.

Conclusion: Recap the main points.

Homework: On an outline map of Pakistan, mark the places where the following products are grown or made. Use symbols and make your own key. Refer to the Oxford School Atlas for Pakistan to find these places.

Sports equipment: Sialkot Rice: Punjab and Sindh Cotton: Punjab and Sindh Rayon: Karachi, Faisalabad, Hyderabad Cotton products: Haripur, Lahore, Jhang, Nooriabad (Sindh)

Third period

Imports: Study the chart on page 65 of the textbook. Though Pakistan is an agricultural country, it still imports edible oil, grain, sugar, and pulses. What is the reason? It is mainly the rapid growth in population and the agricultural output in the country is not sufficient for so many people. Besides, the agricultural system in Pakistan cannot cope with it for many reasons: the zamindari system, old methods of cultivation, small holdings, poverty, and illiteracy of the farmers. Discuss each factor briefly. In brief, there is an urgent need to overhaul our agricultural system on scientific grounds to increase output, utilize the land more effectively, and protect crops from pests, drought, flooding, etc.

Invisible exports and imports: These are the Pakistani workforce employed overseas especially in the oilfields of Saudi Arabia, UAE, USA, and in other jobs in the West and East. They earn foreign exchange and send the money to their families living in Pakistan. In 2007, they earned US$ 5,500,000,000. This adds to the foreign exchange reserves of the country. The overseas workforce is the invisible export; their remittances are the invisible imports. Overseas Pakistani nationals and Pakistani immigrants also invest in Pakistan.

As explained in the textbook, multinational firms and banks working in other countries, such as Pakistan, also send back their profits to their home countries.

Conclusion: Recap the main points.

Reinforcement: The Worksheet may be done as class work.

Homework: Questions 5 from page 66 is to be done for homework. Explain the task to the students by giving an example for each heading on the board.

1. Complete these statements. Use the given words appropriately:

   into, trade deficit, trade surplus, out

   a) Exports are goods that are sent _____ of the country

   b) Imports are goods that are brought _____ into the country

   c) If the imports are higher than the exports, the difference shows the _____.

   d) If the exports are higher than the imports, the difference shows the _____.

2. These five items are called Pakistan's big five exports. Arrange them in the order of their ranking from first to fifth.

   rice, sports goods, cotton, carpets, rayon

3. Explain what is meant by invisible exports and imports.

_____

_____

_____

_____

CHAPTER EIGHT

WORLD POPULATION

TEXT PAGES 67–74

The figures for world population are amazing—that the whole population of the Earth could be accommodated inside the boundaries of Karachi, or as in the UK, on the Isle of Wight (38,000 hectares). However, it would leave the people gasping for breath!

Talk to the pupils about the exercise on page 68, on the most and least densely populated areas in the world.

ANSWERS TO QUESTIONS IN TEXT, PAGE 68:

Reasons for high population:

New York: International business and trade centre, financial and commercial centre of the USA, the richest and most powerful nation in the world. It is also the focal point of a vast built-up area made up of many cities about 400 miles long, sometimes called Megapolis (Greek mega = huge, polis = city).

Europe: Business region and strong industrial base; a moderate, mild climate and fertile land attracted primitive peoples to this area. As thousands of years later it became industrialized, the population soared, supported by the colonies supplying raw materials.

Nile Valley and Ganges Valley: Agriculture; very fertile, well-watered land surrounded, in the case of the Nile by desert, and of the Ganges by poorer land.

Mumbai: India's business and trade centre. Even under British control, Bombay, as it was then called, was the second largest city in the subcontinent, (population, 1927: 1,200,000; Calcutta: 1,300,000). In the 18th century it was ideally suited as a trade port with Europe, on the west coast of the subcontinent with an excellent deep-water harbour. By 1900, it had a population of one million. Its prosperity has attracted many modern industries: the world's biggest film industry, TV and advertising, financial and banking centre (much of Europe's banking is done in Mumbai).

Eastern China: Industry, business, and agriculture; most fertile area of China, where only about 10 per cent of the land is first-class agricultural land. To the west are mountains, highlands and deserts.

Indonesia: Industry, business, and agriculture; very fertile and, more recently, well supplied with minerals, though still a desperately poor country.

Japan: Industry and business; immensely overcrowded with 340 people/sq km, particularly the Kanto region comprising many cities. Limited land area and no space for excess population—Japan's aim in World War II was to get land for its people. Relatively low birth rate and death rate (males 79, females 86 years—longest expectation of life in the world. Infant mortality, at 2.9 per 1000 births, is the lowest in the world and means population increase.

Reasons for lowest population:

Northern Canada: Too cold and inhospitable to support many people, also because of Canadian forest and tundra.

Amazon Basin: Too densely forested to support many people; largely indigenous primitive peoples; dense rainforests, protected region.

North Africa: Sahara Desert, very hot and dry; does not support population or occupation other than in the oases or the oil industry.

South-west Africa: Kalahari Desert, very hot and dry, and under-developed.

Central Asia: Harsh climate, poor land, and poor vegetation; wide temperature variations make it inhospitable; sparse population, traditionally mainly nomadic people with horses and herds.

Northern Asia: Siberia, very cold, forested highlands; inhospitable.

Arctic region: Ice bound, uninhabitable.

Central Australia: Desert, very hot and dry.

World population projections: Pupils could do bar graphs of 1999 and 2050 figures, at the scale of 1000 million (one billion) = 4 cm. Use two different colours for 1999 and 2050.

Figures would be: North America: 1.47 and 1.99 cm; South America: 1.99 and 2.72 cm; Europe: 2.9 and 2.8 cm; Africa: 3.1 and 5.8 cm; Asia: 14.3 and 17.9 cm; Oceania 0.1 and 0.17 cm.

This will bring home the population problems of Asia, unless they are brought under control. Do not forget these are projections made in 2004—there may be radical changes in the future as there have been in China, with its one-child legislation.
on.

ANSWER TO QUESTION IN TEXT, PAGE 68:

Population of Europe is expected to decrease because it is a highly sophisticated, industrialized urban society (Western Europe, at least) with about 75–90 per cent of the population living in cities. It is densely crowded and there is a general feeling among younger people that material goods are perhaps better than families—at least you can choose your car, kitchen, and furniture! It is largely a matter of lifestyle: holidays, clothes, and other luxuries dominate many people's lives.

The decline of religion; fewer people are getting married (one third only of the marriageable age group). Although the Catholic Church forbids contraception, even among believers this is largely ignored. Because of the high cost of living, people cannot afford large families. Women, especially those in good jobs, are often putting their careers before family, and if they do have children they are often in their late 30s or early 40s. The universal availability of contraception (in a few senior schools this is available to pupils on request—this is only for teachers' consumption). A few people are genuinely so pessimistic about the future of the world they deliberately refrain from having families because they do not want their children to have to suffer.

There is also a problem of declining fertility, especially among men: while this remains a mystery, it is probably due to lifestyle.

To maintain the population at its present level, every couple should have an average of 2.1 children. Most European countries are below this. In Italy the average is 1, and for most of Europe, the average is 1.1—1.8 births per female. Compare these with other countries whose statistics are given below.

Turkey	2.8	Egypt	3.4
Iran	2.8	Philippines	3.5
India	3.1	Pakistan	5.0
Malaysia	3.2	Cote d'Ivoire	5.1
Kenya	3.2	Nigeria	5.2
South Africa	3.3	Saudi Arabia	5.8

Catholic countries such as Spain, Italy, Ireland, and Portugal, despite their religious beliefs, are among the lowest. Some in Eastern Europe actually have a negative change: the population is declining. The common factor is that almost all countries with very high birth rates are developing countries, whereas developed countries have a lower birth rate.

Male-female ratio: This is coupled with the number of men for every 100 women.

Iran	103
China	106
Taiwan	106
Iraq	106
Pakistan	107
Saudi Arabia	127 (!)

Switzerland, Sweden, UK, USA, South Africa, Japan, Nigeria, and Brazil are typical of most of the world, with 96–97 men for every 100 women.

Traditionally, male babies are harder to rear than females so that in general about 104/5 boys are born for every 100 girls. Because (at least, in the past) more boys died in infancy, parity was reached by adulthood.

The birth rate in China is legally restricted to one child per family as the population was soaring uncontrollably. (See page 70 in the textbook.) However, after the May 2008 earthquake in Sichuan, where thousands of children were killed, the policy was relaxed.

These are the literacy percentage figures (CIA World Factbook, 2007).

	Male	Female
Pakistan	62	35
Bangladesh	54	32
India	70	48
Sri Lanka	95	90
Nepal	63	35

And these are the life expectancy figures.

	Male	Female
Pakistan	63	65
India	66	71
Sri Lanka	73	77
Nepal	61	60
Bangladesh	63	63

Observe the link between literacy, health, and life expectancy.

The appalling life expectancy in the African states is due mainly to the prevalence of AIDS—one person in four is thought to be infected, because of their careless lifestyle; there is also the prevalence of famine

through ignorance, and overall poverty because of illiteracy, bad governance and lack of employment opportunities. Sadly, many of such countries are also afflicted with lawlessness, strife and civil unrest, all of which add to their problems.

Longer expectation of life means dramatic change on the part of governments: they must provide for pensions, health care, social welfare for the elderly. Thus an increasing tax burden falls on a smaller and smaller percentage of active workers. Technology makes up some of the deficit, but this cannot go on indefinitely.

Discuss the Chinese policy of one child per family. The government there makes no provision for pensions for the elderly, who traditionally were cared for by the adult children. Now, with one child, who does the wife (who does most of the caring) look after—her own parents or those of her husband?

The soaring population is perhaps the greatest problem facing the world. In Pakistan, the increase in population slowed down from 1981–97 from a 3.06 per cent increase in 1981 to 2.42 per cent in 1997, but since then it has risen quite sharply to 2.69 per cent. This is not a good sign: it may probably be due to the higher standard of living, but the government will have to watch this carefully.

The famous English economist, Malthus (1798) put forward a theory that the population (of the UK) would go on increasing at a geometric mean (2…4…8… 16…32…64, etc.) whereas food production would increase only at an arithmetic mean (2…4…6…8…10…12 etc). With farming still very primitive in the UK and the population swarming to the towns under the Industrial Revolution, this seemed to be all too true. But with new farming methods, improved stock and grains, and imports from abroad, it was soon seen to be wrong. Malthus was discredited. Today, however, he is seen more favourably: the Earth is finite, as are the foods it can produce. We are nowhere near the limit at the moment, but there are millions starving to death all over the world. This is because of disruption: civil wars forcing people from the land, outdated agricultural methods, and ignorance. So we are back again to the importance of education for a better life.

ANSWERS TO QUESTIONS IN TEXT, PAGE 69:

The table and the graph show that the population of Pakistan has almost doubled from 1981–2007. This is putting pressure on all services—health, law and order, justice, education. It means many more mouths to feed, and while improved methods have enabled foodstuffs to keep pace more or less, in view of the climate changes and the water shortages, the prospect seems rather gloomy especially as the fertility rate remains very high—almost 4 children on average per woman, compared with most developed countries where the figure is 1.2–1.7 children per woman. (The USA is surprisingly high at 2.09.)

Change can only come about by educating the masses, and breaking down the tradition of having large families to work the land. Unless some measures are taken, the population will outstrip the resources especially foodstuffs. With industry and agriculture rapidly becoming mechanized (tractors and other machinery on the land, computers and automation in industry) and needing fewer and fewer workers, there could be much unemployment and consequent unrest.

The graphs also show a slow but steady gap between the number of males and females. The population in 2007 was 52.5% male and 47.5% female. In 2001 it was 51.9% male and 48.1% female. Although 0.6% may not seem a lot taken in the context of a total population of 158,000,000, it is significant—almost 8 million more males than females.

ANSWERS TO QUESTIONS IN TEXT, PAGE 70:

i) Pakistan, India, and Nigeria are typical of the developing countries where old traditions are still very strong and large families are favoured. China, with fortunate foresight, has a strict one child per family

policy to control its population growth. Germany is economically advanced and industrially developed, unlike agricultural countries which need many helping hands.

ii) Higher life expectancy in Germany because, in general, far more is spent on health, hospital, medicine by the government. Again, Germany being economically stronger can provide better facilities to its people, thus increasing life expectancy.

iii) The countries listed here are all in Africa. The positive difference between Pakistan and other African countries is due to stronger moral values, and better living conditions in Pakistan.

iv) Pakistan does not have the extreme climatic conditions which lead to much disease. As a developing country, it has better health facilities. Education is better. The general standard of living, if not high by the standards in Europe and North America, is immensely better than those of the Central African states or of neighbouring war-torn Afghanistan.

Page 71 has many points for discussion; (b) and (d) are important, particularly in Pakistan where there are so many demands on state money, and education is expensive. It is difficult to break the traditions of thousands of years, but the simple, almost self-sufficient, farming has no real place in the bursting population of today.

Urbanization: (Latin 'urbs' = a city). Talk about why people flock to the cities and urban areas. The bright lights, better jobs, housing, amenities, transport etc… are all too often a delusion.

It is ironic that in many western countries the flow has reversed, though not with ordinary people. When city workers have reached a sufficiently high salary, they dream of the 'country cottage', if not for a permanent home, at least for a weekend retreat. Improved and faster transport enables people to travel long distances to reach work in the cities, especially like Tokyo, London, and New York, and thousands of people in developed countries spend four or more hours each day just travelling to and from work, so that they can live in the countryside. This has forced up the prices of property so that local country people, who are often in lower-paid jobs, cannot buy houses. A typical two-bedroom country cottage within 150 kilometres of London or other cities in 2007 cost £150,000 to £200,000 (calculate at the current exchange rate for the rupee vs GBP).

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 74:

1. Problems caused by rapid increase in population are shortage of food, basic amenities, jobs, housing, services, resources, etc. These lead to unrest, poor living conditions, bad health, crime, etc.
2. China has tried to solve this problem with the 'One child per family' policy. Students to share their own opinion on this.
3. (The ten countries, listed on page 70, are in Africa but students should look them up in an atlas. They can work in groups and share their opinion with the class.)

   Some possible answers: All of these countries are in Central Africa. Everything militates against long life: the climate is generally very hot, which leads to disease. About 900,000 people, mainly children and women, die of malaria alone in these countries although malaria is easily eradicated. Low standards of education, if any at all. Countries are desperately poor and cannot afford decent government health facilities. Terrible corruption: money given by organizations such as the UN or the WHO generally finds its way into the pockets of a small elite. HIV/AIDS in Central Africa (where it originated)—10–20 per cent suffer from the disease because of the traditional promiscuous lifestyle of the males.
4. Longer expectation of life means a major rethink for governments on how to cope with the problem of an ageing population. The provision of health care for older people, who need the most medical

attention, is a major worry for expense and the provision of enough medical staff. In countries where the state provides a pension for the retired, the burden is falling on a smaller and smaller group of people of working age.

5. Answer given in detail on page 73; students can give other reasons also.

6. (a) Advantages of living in a city: More opportunities; more sources of interest. Shopping; transport; entertainment. More contact with others for all activities. Wider range of everything from food to amusements. Better health and educational facilities.

   (b) Disadvantages: Pollution from vehicle fumes, noise, visual pollution. Crowded, expensive; often no work. Accommodation can be poorer. Often little contact with neighbours, unlike in villages.

LESSON PLAN 9

Topic: World population

Duration: Three periods (40 minutes × 3)

Objectives:
- To explain about world population and Pakistan in particular
- To look at the problems of overpopulation, and some possible solutions
- To explain the process of urbanization: rural vs urban populations, and the reasons

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet.

First period

Introduction: Begin by asking the students what they think is the world's total population today. (According to the US Census Bureau World Population clock it was 7,037, 110, 527 on 4 September 2012.)

Talk about the most populated country of the world, China. Which countries follow China? (India, USA, Indonesia and Brazil). Talk about the problems of over-population. We celebrate a number of special days every year, such as Earth Day on 22 April. Similarly, World Population Day is also celebrated. Ask the students to find out the date and some history behind it. (It is on 11th July, and is observed since 1989 to raise awareness about population issues. The day was marked as such by the United Nations Human Development Programme in 1987.)

Explanation:

See pages 82 and 83 of the *Oxford School Atlas for Pakistan*, which shows the world population. Ask the students to point out the most densely populated areas in the world, (India, Eastern China, Far-east, Europe, North America [eastern part], South America, [eastern-part], South Africa).

Draw their attention to the bars at the bottom of page 82 and ask which continent leads the world in area and which one leads in population. Ask the students to list them rank-wise in two columns under the headings Area and Population.

Density of population: Explain the term 'density'. It is the number of people living in a particular area. Tell the students that the world population is not equally spread. The world map on page 67 shows population density across the world. The reasons for this spread—with pockets of high and low to hardly any population have been explained in this Teaching Guide (pages 57-58). Discuss these with the class.

1. Fertile areas have more population because of the availability of water and food.

2. Deserts have less population so do mountainous regions and regions with extreme cold because of the weather, harsh terrain, and lack of water.

Explain the tables on page no 68 of the textbook. Countries from a) to h) have highest density, the reasons being (i) industry (ii) business, and (iii) agriculture, or all three factors, or a combination of any two.

The countries numbered 1 to 8 have a low density of population for the following reasons:

(i) Extreme climate (hot or cold) (ii) Densely forested areas which cannot support a large number of people (iii) Deserts because of the harsh climate, non availability of food and water.

Explain the table which shows the population in 1999 and the expected population in 2050. The figures show an increase in the population with the exception of Europe; (1999) 729 million, (2050) 628 million a decrease of 101 million. Ask the students to suggest reasons. Europe is highly industrialized.

- Materialistic view about life—people prefer to spend on luxuries for themselves rather than raise a family.
- High standard of living—they cannot afford a family due to inflation and high cost of living.
- Decline of religion—fewer people are getting married and raising families.
- Declining fertility—lifestyles affect people's health.

Look at the photograph of a UK street; compare this with a street in an Asian town. Ask the students what differences there will be.

Pakistan's population problems: Read and discuss the text, table and graph on page 69. Study the figures of the population growth from 1941 to 2007. The table and graph show the ratio as well as growth of male vs female population, and the increase in total population. Discuss the problems our country is facing and may have to face in future because of this. Talk about the reasons and possible solutions. Reasons are illiteracy, unawareness about the need to space and control family growth; ignorance about the impact on mothers' and children's health due to malnutrition; lack of basic health facilities in far-flung areas; impact on the future of such families—what future do they have? Overpopulation without adequate planning by the government to provide and encourage birth control, or plan for health, education and employment opportunities for the people being added on leads to poverty, lawlessness, and crime besides hunger, disease, low life expectancy, and lack of education and jobs.

Discuss the figures given in the table on page 70 of the textbook. The birth rate is high in Nigeria, Pakistan, and India. It is low in China and Germany. This is directly related to literacy and also to the government policy in China.

Discuss the ten countries with the lowest life expectancy which is mainly due to poor economy, and lack of education and health services.

The average life expectancy in Pakistan is higher by 20 or more years because of a better economy compared to the countries listed and better climatic conditions too.

Conclusion: Recap the main points.

Reinforcement: Briefly discuss the problems. A case in point is the increase in high-rise living accommodation. This increases the population density of say 625 square metres from ten people living in one house to at least five each in 20 to 30 apartments on the same area (100 to 150).

Homework: Question 3 on page 74 is to be done for homework. The atlas can be used to search the countries on the world map (political, pages 70–71) and mark them on an outline map of the world.

Second period

Population problems: Overpopulation is the main threat to the world. Read the text on page 70 as well as the margin text to get an idea of population issues in today's world. China has solved the problem of overpopulation by implementing the policy of one child per family. Have a debate over this policy—what are the advantages and disadvantages? To what extent can a government control people's personal lives? Discuss some results—male children are given priority and are spoilt by their elders; old people have no one to look after them, etc.

Discuss the reasons why China imposed such a strict policy about population growth: although it Is a very large country, only the river valleys are suitable for farming hence feeding such a large population is always a problem; during the early period of Communism and thereafter too, China was economically backward—it was not as developed or stable as it is today, so the government could not provide for its people; social welfare facilities were very limited, and were mainly in the big cities—there was much poverty in the countryside. The government was very strict in its laws and people did not dare to disobey.

Compare this with China as we know it today. However, the rules for family planning have not been relaxed except in rare circumstances, as described in the textbook. Perhaps a reading from Pearl Buck's prize-winning novel, The Good Earth, would create a word picture of China in the past.

In 1900, the world population was 1,650 million. Today it is over seven billion. How can the rapid increase be controlled?

1. Limit population growth by imposing penalties
2. Educate the people about the pros and cons of overpopulation
3. Grow more food to feed the rising population
4. Practice efficient farming by moving away from tradition

Study the three globe diagrams on page 71, showing the population increase in the 20th century. The population more than doubled between 1940 and 1995, and between 1940 to 2050 the increase will be more than four times.

Encourage a discussion on how the Earth can sustain, house and feed such large numbers of people. Explain that the Earth's resources are limited and some cannot be recreated fast, like fossil fuels which are formed after hundreds of thousands of years. Moreover, more people need more space to live and work, so natural spaces like forests are cut down to make way for homes, factories, offices and schools, as well as for farmland. This destroys the natural habitat of animals and birds, etc. and upsets the environmental balance on Earth.

Conclusion: Recap the main points of this lesson.

Reinforcement and homework: Divide the class Into groups and assign them projects to think about solutions to the world's population issues, from the different angles that have been discussed in this lesson.

Third period

Urbanization: Urbanization means having more towns than countryside. Compare the increase in the number of cities from the past. This means more people are living in cities. Moving from the countryside to cities is also called urbanization.

In developed countries, 75 – 90% of the population lives in cities.
In less developed countries, 35 – 50% of them live in cities.

Urbanization in Pakistan: Talk about the reasons for the move from village to city—for jobs, better environment for families—education for the children, healthcare for all, more exposure to the world, etc. Though the population living in cities has increased over the years, the majority still lives in villages. Study the table on page 72 of the textbook.

Read the boxed text on page 73 which describes why people make the move from village to city, what they expect and what they often get instead. Study the drawings on page 73: "Many dream of" and compare them with 'What they so often find". Suggest ways to fight this problem.

The photographs below show some of the problems faced by rural newcomers to urban areas. They end up in slum housing and are often victims of crime or become part of a criminal gang. Law and order is a very big problem in large cities. The advantage is that children who can get education are better prepared for a challenging life. People also learn to adapt themselves and learn new skills.

Why is urbanization a problem? For the governments, it is difficult to cope with the huge influx of people into the cities. They have to be provided with jobs, housing, civic and municipal amenities, and health care; in short, more public services.

Talk about solutions to the population problem, such as to discourage large families and implement birth control. Give the example of Bangladesh. What should Pakistan do?

Major cities of the world: Study the table and find these places in the Oxford School Atlas for Pakistan, using the index.

Conclusion: Recap the main points.

Reinforcement: Discuss questions 4 and 6 on page 74 with the students. Ask them to note down the main points for later answering these questions for homework.

Homework: Questions 3, 4 and 6 from page 74 to be answered in the notebooks. Worksheet 8 may also be done.

1. Choose the correct answers.

   a) The estimated world population at present is approximately:

      i) 7,040,000,000 ii) 5,078,000,000

      iii) 4,187,000,000 iv) 6,608,000,000

   b) _____ is a densely populated region.

      i) Indonesia ii) Antarctica

      iii) Central Australia iv) North Africa

   c) _____ is a region with low population density

      i) Eastern China ii) Japan

      iii) Northern Asia iv) Mumbai

   d) The lowest rates for life expectancy are found in _____.

      i) South America ii) Africa

      iii) Europe iv) Oceania

   e) Life expectancy rates are the highest in _____.

      i) Pakistan ii) Japan

      iii) Germany iv) China

2. On a world outline map (political) mark and name the two countries with the highest population and two countries with the lowest population. You may use the atlas for reference.

3. Write three reasons why people move from rural to urban areas.

_____

_____

_____

_____

MAJOR OCCUPATIONS IN THE WORLD

TEXT PAGES 75–81

Discuss specialization—how some people were better at certain jobs than others, and how barter developed. Talk about how money developed—fairly late in civilization. For example, A, the spear-maker may have had all the meat he needed, but B, the hunter desperately needed a new spear. A, however, did need a pot for cooking, from C. Some kind of token had to be developed so that B could give it to A in return for the spear, and A could give it to C in return for the pot: perhaps this is how coins or money may have developed.

Fire was probably created by rubbing together very vigorously two pieces of wood. If possible try a hardwood stick (an old ruler is good) in a groove in a piece of softer wood. The other way is to strike two pieces of stone (flint) together and often a spark flies out. If this falls on a piece of very dry shredded leaf (or today, old cloth) it will often smoulder and, if blown gently, will burst into flame. It is NOT easy: in primitive times once a fire was established it was kept going, and if the group moved they usually took a burning branch with them.

The discovery of farming with that of fire were perhaps the two most crucial events in mankind's history—till the invention of the wheel. Initially, agriculture was perhaps accidental—gathered wild grains may have been spilled on the ground and although most were picked up, some would have remained. When the wandering group returned the next year, they would have found a crop of the wild grasses they were seeking. It was probably many hundreds of years before they realized the process and, in early farming, used just the wild seeds. Later, these began to be selected, picking the biggest heads of seeds and planting those, so that the quality gradually improved. This tended to make people settle in larger groups as crops, and animals, had to be looked after all the year. Initially perhaps women tended to look after the agriculture while the men still hunted. But larger communities were a problem: someone had to have authority, someone to enforce rules, someone to rule the supernatural aspects of the society. Among the people, some were better hunters, potters, weavers, weapon-makers, and so on, until there had to be a division of labour.

ANSWER TO QUESTION IN TEXT, PAGE 76:

Some possible answers with reasons; other possible answers can be discussed with the students.

There had to be a leader who made the rules even in the smallest community. In larger ones, he needed people to help him with his job—a primitive, civil service. In all communities the leader needed a small group of guards to make sure that everyone obeyed his rules, and to punish them if they did not—the earliest form of police and legal system. People attached great respect to their primitive gods, so that a special group would become intermediaries (go-betweens) between the gods and the people. These were priests, and they were often the rulers' advisers as well.

In the photos on page 77, apart from the policeman, all seem middle class professionals. The socio-economic group to which the policeman belongs probably outnumbers the middle-class professionals five to one, or more. Over 43 per cent of Pakistan's workforce is employed in agriculture. Compared with its giant neighbours, India and

China, Pakistan has a high proportion of service workers—normally an indication of development. Hong Kong is most dependent on service industries which are largely financial—banking, insurance, stock-brokering, etc. China, though still basically an agrarian economy, is developing industry at a phenomenal rate. Some observers predict that by 2050, unless there is some calamity, China will have overtaken the USA as the world's largest industrial nation. Japan is limited in terms of area, but it has a strong industrial (cars, electronics, etc.) and commercial base; hence the high percentage of employment in service industries.

ANSWERS TO QUESTIONS UNDER TABLE, PAGE 77:

India, China, and Pakistan (in sequence) are most dependent on agriculture.

Hong Kong (not a country) and Japan have the highest levels of service industries, because (a) Hong Kong is too small in terms of area for large-scale industry or any agriculture, hence it is mainly a centre for international business and commerce, and (b) Japan, besides having a strong industrial base, is also an important business and trade centre of the world.

In China, service industries cover communication, office work, travel and tourism, hospitality, translation services; in Japan too the categories would be similar. In India, service industries besides the above categories also include call centres and offshore service for many Western multinationals, such as banks, airlines, IT, and also medical transcription. Education and fluency in English along with special training have been a great advantage for India.

Employment and unemployment

The chart on page 78 gives a graphic representation of the employment statistics for Pakistan. Of the total population, the workforce, i.e. the employable people, forms 29 per cent, while the unemployed are 6 per cent—a high percentage. Of the workforce itself, the distribution of jobs is as follows:

Mining/manufacturing	13.8	per cent
Trading	14.67	per cent
Electricity/gas	1.89	per cent
Transport	5.74	per cent
Building/construction	6.3	per cent
Others (service/police/etc.)	14.35	per cent
Agriculture	43.37	per cent

The unemployment rate in Pakistan is worrying, and rising. This is due to many reasons—mechanization is creeping in to take over what were simple labouring and manual jobs, and it is this group that Pakistan has difficulty in finding work for. The country also has a major refugee problem—millions who poured in from Afghanistan, first in the early 1980s and then again as a result of the American action in 2001. They find it difficult to get work. There is lately the problem of in-migration too, albeit temporary, as people from the north-west have been displaced by conflict in their home region.

Table, page 79:

GDP, Gross Domestic Product, is in effect the amount of money generated per person per year within a country. It is generally taken as a good indicator of a nation's prosperity.

Life expectancy: These figures are an average. Some regions of Pakistan have a very high rate of infant mortality indeed so that, though most people live beyond the figures given, the average is lower. Japan's figures for life expectancy are high, even for the western world: this is attributed to diet and lifestyle.

Note the high literacy rate and higher proportion of urban dwellers in Japan. The question following the table can be a good class activity.

Why is literacy so important? This question can generate a good discussion in class.

Literacy is important in a modern developing society:

- So many instructions at work, home, school, and shopping are written, not spoken.
- It would be difficult to live a full life in a modern society without reading even such simple things as street and shop names, destination on buses, etc.
- The government and other authorities issue laws, orders and instructions in written form: in law, not being able to read the instructions is no excuse for criminal activity.
- Reading is one of the greatest forms of pleasure and instruction. We read novels just for enjoyment, and books and magazines on our various interests—fishing, fashion, motorcycles, cooking, camping—to make our lives richer and more interesting.
- Education allows us to do more complex jobs which are essential in a developing world. It enables us to understand more of our own country and the world around us. In general, it helps us to be better citizens in all ways.

ANSWERS TO QUESTIONS UNDER TABLE, PAGE 79:

There are great differences between Japan and the other two (Pakistan is definitely better than Nigeria).

1. Japan's GDP is more than 60 times even that of Pakistan.
2. Expectation of life: people in Japan live, on average, up to 20 years longer.
3. Population under 15 is much lower in Japan (developed country) and far more over 65 than the other two.
4. Infant mortality is immensely lower in Japan than the other two; Pakistan is better than Nigeria.
5. Almost half the workforce in Pakistan and Nigeria works on the land: in a developed country, the ratio is only one in 20.
6. Literacy: virtually everyone in a developed country can read and write; in the other two it is less than half.
7. In Japan 8 out of every 10 of the population live in towns; in the others it is well under half.
8. Nigeria has hardly any industry as compared to the other two countries.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 81:

1. People had to settle down when they discovered farming because they had to tend to the crops, and harvest them at the right time. They could not carry baskets of grain with them if they travelled. It was also not practical moving animals every day.
2. Service industries are rapidly expanding as countries are developing industrially and economically. Moreover, as more goods for developed countries are manufactured in low-cost developing countries, the services' infrastructure provides employment to many people. As the standard of living rises, people have motorcycles and cars—these need garages for repairs and fuel; electronic items such as computers and televisions need a whole army of engineers to maintain and repair them; there are

shops selling all kinds of goods for leisure. Service industry also caters for entertainment—cinema, sports, etc. It gives more free time to people so that they can do what they want.

3. Building and construction are typical of improving economies, as office blocks, factories, schools, and hospitals, as well as residential units are added on. Construction also provides employment to professionally qualified and skilled workers as well as labourers. Roads, houses, factories, and offices are vital in a developing economy for communication, places where manufacturing can take place, and offices for administrative work, etc.
4. Electricity and gas industries are highly mechanized hence the workforce is limited, though highly skilled.
5. Education, i.e. literacy, numeracy, and professional skills are vital for the progress of any country. This can be a good topic for class discussion. Some points for discussion: Literacy is important to combat old prejudices and ideas, to spread ideas, and to open people's minds to the modern world. Some people say that literacy is not necessary in the modern world with radio, and especially, television and telephones. What is the fallacy of this argument? Television and radio pre-select the information they give us—we are told only what the people who run the stations want us to know. This is dangerous, particularly where the main provider of mass communication is an oppressive government—one has only to think of the propaganda and lies spread by the Nazi and communist regimes. A literate person can read for himself/herself and get to know more about various topics from various sources, without being influenced. In the West, the arrival of radio in the 1920s and, 40 years later, television were greeted with dismay in many quarters as the death of reading and books. Yet the sale of books today is higher than ever in history, partly because they are so cheap. In the USA, about 370 new titles are published every day of the year (2008)—it may be true that many of them are probably not worth publishing, but they are.
6. This is a good topic for discussion.

LESSON PLAN 10

Topic: Major occupations in the world

Duration: Four periods (40 minutes × 4)

Objectives:
- To consider the development from self-sufficiency to a money-based economy
- To appreciate the importance of literacy in modern society
- To understand the need and importance of vocational training

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet

First period

Introduction: The students are mature enough to know that the world was not as developed in the past as it is today. They know that it took humans thousands of years to reach this stage. Ask the students the following questions to brainstorm.

- What is your father's occupation?
- Do any of your relatives work in the I.T. sector or any place related to computers?
- Ask whether their great-grandfather ever operated a computer.

Conclude that the world is an ever-developing place.

Explanation:

Thousands of years ago early humans lived a very simple life, perhaps in caves. Ask what their occupation in those times could have been (hunting, gathering edible plants). Talk about how fire was discovered and how it must have changed their lifestyle. Discuss the importance and various uses of fire—for cooking, keeping wild animals away, and later to smelt ores and make weapons as well as other metal objects. Talk about how rough and very basic stone tools were invented; they were not as sophisticated as the tools today. Mention how people traded using the barter system, and slowly money was developed as a medium of exchange as it was more convenient. Discuss how agriculture developed and with it the development of a settled life, because agriculture required ploughing, sowing and harvesting. Initially, perhaps women were more active in agriculture. In Pakistan women still take part in the agricultural field, especially in harvesting.

Ask the students what other occupations could have developed along with agriculture, such as weaving and other handicrafts like rope making, pottery etc.

Write the topic 'Major occupations of the world' on the board. Read through the text on pages 75 and 76 with the class.

Discuss the fact that with the discovery of metals (at first, copper), industries grew. Parallel was the growth of leadership so as to establish some rules and laws. As civilizations grew, leaders and rulers emerged from among the people. We have learnt about the Aryans, for instance, who divided their population in terms of the work they did—division of labour.

With the invention of the steam engine, industrial development took on a rapid pace. Today the world is a complicated place and further division of labour has become essential as people specialize in particular fields. Explain what is meant by division of labour.

Occupational groups: For convenience and organization all work is divided into five groups and within each group there are scores of different kinds of specialists. They are as follows:

1. Agriculture: It includes cattle farming, fisheries, and forestry, besides growing crops.
2. Industry: It comprises of factories, workshops, builders, engineers, and people connected with all sorts of construction work.
3. Mining and quarrying: It includes the digging and drilling for all kinds of metals and non-metals too, like gas and oil.
4. Trade and commerce: It includes businessmen, corporate employees, office workers, designers, people in communication, IT, media persons, etc.
5. Services: This is a fast growing area of employment throughout the world. These people help to make life better for other people. They include educationists, doctors, health workers, entertainers, etc.

Ask the students to study on page 77 the data given on three occupational groups: agriculture, industry, and services in five different places.

Pakistan and India are developing countries while China, Japan, and Hong Kong (also a part of China) are highly developed. Note that the percentage working in agriculture in higher (42% and 60% respectively) in Pakistan and India while the workforce in services is higher in China, Japan, and Hong Kong, especially in Hong Kong (90.9%) Why? Hong Kong does not have agriculture or industries because of its limited area. Like Singapore, it is mainly a commercial centre. For answers to the questions on page 77, consult the Teaching Guide, page 119.

Conclude by recapping the main points. Discuss Questions 1 and 2 on page 81, and note main points on the board.

Homework: Questions 1 and 2 to be answered in the notebooks.

Second period

Employment and unemployment in Pakistan: The graphs on textbook page 78, relate to 2007 statistics on Pakistan. The workforce is 30.5% and 3 million of them (6%) are unemployed. 68.50% of the population which includes women, children, youth, and the elderly do not do regular work, although they may be working informally. Note that majority of the workforce is employed in agriculture (21 million). The next highest figure is for other jobs (7.5 million) followed by trading, mining and manufacturing, building, transport, and electricity and gas supply, which have the lowest workforce, less than half a million. Ask the students to show this information as a bar graph. Draw one on the board as a sample. In the light of this, discuss questions 3 and 4 from page 81; write the important points on the board for students to note for homework.

Gross Domestic Product: The students are familiar with this term. They have studied about it in the previous chapter. However, revise it again. GDP is the amount of money earned inside a country. Study the table on page 79 in which three countries are compared. Pakistan is a developing country, Nigeria is under-developed, and Japan is a developed country. The GDP is lowest in Nigeria (US $1400) and highest in Japan (US $33,000). Compare the other data also. Discuss the questions following the table and note the main points on the board for students to copy in their notebooks.

Keeping this data in mind, discuss Question 5 from page 81 about the value of education for development. Compare Japan's literacy rate with that of the other two countries.

Conclusion: Recap and reinforce the lesson by asking short questions about the text covered.

Homework: Questions 3 and 4 to be answered in the notebooks.

Third period

Literacy: The graph on page 80 shows the literacy rate in Pakistan from 1991 to 2007. In 1991 it was 34.9% and has increased up to 56.2% in 2007—which is still very low compared to developed countries. The government should invest more in education. As we know, developed countries have a literacy rate of 99% and the 1% are those who are mentally or physically weak and unable to read or write. Discuss why it is important for a government to know the literacy rates of the country. First, a government should be well informed about the country's statistics, and secondly, it helps them to plan for the future—to know how many people will be joining the job market, what skills do they need, what type of education they should have and above all, what kinds of jobs the government should create for the future.

Also discuss the importance of equal opportunities for both men and women in the job market.

Conclusion: Recap the main points and discuss Questions 5 and 6 from page 81.

Reinforcement: Worksheet 9 is to be done as class work.

Homework: From the Internet find out what the GDP of the South Asian countries is. Then find out the GDP of some developed countries and compare the difference.

1. Given below are given the working percentages of five countries, in Agriculture, Industry, and Services. These figures are jumbled up; choose the correct percentage for each.

   a) Pakistan: 38%, 20%, 42%

      Agriculture _____, industry _____, services _____

   b) India 12%, 60%, 28%

      Agriculture _____, industry _____, services _____

   c) China: 24%, 45%, 31%

      Agriculture _____, industry _____, services _____

   d) Japan 67.7%, 4.4%, 27.9%

      Agriculture _____, industry _____, services _____

   e) Hong Kong 9%, 0.1%, 90.9%

      Agriculture _____, industry _____, services _____

2. What is the main reason for high unemployment in developing countries?

   _____

   _____

   _____

3. Using the information in the diagram on page 78, answer the following questions.

   a) What is the percentage of employable people in Pakistan?

      _____

      _____

   b) What percentage of the Pakistani workforce is unemployed?

      _____

      _____

   c) In which sector is the highest number of people employed?

      _____

      _____

   d) Which sector has the lowest number of employees?

      _____

      _____

WORLD ENVIRONMENT AND ITS PROBLEMS

TEXT PAGES 82–86

Progress and our modern world: Get pupils to talk with grandparents and find out what life was like when they were children. Tell their stories to the class. Health, living conditions, food supply, transport, and entertainment have seen the most dramatic changes. But these, however comfortable, have been achieved at a cost. The downside is steady destruction of the Earth, as we know it. A visible sign is the chopping down of vast areas of forest, especially in South America. The diversion of water for crops, especially in Central Asia, has eliminated several major rivers, and some areas of water such as the Caspian Sea are rapidly disappearing—fishing villages a few years ago on the shore are now 40 km away from the water. Covering the land with concrete is steadily increasing as urban areas expand.

But the more serious downsides are much more harmful—pollution of air, land, and water. The quality of air is having major effects on the world's climate in global warming—it is estimated that at the present rate, the average temperature of the Earth will rise 2 degrees C by the end of the century. This is, by meteorological standards, a phenomenal rise, with all the effects of melting ice caps already discussed. It will alter the agriculture patterns of the world, with more areas becoming desert, and more of the northern and southern areas being able to grow crops which had formerly been subtropical.

The cause of global warming is largely carbon dioxide, emitted from any combustion process as in factories, which forms a blanket round the Earth and prevents heat from leaking away. Nitrogen and sulphur dioxide emitted in large quantities by exhaust fumes from motor vehicles, and the burning of all fossil fuels, combine with water in the atmosphere to form an acid which dissolves rocks and etches metals, as well as causing severe problems when it is quite unavoidably breathed in.

Waste products from industry and human habitation, as well as residues from agricultural chemicals such as pesticides and herbicides, normally are dumped directly into rivers or the sea, but in any case find their way back underground. These can poison aquatic organisms directly by making life impossible—not enough oxygen in the water—or encourage the erratic growth of some plant life (agricultural residues, largely nitrogenous, are a major factor here) which deprive the water of oxygen and make it impossible for fish to survive. This is visibly obvious in coastal regions such as off Karachi and in the lakes in interior Sindh where wastes from upstream and from factories pollute the water, making it unfit for marine life and upsetting the natural balance.

Purely physical wastes from humans—packaging, detritus, food waste—pile up, providing a perfect breeding place for germs and vermin. In sophisticated countries much of this is incinerated… but this merely releases more sulphur, nitrogen, and carbon dioxide into the air. The more developed the countries, the more waste, and no one has yet found a satisfactory answer.

Nuclear waste is also a very long-term problem: the answer to power generation is almost certainly to be in nuclear stations—unless some dramatic new breakthrough is achieved; but the waste from these is especially hazardous as it lasts for centuries if not thousands of years. Again no answer has been found: countries dump their nuclear waste down disused mines, or in the sea, but this must be purely a temporary solution.

Use of pesticides and herbicides

The great dilemma today is that more food for a growing world population is desperately needed: to get it, crops must be protected from weeds, disease, and insects. Herbicides and pesticides will do this, but (a) the residues either drain away into water or are eaten in the products, and (b) both disease and insects develop a resistance, so that stronger and stronger chemicals have to be used. The ideal would be biological control—getting one insect to prey on another. This can be very effective in limited areas such as glasshouses, but sometimes the results are dramatically damaging. The prickly pear cactus was introduced to Australia as a cheap way of making hedges for stock. The cactus had no predators in Australia, and spread so rapidly that it threatened to take over the country. It was then found that the cochineal insects, from which the red food dye is produced, feasted on prickly pear in its natural homeland (America) and kept it partly under control. It was introduced to Australia, where it did bring some measure of control of the cactus—but then the cochineal found that some of the natural Australian crops were even more tasty, and so switched its attention to other farm products!

Photographs on page 84: Note that although the plants are being sprayed with highly poisonous insect-killing chemicals, none of the workers have any face masks or protection. They are breathing in the spray. This would be illegal in most developed countries—an example of the use of education. While workers in the West would have learned the dangers of the spray, and even if the government had not made masks compulsory, they would have worn some protection, the workers in the pictures are probably completely unaware that the spray may be steadily killing them.

Use of antibiotics

The problem with feeding antibiotics to animals (for reasons given on page 84) means that traces of the drugs survived in meat and eggs, which are in turn eaten by human beings. They can develop a resistance to antibiotics so that when these are used in earnest for human diseases, they sometimes do not respond. Consequently, scientists are constantly developing stronger or different antibiotic drugs.

Similarly, animals are given hormones to increase the milk supply, and poultry may also be treated to increase egg production, but there is a definite possibility of the after-effects being passed on to the end consumer—humans.

Nuclear energy

This is (in the event of no dramatic breakthrough in new sources of power) going to be the electricity source of the future. It demands a very highly trained workforce, and immense discipline. France, which produces 75 per cent of its power from nuclear plants, has not had any serious accident, but the USA has had several, the one at Three Mile Island in 1979 being one of the worst.

The main accident was in the USSR when in 1986 one of the four reactors at the Chernobyl plant exploded. Poor design and construction and mismanagements by workers caused it to overheat and explode. Great clouds of deadly radioactive particles were blown into the atmosphere. 56 people nearby were killed as a direct result, but an estimated 4000 have died subsequently as a result of radiation. The radioactive cloud spread across Europe, even to Ireland, 1500 km away. The grass was so contaminated that the milk from cows had to be thrown away for almost a year as the animals had eaten contaminated grass. Again, terribly deformed babies were born in the proximity of the power station—the city of Prypiat had to be abandoned. The reactor is now encased in a tomb of thousands of tonnes of concrete, and will be lethal for many centuries.

Nuclear weapons call for tremendous responsibility. When only the USA, USSR, and the UK had nuclear bombs, there was a kind of balance of power: no one dared to use them (MAD was the term used—Mutual

Atomic Destruction). If one bomb on a rocket were sent to attack, say, the USA from Russia during the Cold War, Washington would have 20 minutes notice by radar. Its own nuclear rockets were kept in deep silos underground, aimed at Soviet cities, and would be released immediately. Both countries would be devastated. For this reason, though they hated each other, they agreed to what they called a Hot Line: if a missile was fired by mistake or by a madman, the presidents could communicate immediately to prevent retaliation.

Today, alas, spies and renegade scientists, as well as countries' own research laboratories, have found the secret of atomic weapons, and though no one knows exactly how many nations have nuclear weapons, it must be at least a dozen or more.

The after-effects of untested drugs

Thalidomide was a relatively mild tranquillizer introduced in the early 1960s, especially suited for pregnancy. It was considered perfectly safe even in overdoses. Then it was found that all over the western world, horribly deformed babies were being born—without limbs, or with vestigial ones. In West Germany, some 10,000 deformed babies were born, of which 5000 survived. In the UK, 600 were born and 400 survived. The drug was rapidly withdrawn but these unfortunate people had a lifetime to live. The drug had not been tested on animals before being released by its US manufacturer: now animal testing is compulsory.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 86:

1. Some of the matter for this answer can be found in the last two chapters of this book, but students can work on this in groups and research the answer. Obviously, life without the modern conveniences we take for granted would be unthinkable to many children today; the advances in medicine and science have extended lifespans and improved the quality of life, overall.
2. The advantages that have caused damage are industrialization at the cost of the environment; perhaps the excessive and indulgent use of gas-guzzling cars, emitting fumes into the atmosphere and also depleting fossil fuels. This question is a good topic for discussion and also debate in the classroom.
3. Basic facts: US Union Carbide plant at Bhopal was making a highly lethal pesticide. A terrible accident took place in which 42 tonnes of a deadly gas poured into the air in December 1984. Subsequent investigations showed the most appalling mismanagement and cost cutting to increase profit—the danger alarms, for example, had not worked for four years. Almost all trained staff had left at the poor work conditions. All instructions were in English which few workers could read. More than 8000 people died within two weeks of the accident from poisoning, and since then another 8000 are thought to have died from effects of the accident. Those who were exposed to the gas but survived are left with blindness and other disabling handicaps and health problems. Compensation to the affected families has been nominal. (The details can be further researched on the Internet.)
4. This has already been discussed above. Students can do further research on the Internet as well as through old magazines, such as National Geographic, and newspaper archives—again via Internet.

LESSON PLAN 11

Topic: World environment and its problems

Duration: Three periods (40 minutes × 3)

Objectives:
- To study the advances of the last two centuries in the world and some of the resulting problems
- To look at pollution and its causes as well as seek solutions
- To know more about the advantages and disadvantages of nuclear power

Resources: Textbook, Teaching Guide, newspaper, *Oxford School Atlas for Pakistan*, encyclopedia/Internet

First period

Introduction: To make the topic interesting ask the students whether they would like to be in the world of their great-grandparents when life was very simple, the atmosphere was clean, food was pure, etc. This question will lead to a wide range of discussions. Steer the discussions towards the advances made by humanity in the last 200 years or so.

Explanation:

Write the topic on the board 'World environment and its problems'.

With reference to the opening discussion, ask the students to note the advances made in:

a) Health: Due to health care facilities life expectancy has increased from about 30 years to 60 or even 80 years in developed countries. Give examples.

b) Living conditions: Overall, there is a remarkable improvement in water supplies, sanitation, housing, and power or electricity, and scientific discoveries leading to industrial development and higher production output in almost all fields.

c) Transportation: Fast moving planes, trains, and a wide range of communication from radio to iPods, have changed the world bringing it closer.

Ask the students if this advancement in almost every field has made the Earth a Heaven. Don't we have any problems to face? What are the disadvantages of these advancements?

Conflicts: Parallel to these developments there were two World Wars, the first of which (1914–18) killed an estimated 15 million people and the second (1939–45) in which over 60 million people were killed and thousands were wounded and handicapped.

Conflicts still occur in one part of the world or the other, such as the Vietnam War, the Gulf Wars, and the wars in Bosnia, Chechnya, Iraq, Afghanistan, and the conflicts in various African countries. The use of lethal weapons leaves the atmosphere and water sources polluted; buildings on the ground and crops and farmlands are destroyed; people are left homeless, and diseases spread in overcrowded refugee camps with little or no facilities.

Ask what other problems are faced today. Lead the discussions to environmental hazards. Ask the students to open to pages 90 and 91 of the Oxford School Atlas for Pakistan which shows the environmental issues across the world.

Conclusion: recap the points covered in the lesson.

Reinforcement: Ask the students to read the text on pages 82-83. Draw their attention to the photographs; except for the factory shown on page 83, the other views are all from Pakistan. Tell the students about the release of waste chemicals from tanneries in Punjab into the canals and rivers which leaves the water unfit for consumption, causes skin diseases, and is poisonous for fish. In Sindh, especially in Karachi, waste and sewage are dumped into the sea, affecting marine life and making the beaches dirty.

Second period

Move on to the use of pesticides and herbicides. Define the two. (Insect and weed killers). Read about the use of pesticides and herbicides and the effect of uncontrolled spraying. Similarly, the use of various types of fertilizers and chemicals to increase crops or retain freshness longer is also hazardous for humans as these can cause deadly diseases like cancer. Explain why many of these are banned in developed countries but still in use in developing countries. Read the boxed text on page 84 about the effects of 'engineered' agriculture in developed Western countries, and also of the careless use of banned pesticides in under-developed countries.

The ever increasing use of oil and gas in transportation, industries, and the energy sectors is another cause for concern. What are the hazards? Polluted air, breathing problems, lung and skin diseases, damage to plants and trees, and eventually the green-house effect What are the solutions? More use of environmentally safe public transport instead of cars and smoke-belching buses choking the roads; regular checking and control for vehicle maintenance. An example is Singapore where faulty vehicles' registration is not extended and they are taken off the roads.

a) Emission of vast quantities of poisonous gases and chemicals into the atmosphere: explain how it causes global warming—explain the term too which is commonly used but should also be understood. Use the maps given on page 90 of the *Oxford School Atlas for Pakistan* to clarify environmental damage. The first map shows the countries that are losing great areas of forests. Ask the students to note the names of these countries shown in the map. Move on to the second map that shows the damages caused by 'acid rain'. Explain how acid rain is produced (given in the atlas). Ask the students to note the cities where such rains were recorded, with special focus on the cities of Asia. Move on to the third map.

b) Marine pollution: Explain what is meant by an oil spill. Oil leaks from oil tankers and pollutes the sea, damaging marine life and habitat, and even killing birds like gulls that live close to the sea. Discuss the oil spill in Karachi in 2003 (Tasman Spirit) when 30,000 million tons of oil spilled into the sea. (Prepare in advance by doing some research on your own; then guide the students.) Ask the students to find out about other major oil spills.

Move on to the map on atlas page 91 showing the carbon dioxide emission in 2004. Ask the students to make a note of the cities with the highest carbon dioxide emissions. (UAE, Qatar, Bahrain, Kuwait, and Trinidad and Tobago.) Explain the term 'carbon footprint'—this is the sum of CO2 emissions in a country from use of various fuels, which lead to climate change. Talk about the impact on South Asia, and most recently in China (because of widespread industry).

Ask the students to note where carbon dioxide emission is the lowest. (Mali, Cambodia, the Democratic Republic of Congo, Afghanistan, Chad.) Why is this so?

Discuss the picture 'The natural Green House effect and how it alters with increased CO2'. Explain the picture 'The Antarctic ozone hole'.

Explain how global warming is a danger to low-lying areas which may be flooded by heavy rivers and submerged because of rising sea levels, such as Bangladesh and Maldives. Tell the students about the

underwater cabinet meeting held by the Maldives president, Mohammad Nasheed, in October 2009 to draw the world's attention to the impact of climate change on his country.

Conclusion: Wrap up the lesson by asking short questions to recap the main points.

Reinforcement: Discuss questions 1 and 2 from page 86.note relevant points on the board for students to copy.

Homework: Questions 1 and 2 to be answered in the notebooks.

Third period

Discuss the harmful effects of the use of antibiotics and hormones in livestock farming. Impress on the students that 'We are what we eat'. Whatever is used on plants or fed to livestock comes down to the consumer and is the cause of serious disease and abnormalities.

Move on to the environmental hazards caused by nuclear energy. Give the examples of France and Russia. Discuss the huge disaster caused by the dropping of a single nuclear bomb on Hiroshima. For details refer to pages 83–85 of the textbook. The increasing need for energy to light our cities and homes, to power industry, and as fuel for transport in the modern world means exploring sources other than fossil fuels. Nuclear energy is one option but a risky one. This could be the topic of a debate or lively discussion.

Conclusion: Recap the main points.

Reinforcement: Discuss questions 3 and 4 on page 86. Guide the students by giving them brief pointers to both incidents. Divide the class into groups and assign these questions as research work. The students should then talk to the class about these disasters.

Project work: The students may be given a project of preparing charts as given on pages 90 and 91 of the *Oxford School Atlas for Pakistan*.

Homework: Worksheet 10 is to be done for homework.

1. Complete the statements:

   a) Emission of poisonous gases into the atmosphere causes _____.

   b) Pesticides are used to _____.

   c) _____ has been banned as a pesticide in the developed countries but is still used in _____.

   d) GM Crops are _____ in Europe and are _____ in the UK; but are widely grown in _____.

   e) France produces 75 per cent of its energy from _____.

   f) The greatest threat to mankind today is the development of _____.

2. Give three reasons why livestock and poultry farmers use various chemicals/hormones.

_____

_____

_____

_____

3. Explain what is meant by GM crops.

_____

_____

_____

_____

CHAPTER ELEVEN

THE CONCEPT OF THE TWO-NATION STATE

TEXT PAGES 87–93

With such immense diversity of ethnic origins, languages, religions, climatic regions, ways of life, and many other aspects, it was impossible for an independent subcontinent to remain as one state. But that was what the British, and indeed the Quaid himself, until 1940, believed was the only way of independence. Perhaps if some method could have been found, of giving minority peoples fair justice, a federal system would have been the right solution. But it was obvious that the Hindus, with their built-in 3:1 majority, were going to insist that they held all of the power, especially after Nehru's declaration that the Congress was not bound to honour promises made by the British once they were no more in power. It was with this realization that the Quaid saw that partition of the subcontinent, despite its problems, was the only solution.

Earlier Muslim thinkers and politicians in the 18th and early 19th century had visions of an Islamic state, and though their ideas did not seem practical, they sowed the seeds for later and more powerful men.

Sir Sayyid Ahmed Khan: He was pro-British, but with a firm foot in both camps. He was something of an idealist, but his great contribution was the encouragement of education, which the Muslims had rejected after the War of Independence. He could see clearly that this would condemn Muslims, perpetually, to inferior positions. He also preached that science and technology, which were rejected by many Muslims, were not alien to Islam and the Quran, and they must be accepted.

Allama Mohammed Iqbal: Probably the greatest thinker in India at the time, he was also a pragmatist and a practical man. Initially, like Mr Jinnah, he believed that when independence eventually came for the subcontinent, it must be as a single nation (as reflected by his anthem, *Saaray jahan say achha Hindustan hamara*). By 1930, however, he realized that the Hindus would be in permanent and total control, and he advocated separate states. He had a profound influence on the thinking of the Quaid who was a man of action. Iqbal wrote inspirational poetry, both in Urdu and Persian, to motivate the Muslims of the subcontinent as well as the west Asian states into action.

Chaudhri Rehmat Ali was a strong advocate of a single (federal) state for Pakistan, but excluding the eastern wing. He is credited with inventing the name from the initials of Punjab, Afghanistan (NWFP—now Khyber Pakhtunkhwa), Kashmir, Sindh, and 'stan' from Balochistan. There are variations of this. Rehmat Ali envisaged a state that included more territory on its western side and was deeply disillusioned by the borders drawn by the British and accepted by the Quaid who called it 'a moth-eaten and truncated Pakistan'.

Mohammed Ali Jinnah: He is the founder of the country and the driving force behind the Pakistan movement.

In each of the books of this series, there is much material on the Quaid-e-Azam, for teachers and students to discuss. More can be drawn from other sources, such as biographies of the Quaid and the newspaper supplements on 14 August and 23 March, each year. The speech he made to the Constituent Assembly clearly outlined his ideals—of Pakistan as a progressive country guided by the best principles of Islam where people of all faiths and beliefs could live in harmony, where there would be the rule of law and fair play for all.

The famous Fourteen Points presented by the Quaid-e-Azam are given below, for reference. These points eventually led to the demand for a separate, independent state for the Muslims of India.

Jinnah's Fourteen Points

1. Any future constitution to be federal with residuary powers vested in provinces.
2. Uniform measure of autonomy to all provinces.
3. All legislatures and other elected bodies to be given adequate and effective representation of minorities.
4. Muslims not to be less than one third on the Central Legislature.
5. Representation of communal groups shall be by means of separate electorates as at present—any community can abandon this in favour of joint electorate.
6. Any territorial redistribution that might be necessary shall not affect the Muslim majority in the Punjab, Bengal, and the NWFP.
7. Full religious liberty of association and education to all communities.
8. No bill to be passed in any legislature if three quarters of any community in that body oppose that bill.
9. Sindh to be separated from Bombay Presidency.
10. Provision in the constitution to give Muslims an adequate share, along with other Indians, in all services of the state.
11. Constitution to embody adequate safeguards to protect Muslim culture, language, religion, charitable institutions, and for these to have due share of state grants-in-aid.
12. Reforms should be introduced in the NWFP and Balochistan on the same footing as other provinces.
13. No cabinet, central or provincial, to be formed without at least one third Muslim ministers.
14. No change in the constitution to be made by Central Legislature except with agreement of the states in the Indian Federation.

The ideology of Pakistan

Perhaps explain 'constitution'—the laws governing the running of a country. Most countries have a written constitution, a formal document setting down these rules. Usually a clause of the constitution can be changed or amended only after a long debate and the vote of two thirds of the whole legislative body (bodies). The USA has had only 27 amendments to its constitution in well over 200 years. These are of major importance, such as abolition of slavery (1865), prohibiting alcoholic drink (1919)—later repealed; women given the right to vote (1920); voting age reduced to 18 (1970).

Dictators and military rulers who seize power in a country sometimes suspend a nation's constitution and rule without the basic laws. This has also been done many times in Pakistan, but the constitution has always re-emerged.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 93:

1. Students can discuss and answer this question. Some suggested answers: vast territory with a diverse population; a single ruler could not govern it; communication problems; economic problems; conflicts among rulers of smaller states who all wanted independent kingdoms and were constantly at war, etc.

2. Sir Sayyid Ahmed Khan tried to establish friendly relationships between the Muslims and the British, to the advantage of the former. He was strongly in favour of education as he saw it as the key to progress; he set up the Anglo-Oriental School in Aligarh. He suggested that there should be separate states for the Hindus and Muslims. Allama Iqbal, a brilliant lawyer and poet, showed the direction forward for a Muslim state in the subcontinent. He saw the dangers of a single country in which 80 per cent would be non-Muslims, and how Hindus would never let go of power. In the Allahabad statement (1930) he put forward clearly and in practical terms, the idea of separate states for Muslims and Hindus when Britain granted independence. Though close to Iqbal, Mr Jinnah adopted the two-nation theme two years after Iqbal's death.
3. Mr Jinnah put forward the proposal of a separate Islamic state in the Muslim League Meeting at Lahore in 1940. The British, seeing that he had great power over the Muslims of the subcontinent, had to ultimately give in and a separate nation i.e. Pakistan was born on 14 August 1947. Chaudhry Rehmat Ali tried to convince the Muslim leaders to demand an independent state; he proposed the name 'Pakistan', and he formed the 'Pakistan National Movement'.
4. Ideology is a set of ideas, ideals, and beliefs that a particular group of people follow. The Pakistan ideology is based on the Two-Nation Theory and that Pakistan should be guided by the principles of Islam, law, and justice.

LESSON PLAN 12

Topic: The concept of the two-nation state

Duration: Three periods (40 minutes × 3)

Objectives:
- To study the reasons leading to the demand for a two-nation state in the subcontinent
- To know more about the leaders who led this movement
- To build an understanding of the ideology of Pakistan: the Fourteen Points

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, biographies of Mr Jinnah

First period

Introduction: This chapter begins the history section of this book. In Book 2 (Class 7) students have studied about the British Raj and some accounts of the early steps towards freedom and independence in the subcontinent. Begin with a brief recap to jog their memory.

For example:

- Who were the main figures (Muslim and Hindu) who spoke up for independence? (Mohammed Ali Jinnah, M.K. Gandhi, Jawaharlal Nehru, Allama Iqbal, etc.)
- What were the Round Table Conferences? Where were they held? Who attended and what was the outcome?

The students have some basic knowledge of the British rule in the subcontinent, the War of Independence of 1857, the rejection of English education by the Muslims, Sir Sayyid Ahmed Khan's advocacy of English and scientific education, his two-nation theory, the movement for independence of the subcontinent from the British Raj, Mr Jinnah's views on independence and what led to the demand for a separate state.

This chapter will recap and reinforce earlier knowledge.

Explanation

It is claimed that the Indo-Pak subcontinent has never been a single nation as it was inhabited by people of different religions and ethnic groups, who spoke different languages and had different cultures, especially later, the Hindus and the Muslims. Even under rulers like Ashoka, or Aurangzeb, the Mughal ruler whose kingdom then had the largest boundaries, the subcontinent was not completely united under one ruler. There were different independent states, some of whom did not accept the Mughal rule e.g. the Marathas and the Sikhs.

Discuss the situation in the subcontinent after the downfall of the Mughals and the rule of the East India Company, and later the British government. There were many independent states, big and small and most of them were unable to act against the will of the British government.

Even in the 18th century, Muslim leaders and thinkers (Shahwaliullah (1703–62) and Syed Ahmed Shaheed Barelvi (1786–1831) had raised awareness about the Muslim identity. Sir Sayyid tried to rouse the Muslims from their depression after 1857 and urged them to educate themselves to compete successfully. Although Sir Sayyid never actually suggested two separate nations, he did tell the British very forcefully that when political reforms and independence eventually came, the separate status of the Muslims should be considered. The reason behind this was the attitude of the Hindu majority and the cultural differences. Later, there was open opposition from Nehru and his companions, like Mr V Patel, to keeping to agreements made by the British in favour of the Muslims once the British left.

Read the text on pages 87-88: Mr Jinnah had supported a united independent nation, but the attitude of the Congress led him to change his views and demands in 1940.

The road to independence: Discuss the composition of the Indo-Pak subcontinent which comprised: Hindus 65%, Muslims 24% and others 11% (Sikhs, Jains, Parsees, Christians, etc.)

The ratio between the Hindus and the Muslims was 3:1. Talk about the areas with a majority of Muslims (North-west and North-east of the subcontinent.) Was the British government thinking of dividing the subcontinent from the very beginning? Was the Quaid–e-Azam demanding two separate countries from the very beginning? No. Both wanted a single state with one central government for the whole country to handle vital issues e.g. finance, defense, and international relations, and local affairs to be handled by the provincial assemblies. The Quaid too advocated a single nation until 1940.

Conclusion: Recap the main points of this lesson.

Discuss question 1 from page 93. Note its salient points on the board for students to copy.

Second period

Sir Sayyid Ahmed Khan (1817–98): The students know about him. Discuss Sir Sayyid's contribution to the cause of education for the Muslims and the setting up of the Anglo-Oriental College at Aligarh which is now a university. Explain why he presented the 'Two-Nation Theory'. Refer to the textbook (page 89) for details.

Allama Mohammad Iqbal (1877–1938): He was a scholar, philosopher, poet and lawyer. The students have some preliminary knowledge about Allama Iqbal's contribution in the Independence Movement. Discuss his role, participation and contribution to the struggle for independence. Also discuss the main characteristics of his inspirational poetry, his essays on religious thoughts in Islam, and his relationship with the Quaid-e-Azam. Iqbal died in 1938. A formal demand for a separate state for the Muslims was made in March 1940 and seven years later, on 14 August 1947, his vision became a reality. Use the textbook (pages 89–90) for further details.

Chaudhry Rehmat Ali (1897–1951): Discuss Chaudhry Rehmat Ali's educational background, his participation in the Independence Movement, his forceful advocacy for a separate state for the Muslims, the formation of the Pakistan National Movement and adoption of his proposal for Pakistan—however, he did not agree to the final map of Pakistan. He also coined and proposed the name of Pakistan for the new state. (See page 91 of the textbook.) Chaudhry Rehmat Ali settled in Cambridge, in England, where he died (1951) and is buried.

Conclude with a recap of the main points covered. Discuss Question 2 on page 93 and note salient points on the board.

Homework: The British knighted Sayyid Ahmed Khan and Allama Iqbal i.e. gave them the title 'Sir'. Ask the students to find out the dates and the particular service they were honoured for.

Question 2 from page 93 to be answered in the notebooks.

Third period

Mohammed Ali Jinnah (1876–1948)

The students have read a biographical chapter on the Quaid-e-Azam in Book 2, which also gives some detail about his participation and then leadership for independence from British rule and the creation of a new country, Pakistan. Though initially Quaid believed in one state, he was eventually driven to the belief that this would not work. Explain why. At the meeting of the Muslim League in Lahore in 1940, he put forward the idea of a separate state for the Muslims. Thus in 1947, on the 14 of August, the 'two-nation theory' became a reality.

The ideology of Pakistan: Define the term 'ideology'. Explain that the Muslims were united by their religious and cultural identity which gave them a sense of direction, a mission to achieve the goal of a separate state.

Explain that the 'Fourteen points' presented by Mr. Jinnah also embodied the basic views of the Muslims. Later events confirmed the views of Allama Iqbal, Quaid-e-Azam, and other prominent leaders, that the only solution to the problem was an independent state.

Explain the points presented by Quaid-e-Azam, and agreed upon by all:

1. There should be justice for all.
2. That Pakistan was the homeland not only to Muslims but for minorities as well.
3. All were equal before law.
4. All were equal citizens of a sovereign state.

Explain the 'Objectives Resolution' on which the constitution of Pakistan is based. Although there have been changes in the constitution, the basic ideology is the same.

Conclusion: Recap the main points.

Reinforcement: Discuss and compare the maps of the subcontinent on page 88 (pre-partition) and page 91 (post-partition).

Homework: Questions 3 and 4 from page 93. Worksheet 11 can be done for class work or for assessment.

1. Complete the following statements:

   a) The concept of Muslim identity had been formulated by _____ and _____ as early as the 18th century.

   b) Sir Sayyid told the _____ that Muslims should be given _____ when political reform and _____ came to the subcontinent.

   c) Quaid-e-Azam believed that Pakistan should be guided by principles of _____ _____ for all.

   d) Quaid-e-Azam stated that all the people of Pakistan were _____ citizens of a _____ state.

   e) The Pakistan National Movement was formed by _____.

2. a) What is the significance of the Minar-e-Pakistan?

   _____

   _____

   b) When was the first constitution of Pakistan framed?

   _____

   _____

   c) List the dates and names of the leaders during whose government changes were made to the constitution.

   _____

   _____

   _____

3. Name the authors.

   a. 'Now or Never'

   b. 'The Reconstruction of Religious Thoughts in Islam'

CHAPTER TWELVE

PAKISTAN'S CHRONOLOGY: 1970–2008

TEXT PAGES 94–99

This is a brief and quick overview of the last thirty-five years of Pakistan's history. The disastrous years 1970–71, saw the break-up of Pakistan and the birth of Bangladesh. These events also brought into power Zulfikar Ali Bhutto, who as president, and then as prime minister, ruled the country with complete control till 1977. Some of his policies and reforms, though well intended, did not have the desired impact, and in some cases as in education and industry, set the country back. However, on an international political level, he achieved results in recovering not only the prisoners of war taken by India after the collapse of the East Wing in 1971, but also the territory captured by India. He called the first Islamic Summit Conference in Lahore in 1974—a high-profile and successful event. Bhutto also gave the country its nuclear programme, a point of debate in some circles.

Bhutto was ousted from power by General Zia-ul-Haq in 1977, tried, and ultimately executed in 1979. General Zia's rule lasted 11 years: the negative impact of his policies is felt to this day.

This chapter is a brief timeline of events as students will study these developments in greater detail as part of Pakistan Studies in the higher classes. More research can be done on each period and personality, as group work, and displays/projects can be made by the class.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 99:

1. In parliamentary general elections for the combined wings of Pakistan, East Pakistan got a clear majority (160 MPs against 81 of Bhutto's party) and felt, with some justification, that their leader should be prime minister. President Yahya Khan and Prime Minister Bhutto rejected this and after severe political clashes, civil war broke out. With West Pakistan 1600 km away and overland flights banned by India, troop movement took many weeks. India seized the chance and with its help, East Pakistan declared itself an independent republic—Bangladesh. The war was swift, and ended with total victory for Bangladesh, which officially proclaimed its sovereign status in December 1971. Pakistan signed the surrender documents and 93,000 troops were taken by India as prisoners of war. The decision to have two wings was probably a mistake from the beginning: two parts of a country separated by 1600 km of hostile territory, and with completely different outlooks on life and society. The only thing that they really had in common was Islam. Probably two separate states from Partition would have been the best solution. The population strengths are roughly the same, but West Pakistan was partly to blame for trying to impose itself on the eastern half—trying to enforce the official use of Urdu, when the people spoke Bengali; imposing West Pakistan officials on the country, exploiting the region's agricultural resources, etc.

2. Bhutto's socialist ideas and the increasing rigour with which they were applied upset most levels of society. He nationalized factories, mines, and other large industrial and commercial businesses as well as educational institutions, angering the prosperous merchant classes and upsetting the owners; he took land from large estates to give to the peasants, which infuriated the great aristocratic families; he strengthened the trade unions and workers' rights, which annoyed all businessmen and industrialists; his autocratic use of the army to put down opposition annoyed everyone. He antagonized the religious authorities by some of his reforms, though he later gave in to some of their demands.

3. Individual or pair work based on the chapter content.
4. The bone of contention between Pakistan and India has been the question of Kashmir. The earliest conflict with India took place soon after independence, in January 1948. The UN intervened and decided that a plebiscite should take place so that the people of Kashmir had the choice to determine their fate. However, this has not happened even after 62 years and this problem underlies the differences between the two countries and has led to open wars as well as ongoing skirmishes. The most serious were the Siachen conflict and then the Kargil episode in the 1999; the situation is aggravated by the fact that both India and Pakistan have nuclear capability.
5. Nawaz Sharif, as prime minister, forced two amendments to the Constitution: (1) the president could not remove the prime minister from office, and (2) by imposing strict party discipline on MPs so that they could not vote against the leader's views. This ensured that the prime minister could continue to rule without being dismissed by either president or party.
6. General Musharraf was out of the country and when his flight was about to land, Nawaz Sharif ordered that no airport in Pakistan should allow it to do so, although fuel was running low, and that the plane should be diverted elsewhere. Since a preceding army chief had also been relieved of his post by Nawaz Sharif, the army command may have expected problems. Musharraf contacted his senior officers, who seized the airport. The flight landed safely, and Musharraf dismissed Sharif.

Musharraf's tenure from 1999 to 2008 has been marked by important events within the country as well as abroad. The most significant international event was 9/11/2001—the deadly attacks on the World Trade Center in New York and the Pentagon in Washington. This event strongly impacted Pakistan and its relations with the USA as well as the western world and the Middle East. Within the country, there was already the fallout effect of the Afghan war and the ongoing Kashmir crisis. However, the Musharraf government did manage to turn the economy around, to bring in political and social reforms giving more power to people at the grass-roots level, and more freedom to the media. The National Assembly, for the first time, completed its term. However, 2007 saw a sharp decline as religious extremism took a militant turn; there were problems with the judiciary; the National Reconciliation Ordinance (NRO) allowed the return of the exiled leaders and elections were announced, but tragically, Benazir Bhutto was killed during an election rally in Rawalpindi, on 27 December 2007. Elections were held in February 2008 and the PPP came into power. Musharraf resigned in August 2008 and Asif Ali Zardari, Benazir Bhutto's husband, was sworn in as president.

Note: Although the latest developments, post-2008 to date are not listed here, it is advisable to have the information at hand. The year-end supplements of newspapers carry a chronological sequence of each passing year's events and are a good resource. Besides, a timeline for Pakistan may also be searched on the Internet.

LESSON PLAN 13

Topic: Pakistan's chronology: 1970–2008

Duration: Three periods (40 minutes × 3)

Objectives:
- To give a chronological overview of the governments in Pakistan from 1970–2008
- To know the beginnings of the Kashmir dispute and the problems
- To understand the reasons for the separation of West and East Pakistan

Resources: Textbook, Teaching Guide, newspapers, books on current history of Pakistan

First period

Introduction: The students are probably aware of the current political events in Pakistan through the media and general discussions in homes etc. Ask a few questions about the past and present rulers of Pakistan and some current issues.

Explain what is meant by chronology: it shows the order in which a series of events take place. Introduce the topic "Pakistan's Chronology: 1970–2008".

Explanation:
Explain that though Pakistan is a relatively young country, it has had a relatively eventful life! Immediately after partition, it went to war with India over Kashmir in 1948, but had to pull back from success within reach, in compliance with UN orders. Chapter 19 of Book 2 gives a quick but comprehensive account of the years 1947 to 1971. Give a brief recap of the Ayub era, its achievements and setbacks.

1958: Martial Law is declared. 1962: General Ayub Khan is sworn in as president. 1965: War with India, over Kashmir, mainly in the West wing of the country. 1969: Ayub Khan resigns as president, following country-wide unrest, and hands over power to General Yahya Khan.

1970: Tell the students that East Pakistan (now Bangladesh) and West Pakistan were parts of one country. Explain the reasons for the breakup of Pakistan and the independence of Bangladesh (the main reason being not honouring the results of the election results). East Pakistan, being more populous, won more votes. This led to widespread unrest in the East wing, fuelled by India. The Awami League, led by Sheikh Mujib-ur-Rehman, then broke away to form their own government.

1971: Intervention of Pakistan army in East Pakistan to restore law. India invades; bans flights across its borders. In December 1971 East Pakistan declares independence as Bangladesh.

1971–73: President Yahya Khan resigned on 20th December 1971. Zulfikar Ali Bhutto became the President and then the Prime minister in 1973. Discuss the reforms, nationalization, and land reforms made by him. A new constitution was framed that stopped the role of the Army in the civilian government. The new president (Fazal Elahi) becomes only a ceremonial head.

1977: Opposition to reforms by Bhutto's government leads to unrest and rioting. Bhutto wins the 1977 elections but is accused of rigging them.

The army chief of staff General Mohammad Zia-ul-Haq seized power in July 1977 and set up a military government. Bhutto was arrested, convicted, and sentenced to death for a political murder.

1978: General Zia-ul-Haq became the president. He imposed Sharia Law; introduced interest-free banking; advocated severe punishment for offences against Islam, by which he hoped to win the support of the religious parties.

1979: On 4 April, Zulfikar Ali Bhutto's death sentence was carried out.

In late 1979 Russia invaded Afghanistan and this led to the Afghan refugee problem in Pakistan. Zia accepted USA aid to support Afghanistan. Western powers ignored human rights violation by Zia's government and dropped their demand for democracy.

Zia's policies became unpopular in Pakistan and were criticized by international leaders.

1984–85: Referendum held by Zia to seek approval of his 'Islamization' and to retain presidency till 1990. End of Martial Law, and set up of a civilian government under Mohammad Khan Junejo as Prime Minister. Junejo was dismissed. New elections were promised.

Reinforce the lesson by asking students to give quick responses to short questions about the various governments and important leaders.

Homework: Students to start working on a timeline beginning from 1947. They may refer to Book 2 as well as other sources in the school library.

Second period

1986-88: Marked by the return of Benazir Bhutto in 1986 to Pakistan from exile in the UK. She along with her mother, Nusrat Bhutto, was placed under house arrest. In 1988, President Zia, some top army officials and US ambassador Arnold Raphael lose their lives in a palne crash near Bahawalpur. An interim government was set up with Ghulam Ishaq Khan as acting President.

Elections were held in November 1988. Benazir won the election and became Prime Minister, the first female political leader. Ghulam Ishaq Khan takes oath as president.

1990: Benazir's government dismissed on charges of corruption; Nawaz Sharif and IJI won the next election. He introduced privatization, encouraged foreign investment, and promised to settle the differences with India over Kashmir.

1993: President Ghulam Ishaq Khan dismissed Nawaz's government which was reinstated by the Constitutional Court. Relations between the president and the prime minister became bitter. Both agreed to resign. New elections were held in October 1993. Benazir returned to power. Farooq Ahmed Leghari became the new president. Relations with India deteriorated. Both declared their nuclear capability, fighting on ceasefire line. There was unrest in the country.

1996–97: In late 1996, President Leghari dismissed Benazir's government. Nawaz Sharif was back in power. Discuss his politics. President's powers to dismiss parliament curtailed.

Huge sums of money borrowed from the IMF and The World Bank. Farooq Leghari resigned and was replaced by Nawaz Sharif's friend Mohammad Rafiq Tarar.

1998: In response to India, Pakistan exploded its nuclear bomb at Chaghi, Balochistan on May 28, 1998. Relations between India and Pakistan tense.

1999: Benazir and her husband were charged with corruption. Benazir went into exile till October 2007, Asif Ali Zardari was jailed.

Vajpayee (Indian Prime Minister) visited Lahore by bus as a sign of goodwill. The Kargil episode also took place in July 1999.

12th October 1999: General Pervez Musharraf takes over Nawaz Sharif's government. Nawaz Sharif tried on many charges and sent into exile to Saudi Arabia. (See textbook page 97.)

Reinforcement: Students to continue with the Pakistan history timeline (see instructions on page 99). Discuss questions 1 and 2 on page 99. Students are to answer these in their notebooks for homework.

Third period

2000–2001: The accountability process was begun by General Musharraf. The Supreme Court approved the military take-over and gave a three-year deadline for general elections. General

Musharraf took oath as president. The devolution plan and political changes had a negative effect on the economy.

9/11/2001: This disastrous event in New York rocked the world and proved particularly difficult for Pakistan as the perpetrator of 9/11, Osama bin laden, was believed to be in hiding in Pakistan's neighbouring country Afghanistan. USA launched attacks on Afghanistan. Pakistan became an ally and received generous financial support from the USA in return for its cooperation.

2002–2007: The rule of General Musharraf though not democratic gave Pakistan four years of relative stability as well as economic growth. Elections were held in October 2002. The revised voting age was 18 years. Members of Parliament had to be graduates. There were three Prime Ministers during this period. The National Assembly was dissolved after the completion of the five-year term. Musharraf was re-elected as president in October 2007.

In 2007 Musharraf's government became unpopular.

Reasons: Amendments in the constitution and actions against the judiciary were the main raesons. The lawyers' struggled for one year in support of the judiciary. There were nationwide protests. Under pressure from the West, the National Reconciliation Ordinance (NRO) was signed in October 2007. Nawaz Sharif and Benazir returned from exile for elections in January 2008. Benazir was attacked twice and was killed in the 2nd attack, on 27 December 2007, while returning from an election rally in Rawalpindi. Her death shocked the country and the world.

2008: Elections were postponed and held in February 2008. The PPP won the majority vote and formed the government with Syed Raza Gilani as Prime Minister. President Musharraf resigned and Benazir Bhutto's husband and co-chairman of PPP, Asif Ali Zardari was elected as president in September 2008.

Conclusion: Recap the main points. Ask the students to recall and mention some important events from 2008 to date. It is advisable to do preliminary research so that you can guide them.

Reinforcement: Discuss questions 4, 5 and 6 on page 99. Note the main points on the board.

Collect information on Democracy as a form of government. This can be a topic for discussion.

Homework: Questions 4, 5, and 6 to be answered in notebooks. The worksheet may be done for class work in an additional period, combined with the discussion on democracy.

1. Write short answers to the questions given below.

   a) When did Bangladesh come into being?

   _____

   b) How many times did Benazir Bhutto become the Prime Minister of Pakistan? Also give the dates.

   _____

   c) When did Zulfikar Ali Bhutto become the Prime Minister of Pakistan?

   _____

   d) How long did General Zia ul Haq rule Pakistan? Give the dates.

   _____

   e) Whose government came to an end when General Pervez Musharraf took over?

   _____

   f) What major international catastrophe took place in September 2001?

   _____

   g) How did this event affect Pakistan?

   _____

   h) What is the significance of 27 December 2007?

   _____

2. Mark the correct answer.

   a) Russia invaded Afghanistan in _____

      i) 1989 ii) 1971 iii) 1979 iv) 1975

   b) Benazir Bhutto returned to Pakistan from exile in _____

      i) Abu Dhabi ii) Turkey iii) UK iv) USA

   c) Pakistan tested its nuclear bomb in _____

      i) Ras Koh ii) Chaghi iii) Mastung iv) Sibi

   d) In the 2008 elections, the PPP won and formed the government with _____ as Prime Minister.

      i) Raja Pervez Ashraf ii) Asif Ali Zardari iii) Rehman Malik iv) Yousuf Raza Gilani

   e) The constitution of 1956 was replaced by a new constitution during Z.A. Bhutto's tenure in _____

      i) 1975 ii) 1978 iii) 1973 iv) 1976

   f) General Pervez Musharraf came into power in _____

      i) July 1999 ii) January 2000 iii) October 1999 iv) October 1998

CHAPTER THIRTEEN

THE UNITED NATIONS

TEXT PAGES 100–108

World War I was the first major war to be fought after the Industrial Revolution had changed the face of the world. In the last major conflict (Napoleonic wars), the navies had fought with wooden ships and short-range cannon. Now, 4000 tonne steel monsters bombarded each other with shells weighing several tonnes when they were out of sight of one another. High explosives, machine guns, gigantic artillery, tanks and at the end, aerial bombing, made this a conflict unlike anything ever before. 200,000 men were killed in a single day in the Battle of the Somme in France. It was obvious that something must be done, and the USA suggested that a kind of international club be set up, not only to outlaw war, but also to dramatically improve social conditions. So the League of Nations was formed, but the USA refused to join and the main European nations assumed that it would be a kind of association that they would dominate.

Membership was voluntary, and at its peak, only 63 countries joined; some of those that did left if the League said anything to offend them. The League had no forces to try to stop war—it could merely ask other nations to stop trading with the fighting countries (sanctions). Few complied: if one country would not supply trucks and weapons, there were plenty of others only too willing to do so. It was totally ineffective in preventing wars, but some aspects such as the Court of International Justice and the institutions stopping slavery were moderately successful. However, the failure of the League showed its weaknesses and these were taken on board when the United Nations was proposed during World War II. Apart from a few very minor exceptions, every country in the world now is a member of the UN.

Structure of the UN

This has been covered in adequate detail in the textbook (pp100–105).

The map on page 105 shows the regions where UN peacekeeping forces are involved, as part of their policy.

The Secretary General is elected to the post, after nomination, and serves a five-year term. He can be re-elected for another term. It is a tradition that the Secretary General is from a relatively small and powerless nation.

Secretaries of the UN:

1946–53: Trygve Lie (Norway)
1953–61: Dag Hammarskjold (Sweden)
1961–71: U Thant (Burma)
1971–81: Kurt Waldheim (Austria)
1981–91: Javier Perez de Cuellar (Peru)
1991–96: Boutros Boutros-Ghali (Egypt)
1996–2006: Kofi Annan (Ghana)
2006– : Ban Ki-moon (South Korea)

While the UN has proved immensely valuable in the 60+ years since its establishment, it still has limitations. In the matter of troops, it still has to ask member nations to contribute these, and if the majority refuses to do so, it cannot compel them. In matters of confrontation too, it has been unable to rein in the powerful countries,

which still go ahead—the USA in Iraq, for example. It has no real clout to impose its decisions, except the moral pressure of the world, which is increasing in power. The agencies are more effective, especially FAO, WHO, and IMF. UNESCO and UNICEF provide excellent cultural and social benefits, and some of the less well-known agencies such as postal services, civil aviation, and meteorological organizations are so embedded in the world order that we tend to forget they exist.

Pupils could make projects based on the different agencies of the UN.

Organization of the Islamic Cooperation (formerly 'Conference'—OIC)

This was set up in 1967 to promote solidarity and cooperation among Islamic nations. It has specific aims of protecting and maintaining the holy places of Islam, of supporting the Palestinian state, of assisting members to maintain independence, and cooperation in economic, scientific, and cultural areas.

The Heads of States conference meets every three years; the conference of Foreign Ministers meets annually to prepare reports for the Heads of States conference. It has other agencies, such as a Development Bank to aid poorer Islamic countries and an organization similar to UNESCO in the UN. However, the OIC is hindered by inter-Muslim state conflicts such as the Iran-Iraq war, and the Iraqi invasion of Kuwait (1991). OIC has 57 full members plus the Palestine Liberation Organization.

The last OIC heads' conference was held in Dakar, Senegal (in Africa) in March 2008.

The League of Arab States is a voluntary organization of mainly Arabic-speaking countries, to share common problems and promote common interests. It was set up in 1945 by Egypt, Iraq, Lebanon, Saudi Arabia, Syria, north Yemen, Jordan, and Palestine. Later, between 1953 and 1993, it was joined by more Arabic-speaking countries and the Palestine Liberation Organization. Its headquarters are now in Cairo, where it meets twice a year, in March and September.

It has sub-sections—the Arab League Cultural, Educational and Scientific Organization, and the Labour Organization. It sets out common policies on economic matters, but this is difficult because of the immense gulf between the prosperity of the members, the vastly rich Gulf oil states and the desperate poverty of countries like Sudan and Somalia, which is one of the poorest states on earth with a GDP about one third that of Pakistan, and an adult literacy rate quoted (optimistically) at 20–24 per cent.

The Arab League is very concerned with drugs, crime, and labour issues, especially among the many migrant workers. It has sports, youth, and cultural programmes, and recently has made considerable progress in the role of women, and also of children, in Arab society. The League does have internal problems such as the Iran-Iraq war, and the Iraqi invasion of Kuwait, and also at times difference of opinion on some issues of international politics.

Pakistan is not a member, but because of its religion has very close ties with the League.

RCD, the Regional Cooperation for Development (since 1985, Economic Cooperation Organization) was originally set up by Iran, Turkey, and Pakistan in 1964 for mutual trade and support, but it became more or less dormant when the trouble between Iran and Iraq developed. It was reinvented as the ECO in 1985, when it incorporated the newly independent states of the former USSR: Azerbaijan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Kazakhstan, and Afghanistan. On the face of it, it seems an ideal alliance, with committees to oversee joint agriculture, economics, industry and technology, public works, transport and telecommunications, energy and education, science and culture.

Its headquarters are in Tehran. ECO has five primary institutions, for planning and implementation of its policies. It also has various agencies, such as ECO Trade and Development Bank; insurance, shipping and air companies; Chamber of Commerce and Industry; Science Foundation and Cultural Institute. It has plans

for interconnecting gas and oil pipelines—some of the Central Asian states and Pakistan are rich in natural gas—and envisages a customs union.

All, except perhaps Iran and Turkey, are at the moment underdeveloped, but there seems to be a basis for a very powerful international organization in the future. One interesting development is that Turkey is desperately trying to become a member of the European Union, and seems likely to do so within the next few years. This would bring a pan-Euro-Asia organization into being.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 108:

1. The Security Council was composed of countries which had taken the major part in World War II. Germany and Japan as the main enemies were excluded. Since then Germany and Japan have become the most important nations on earth after the USA, while others, especially China, India, and Argentine have become much more powerful. What happened more than 60 years ago should not be allowed to stand in the way of change.
2. Japan and Germany are not permanent members of the Security Council as they were the 'enemy' in the war which caused the UN to be set up. These are the second and third largest economies in the world (after the USA) and it seems unjust to bar them from seats in the Security Council.
3. Secretary Generals have been
   a) Trygve Lie (Norway) 1946 to 1953
   b) Dag Hammarskjold (Sweden) 1953 to 1961 (He was killed in an air crash in the Congo.)
   c) U Thant (Myanmar/Burma) 1961 to 1971
   d) Kurt Waldheim (Austria) 1971 to 1981
   e) Javier Perez de Cuellar (Peru) 1981to 1991
   f) Boutros Ghali (Egypt) 1991 to 1996
   g) Kofi Annan (Ghana) 1996 to 2006
   h) Ban Ki-moon (South Korea) 2006
4. As suggested, the details can be found from the text, the Teaching Guide and reference sources, such as the Internet.
5. The second OIC meeting held in Lahore, in February 1974, was jointly convened by the Pakistani prime minister, Zulfikar Ali Bhutto, and King Faisal of Saudi Arabia. This meeting took place after the Arab-Israeli war of 1973, and a declaration was made, recognizing the urgent need to solve the Palestinian problem and also to fight oppression in other parts of the world, such as South Africa and Latin America.

LESSON PLAN 14

Topic: The United Nations
Duration: Four periods (40 minutes × 4)
Objectives:
- To explain the background for the foundation of the United Nations and the lessons from the failure of the League of Nations
- To inform about the structure of the UN, and the roles of the different agencies
- To evaluate the role and value of the UN in today's world

Resources: Textbook, Teaching Guide, newspaper, encyclopedia, Internet

First period

Introduction: The students are generally aware of the United Nations as an international organization and its various agencies. However, to give a clearer concept of its role and objectives ask the following questions.

- Generally, how do we solve family issues? (The head of the family and some other family members cooperate to solve issues.)
- How do different countries solve their day to day problems?

The probable answer: The provincial assemblies or the parliament discuss the issues and decide on how best to solve them. In case of international conflicts, the United Nations takes the initiative to resolve issues between governments and maintain peace and security.

Explanation:

Background: The League of Nations was set up in January 1920 after World War I. Discuss the killings and destruction of the war. Who proposed the idea? What were the objectives?

Ask why people file cases in court. Explain the formation of the Court of International Justice and its objective, (to settle disputes between countries).

Explain why the League of Nations was a failure.

1. USA and Russia never joined it.
2. Member countries did not tolerate criticism and left the organization.
3. The League had no forces to control nations.
4. A few of the old European countries held all the powers.
5. It failed to stop World War II and so was dissolved in April 1946. It was replaced by the United Nations.

United Nations Organization:

The headquarters of the UN are located in New York (see the photograph on page 101). The number of member countries is 192, while the number of non-member countries is six, of which four are tiny islands. Two are not members: Taiwan for political reasons and Vatican City, because of its religious basis.

Structure of the United Nations:

The UN comprises five main bodies.

1. The General Assembly 2. The Security Council 3. The Secretariat 4. The Economic and Social Council 5. The International Court of Justice. Explain the functions of each separately.

The two bodies most often in the news are the General Assembly and the Security Council.

The General Assembly:

There are 192 member countries. Each country whether big or small has one vote. Annual meetings are held regularly and a new president is elected for every regular session. The General Assembly discusses and decides issues brought to it. Special meetings are called in case of emergencies. Ask the students to find out when the last General Assembly meeting took place; they can also research if any extraordinary meeting took place recently and in what context.

The Security Council:

There are five permanent members (USA, UK, Russia, France and China); explain the reason behind this. The other 15 members are elected for two years. Tell the class on what basis countries are elected to the Security Council; it is a prestigious position. Give details and explain the Council's role, especially in times of international crisis. Discuss how far the Security Council is successful in solving such problems. Emphasize that the decisions of the Security Council are binding on the member countries.

Conclusion: Wrap up the lesson by recapping the main points.

Reinforcement: Ask the students to do some research on the questions about the General assembly meetings and bring the details to the next class.

Second period

The Secretariat:

Explain its composition—it comprises many officials of different ranks to carry out the decisions taken, to organize and administer the working of this vast international organization and its various bodies. The present Secretary General is Ban Ki-Moon of the Republic of Korea (South Korea). Explain his responsibilities. For detail about the range of the UN's responsibilities read through textbook pages 102–104 with the class.

The Economic and Social Council:

The main responsibility of this body is to ensure better living standards, health care, and human rights in the world. Explain the main agencies and the objectives of each in detail. Refer to page 103 which shows some of the main bodies and their tasks. Ask the students to name those agencies they hear about most often such as UNESCO, UNICEF, World Bank and IMF, etc. and what their responsibilities are.

Some other important UN agencies:

1. United Nations Development Fund (UNDP)
2. International Atomic Energy Agency (IAEA)
3. United Nations Human Rights Council (UNHRC)

Read through pages 104 to 105 and explain the working and objectives of the UN bodies listed above. Some of these are active in Pakistan too; ask the students to find out about them and their contribution to Pakistan—how they help.

Third period

The International Court of Justice:

This is a very important part of the UN, as this is where disputes between countries are settled (as far as possible) and people and countries are tried for war crimes and human rights violations. The International Court of Justice is based in The Hague in Netherlands. Explain its structure and functions from page 105 of the textbook. Another important function of the UN is to provide peace-keeping forces—drawn from the member countries—for strife-ridden areas across the world. The map on page 105 shows where UN peace-keepers have worked and are working presently. Point out that this is a dangerous task as the UN people are equally at risk of attack and injury, or worse.

Some more agencies of the UN:

1. International Postal and Telecommunications Services.
2. Weather forecasting
3. Industrial development
4. Shipping, airlines, troops to keep peace after wars.

Explain the map given on page 105 of the textbook which shows the UN Military and peacekeeping involvement. Ask the students to do some research on one country each that has been marked on the map and find out the cause of the conflict. Also point out the UN's role in famine-stricken countries, especially in Africa—they are supplied with basic food stocks.

Conclusion: Recap the lesson by reiterating the main points.

Discuss questions 1 and 2, and write the relevant points on the board for the students to note for homework reference.

Homework: Questions 1 and 2 to be answered in the notebooks.

Fourth period

Organization of Islamic Cooperation (OIC): It consists of 57 Islamic nations as its members. Its objectives are to increase economic, social, cultural, educational, and scientific relations and cooperation between member countries. Explain its structure and functioning (read through page 106).

The immediate problems OIC faces are Palestine, Muslim minorities, freedom of some African states, and improvement of human rights. Its long term aim is to form an Islamic Common Market like Europe.

The League of Arab States: It is also known as the Arab League. Explain its background—how it came into being—its structure, member countries and functions. Discuss its brief history. Pakistan is not a member of the Arab League but has close ties with it. Explain why Egypt was suspended and then readmitted to the Arab League. Read textbook pages 106–107 for further detail.

Regional Co-operation for Development (RCD)

Explain when and why it was formed, who its members were (Iran, Turkey and Pakistan). When was it dissolved? (1979). Now it is known as the Economic Cooperation Organization (ECO) with seven more members; the names of the member countries is on page 108. Its main aim is the regional development of member states.

Conclusion: Recap the main points. Discuss questions 4 and 5, and ask the students to note the main points.

Reinforcement: Make a chart showing the structure of the United Nations Organization (refer to page 103 of the textbook) and their main functions.

Hold a mock session of the General Assembly in the class. Each student may represent a country. Elect a president and then debate any issue concerning your class or any other topic of interest.

Class work: Worksheet 13 to be done in class.

Homework: Questions 4 and 5 from page 108.

1. Answer these questions:
   a) When was the League of Nations formed?
   b) What was its main objective?
   c) Give one reason for its failure.
   d) When was the United Nations formed?
   e) What is the total membership of the United Nations?
   f) Which countries are not its members and why?
2. Complete the following:
   a) The five components of the United Nations are _____
   _____
   b) One main function of the General Assembly is to _____
   _____
   c) The five permanent members of the Security Council are _____
   _____
   d) The head of the Secretariat is the _____
   _____
   e) The main function of the International Court of Justice is to _____
   _____
3. Name any five countries where the UN Military Peacekeeping forces are involved.
   _____
4. In your notebooks, answer the following questions about the OIC, the Arab League and ECO.
   a) What is OIC and when and where did it come into being?
   b) Name the three non-Muslim countries with the status of 'Observers' in OIC.
   c) Where are the headquarters of the OIC?
   d) State one long term aim of the OIC.
   e) When was the Arab League formed and where are its headquarters?
   f) What is the number of the member states in the Arab League?
   g) When was the Economic Co-operation Organization (ECO) formed?
   h) Name the member states of the ECO.
   i) What is the main aim of the ECO?

TEXT PAGES 109–117

The conflicts of the 20th century have been covered in fair detail in this chapter. However, some background to these issues is given below.

The Palestine conflict

A murky area of history—in the First World War, the **McMahon letters** promised an independent Arab state in return for Arab help in overthrowing the Turks, whose empire nominally incorporated the eastern end of the Mediterranean.

The Sykes-Picot agreement (1916) was a secret arrangement between French and British governments to keep the eastern end of the Mediterranean under their control, to protect the shipping routes to their colonies through the Suez Canal; it was also to guarantee the pipelines from the Gulf, as oil was beginning to become economically significant.

The Balfour Declaration (1917): Under immense pressure from the USA, especially the Jewish lobby, Britain agreed to set up a state for the Jews, in Palestine. A strict clause, alas not observed, said that the rights and properties of other nations already there should not be affected. The Western Allies, Britain and France, were bogged down in World War I, which had reached an absolute stalemate of mutual slaughter, and desperately needed the USA's support on their side.

In practice, Britain and France were given this area as mandates from the League of Nations. Because of their wealth, the Americans sent tens of thousands of Jewish settlers to the area, some legally, but most illegally. Because of the wealth backing them, they could make the poor Arab farmers offers they could not refuse.

Mandate is the land which belonged to a nation defeated in a war, which is put in charge of the victorious country, not as a colony or possession, but to be supervised and run until it is ready to be independent.

When during World War II, defeat seemed inevitable for Germany, Jewish gangs turned against Britain. Especially notorious were the Stern Gang and Irgun Zvai Leumi, who committed terrible atrocities against the British forces. When the war ended, Britain found that Palestine was impossible to control, and asked the UN to settle the matter. World opinion was very much in favour of the Jews when the atrocities of the Nazi regime against them became general knowledge—the Jews claimed that six million of them were exterminated in the death camps.

The UN, with strong influence of the USA again, divided the land into Jewish and Arab parts. When the state of Israel was declared in 1948, millions of Palestinians were forced out into exile in refugee camps—where many of them still remain, 60 years later. A series of wars since then has resulted in steady defeat for the Palestinians, and even when some territory was conceded to the Arabs in the West Bank and Gaza, these were studded with Jewish settlements.

The USA supplies Israel with weapons and, under the influence of a powerful Jewish lobby, vetoes any motion in the United Nations, which criticizes Israel. There is little

the Palestinians can do: the trend towards suicide bomb attacks on Jewish towns has invariably resulted in savage reprisals by the Israelis. For every Israeli killed by the Palestinian underground forces, at least ten or twelve Palestinians, often women and children, lose their lives. Israel has an overwhelming military power, with tanks, helicopters, and heavy artillery; the Palestinians reply largely with stones. The problem seems as insoluble as ever. The previous Israeli government had offered to withdraw settlements from the Gaza Strip, but not from the more important, and profitable, Left Bank. The present government is more hawkish and intransigent; now walls are being built to protect the Israelis and no solution is in sight while the Israeli settlements expand and for the Palestinians day to day life is a battle for survival.

The Middle East conflict

It is unfortunate that there have been conflicts among the Arab countries, apart from the continuing Israeli aggression against its neighbouring states. Iraq has been the common denominator in the wars against Iran and then Kuwait. Eventually, Iraq became the victim of Western aggression in 2003, and the problems resulting from this still continue. As stated earlier, the oil wealth of the Gulf States has been both a blessing and a curse for this region.

After their rebellion against the Romans in the first century CE, the Jews of Palestine were scattered about the known world, mainly as slaves. There was no longer any Jewish state. In the late 19th century, there began a movement in the USA for a homeland for Jews back in Palestine. This was called Zionism. Little was done until the 1930s when a trickle of Jews moved to Palestine and began buying up land from the Arabs who had occupied. This again was financed largely by the Jews in the USA. After World War II, with millions of Jews displaced by the Nazis, there was a flood of refugees into the Palestine, some legal, but most illegally. There was bitter fighting with the British who had a mandate on the area, but in 1946 Britain said it was opting out and handed the problem to the UN which, in 1947, divided the land into Jewish and Palestinian territories.

The Palestinians were deprived of the greater part of their land. This has been the source of trouble in the Middle East ever since. The more moderate Fatah Palestinians would gladly settle for a return to the 1947 UN boundaries, while the more extreme Hamas will accept nothing less than the elimination of the state of Israel. Unfortunately, as the state of Israel has had the unconditional backing of the USA and the West in general, in the past, any attempt to revert to the 1947 boundaries has been impossible. The surrounding Arab countries are furious, but more or less powerless.

The Iraq-Iran War (1980–88): This was a particularly savage war in which both sides used every means of slaughter, including poison gas (Iraq). Iran with the larger population (40 million) lost 500,000 dead and twice as many wounded, while Iraq (population 18 million) lost 150,000 dead and 500,000 wounded. At the end of the war neither side had gained anything; the war had originally been over the use of the Shatt al-Arab river, but after the UN-brokered peace the river was so silted up that it was no longer navigable for much of its length except by small boats.

The Iraq-Kuwait War (1990–91), also known as the Gulf War, began when the Iraqi leader, Saddam Husein, invaded Kuwait, declaring it a part of Iraq. This was widely condemned by the West, and the UN Security Council imposed sanctions on Iraq. A UN coalition force, comprising troops from 34 nations, was deployed to expel Iraq from Kuwait. Iraq had also fired missiles at Saudi Arabia and Israel. The coalition-led attack was known as 'Operation Desert Storm'. Kuwait was liberated in February 1991.

Kashmir: Equally insoluble is the problem of Kashmir. At partition, Kashmir which had a large Muslim majority, was given to India by the British—in response to the Indians' (Nehru's) demand—to provide access to Kashmir itself and to the headwaters of four of the five great rivers of the Punjab. It is ironical that Kashmir itself is of little economic value, except for tourism perhaps: it is more a question of human

rights, and prestige. With a change of ruling party in India (Congress now in control) it remains to be seen whether the slight thaw in Indo-Pakistan relations can be expanded.

(The details of this issue have been given in the textbook.)

Bosnia

The Balkans is a byword for quarrelling states mainly because of the historical background of this south-eastern corner of Europe. The people are very mixed ethnically: Slavs, Greeks, eastern Europeans; some states are nominally Muslim, some Russian Orthodox Church, some Greek Orthodox, some Roman Catholic. It is not surprising that it is called the 'powder keg of Europe'. Before World War I, there was a series of wars among the Balkan states with differing alliances, and then in 1912, they joined forces to drive the Turkish forces out of Europe, apart from a small tip of land at Istanbul. In 1914 it was the assassination of Crown Prince Ferdinand in the Balkans, which started World War I.

Although conquered by Germany in World War II, there was a powerful resistance movement under the communist Josef Tito who maintained control until his death in 1980, when the association broke up again into warring factions. A savage and brutal war followed, until NATO intervention forced a ceasefire, but the situation is still tense.

The Balkans is at present made up of Albania (3.7 million); Bosnia-Herzegovina (3.7 million); Croatia (4.5 million); Slovenia (2 million); Macedonia (2 million) and Yugoslavia (11 million). Yugoslavia is made up of Serbia, Kosovo, and Montenegro, the last two of which are hoping to become independent. The total population of the nine states is about 27 million—about two and a half times the population of Karachi.

Chechnya

This province has always been a thorn in the side of the Russian authorities who conquered it only in the mid-19th century. The Chechens have been fighting Russia for their independence. The war there continues unabated, with gross atrocities on both sides.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 117:

1. The three documents were:
   (a) The McMahon letters (1915) in which Britain promised the Arabs, many of whom were fighting on the British side against their overlords the Turks, that when Turkey was defeated (as it almost was) the Arabs would have a homeland of their own in Palestine with Hussein as their king.
   (b) The Sykes-Picot agreement (1916) in which Britain, France, and Russia agreed more or less to share out the area between them.
   (c) The Balfour Declaration (1917) under which the British government, under strong pressure from the USA, proclaimed it would help in setting up a national home for Jewish people. In practice, they did none of these when the war ended. Britain seized Palestine and Jordan as mandates from the League of Nations and kept control of Egypt; France was given Syria and Lebanon as a mandate. Feisal, who had led the Arabs against the Turks, was made king of Iraq, but the country was garrisoned by British troops. His brother, Abdullah, was made king of Jordan.
2. Jerusalem is a city holy to the three main faiths of this area, i.e. Judaism, Christianity, and Islam. For Jews, here are the remains of Solomon's temple. For Muslims, the Dome of the Rock is sacred as it is the point from where the Prophet Muhammad (SAW) is believed to have ascended to Paradise; and for the Christians, it is the place of the crucifixion of Jesus Christ. Ideally, it should have been an international city, allowing free access to the followers of the three faiths, but Israel has taken complete control, denying entry especially to Muslims living outside this territory.

3. The factors behind the Middle East conflict have been covered in adequate detail both in the textbook and this teaching guide.
4. All four wars ended in defeat for the Arab/Palestinian forces, and the possession of Palestinian land by Israel.
5. Kashmir, the largest of the princely states, had a predominant majority of Muslims, but the maharaja and the prime minister were Hindu. At partition the maharaja, Hari Singh, prevaricated when the choice of joining either India or Pakistan was offered: he hoped Kashmir would remain a separate state. When it was obvious he would not be allowed to do this, the prime minister urged him to join Pakistan. There was some fighting when the Muslims of Poonch, many of them ex-soldiers of the British army, invaded and drove the Kashmir army back. At this point, Hari Singh fled to India and signed a document giving Kashmir and Jammu to India. Both India and Pakistan sent regular troops into the country. There was a vicious war, and hundreds of thousands more penniless refugees poured into Pakistan. In 1949 the UN arranged a ceasefire with a Line of Control, and promised that a plebiscite (election) of the people as to which country they wished to join. More than 60 years later this election has not taken place, and constant border skirmishes and invasions take place along the Line of Control. In addition, China invaded the Indian part of Kashmir and seized about a fifth of the country to straighten out the frontier.

   Kashmir and Jammu are geographically more a part of Pakistan than they are of India, but predominantly, the vast majority of the population is Muslim.
6. Kashmir is important to Pakistan because it is through this territory that the headwaters of four out of the five main rivers of Pakistan flow. Controlling Kashmir means controlling the waters that support Pakistan's agriculture and industry, the very lifeline of the country. Secondly, maintaining a defensive force for this region and being prepared for any untoward advances from across the eastern border also eats away a big chunk of Pakistan's budget which could be spent on meaningful development of the country. Point out that for both Pakistan and India, keeping troops in the northern-most areas, like Siachen, is very expensive, not just in terms of money and equipment but in human terms too as hundreds of soldiers on both sides have lost their lives in this forbidding, icy terrain.

Although this chapter closes with the conflicts in Eastern Europe following the breakup of the Soviet Union, the disputes and wars have not all come to an end. The problems between Israel and Palestine remain unresolved as Israel has become more aggressive. International conflicts continue across the world into the 21st century. Discuss these with the class, beginning with the first in the new millenium, the attack on Afghanistan and then on Iraq by the West.

LESSON PLAN 15

Topic: International problems

Duration: Five periods (40 minutes × 5)

Objective:
- To inform students of the background of the Arab-Israeli conflict and the role of Western nations
- To discuss some current international problems, their causes, and attempts to solve them. Middle East: Palestine, wars in Iran and Iraq, the Gulf
- The Balkans and their problems, post-USSR breakup and the Russia-Chechnya conflict
- Post-9/11 conflict in Afghanistan and Iraq
- Discuss Arab Spring

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspapers, Internet

First period

Introduction: This chapter is about current, international conflicts, with special reference to the Islamic countries. The students are aware, to some extent, about the wars between Palestine and Israel, the Middle East conflicts, the Iran-Iraq war, the Gulf war, the war on Iraq, the Kashmir problem, and Bosnia and Chechnya. Discuss each region separately.

Explanation:

The Palestine conflict: The state of Israel came into being in 1948, after World War II. Give a brief background to this: the Nazis had killed huge numbers of Jews in Europe and those who managed to survive fled to other countries; many of them had already settled in the USA. The Middle East then was colonized mainly by the British and French. During World War I, the British agreed to the setting up of an Arab state, in return for their support. Read the text on page 110 to know and explain the detail. The result of broken promises and undue favours was the empowering of the Jewish state of Israel and the gradual disintegration of the Palestinians. The city of Jerusalem/Bait-al-Muqaddas is very holy to the followers of three main religions, Muslim, Christians, and Jews. However, it is now completely under Israel's control and Muslims outside Israel do not have access to it.

Explain the historical background of Jerusalem. The prophet and ruler Solomon (hazrat Suleiman AS) was believed to have built an important temple here where the Jews worshipped. Throughout its history, Jerusalem has been attacked by various rulers from Babylon, Persia, Egypt, and during the time of the prophet Jesus (AS) it was under Roman rule. In the 4th century CE Jerusalem came under Christian rule under the Byzantine ruler Constantine, and was conquered by Muslim armies in the 7th century. It was again under Christian control between the 12th and 13th centuries, then under the Mongols for a short period of time and finally it was conquered by the Ottoman Turks in 1516 and was taken by the British in during World War I.

Explain Britain's role—the McMohan letters (1915), the Sykes-Picot agreement (1916), and the Balfour declaration (1917). Explain the British and American-Jewish role after World War I and the influx of Jewish immigrants into Palestine. The Arabs were expelled and became refugees. In 1939 the British government agreed to set up an independent state but with a Jewish homeland within it. But with the onset of World War II, the circumstances changed.

Conclusion: This is a lengthy topic and needs explanation to understand the current situation in that region. It is important for students to know about the world they live in rather than just learn facts for an examination.

Reinforce by reading through the text on pages 109-110 (end of first paragraph). Discuss question 1 on page 117, and note down the main points on the board.

Homework: Question 1, page 117, to be answered in the notebooks.

Second period

World War II and its effects:

Explain how Jewish underground organizations became active, especially after the situation in Germany against all 'foreigners', i.e. Jews, gypsies, and other non-Germans. The Jewish organizations began terrorist attacks on British installations and eventually the latter took the issue to the United Nations. Explain how the UN passed a resolution to divide the region into Jewish and Arab areas, but favouring the Jews who were only 7 to 8 percent of the population. The result was that when the mandate expired in 1948, the

Jews declared the region as their homeland, Israel. The Arabs and Palestinians were forced into exile to neighbouring Muslim countries.

Constant conflicts on this issue: In 1956 (Suez), 1967 (the Six Day War), and the 1973 conflict gave the Israelis success in annexing more Arab land. These conflicts and Israeli high-handedness also led to the formation of the Palestine Liberation Organization (PLO) headed by the charismatic leader Yasser Arafat.

In 1993 Israel recognized the PLO as the representative of the Palestinian people and returned some territory to them: the West Bank (of the River Jordan) and the Gaza Strip (locate these in the atlas). However, the conflict continues, especially after Yasser Arafat's death and with the expulsion of Palestinians from their homes and property to build homes for Jewish settlers. Israeli towns and settlements continue to grow rapidly there. Since 2002 Israel began building walls around Palestinian areas, and this has escalated now, dividing families and making life extremely difficult for the Palestinians who cannot freely commute to work and back, go to schools, or to hospitals in emergencies. All these restrictions have led to protest from the Palestinians as well as world human rights' bodies and the international community—without any effect on the Israelis.

Intifada: Explain what this means. It is the resistance and reaction by Palestinians youth to Israeli injustice and oppression. The youth have no weapons or arms and hence took to fighting by throwing stones at the Israeli forces.

After the death of Yassar Arafat in 2004, Mahmood Abbas became the leader of the Palestinians. In 2007 civil war broke out between the Gaza Strip and the main part of Palestine; Gaza came under the control of Hamas (an extremist party) that does not believe in the existence of Israel. West Bank is under moderate Palestinians.

2009: Israeli Prime Minister Netanyahu offered to talk but Abbas refused until the expansion of the Israeli towns was halted, but they continue to expand. So a stalemate exists. Israel controls most of the country, and also Jerusalem, including the Islamic holy places.

Conclusion: Reinforce by recapping the points covered. Discuss questions 2 and 4 on page 117 and note main points on the board.

Homework: Students to answer Question 4 in their notebooks.

Project work: Divide the class into groups and assign the following tasks to be completed in a week's time.

i) Look up and list in sequence the names of Israeli and Palestinian leaders along with the dates. the lists should be in two columns on a chart paper to be put up for display.

ii) Do research and list with brief description the events that have taken place in this region in support of the Palestinians from 2000 to date such as the Turkish ship bringing essential supplies for Palestinians during the Gaza blockade.

Students can consult the school library resources and newspapers, as well as the Internet.

Third period

The Middle East conflicts: The term refers to the huge area around the Gulf that includes Iran, Iraq, Saudi Arabia, Kuwait, Oman, Qatar, and the UAE.

The conflicts were because of its rich, oil resources. This region produces more than half of the world's supply of oil which makes its potential larger than that of the developed countries who wish to control the world's energy resources.

The Iran-Iraq War (1980–88): The main reason for the dispute was the boundary of the two countries along the Shatt-al-Arab River but Iraq invaded Iran after the overthrow of the Shah, a US ally. The war continued for eight long years with terrible loss. Some western regimes supported Iraq. Both countries accepted the ceasefire imposed by the United Nations.

The Gulf War (1990): Two years after the end of the war with Iran, Saddam Hussain of Iraq invaded the oil-rich kingdom of Kuwait, unprovoked. Arab countries opposed Iraq. The United Nation issued warnings. International forces led by USA, UK, and France attacked Iraq in 1991 and Iraq was defeated. Iraq also used chemical weapons against the Kurds in the north. The United Nations sanctions severely affected the Iraqi people, especially children (malnutrition and disease).

The war on Iraq (2003): Before talking about this war, discuss the background to it. In September 2001, the USA was targeted by the Al-Qaeda. The disaster known universally as 9/11 became the beginning of a series of attacks by the West, first on Afghanistan where the Al-Qaeda leader Osama bin Laden was supposed to be hiding and then on Iraq. The given reason for the war on Iraq was Saddam Hussein's refusal to cooperate with the IAEA (International Atomic Energy Association) and UNSCOM (United Nations Weapons Inspection Agency) especially after his use of chemical weapons against the Kurds. The incidents of September 2001 in the USA brought Iraq back into focus. The USA and UK claimed that Iraq was in possession of "Weapons of Mass Destruction" (WMDs) and they threatened attack despite worldwide anti-war protests.

Attacks on Iraq by USA and UK began on 20 March 2003 and continued till 14 April 2003. US forces occupied Iraq and set up an interim government. No WMDs were found. It was probably an excuse to go to war for other reasons. The country fell into chaos and destruction; Saddam Hussein went into hiding and was discovered nine months later, arrested, tried, convicted, and sentenced to death. He was executed in 2006. Discuss Saddam Hussain's execution, elections, and the new Iraqi regime.

Discuss the current situation. The British forces left Iraq and US troops withdrew to a base camp where they remained in case of an emergency; they left Iraq in 2011. check

Explain that in such wars, it is not so much the government but the common man who suffers most and so did the Iraqis. Also explain that despite the accusations of having WMDs, Saddam Hussein was a cruel and oppressive leader.

Conclusion: Students reading this text today may have been too young to know or even be aware of the post-9/11 events in the Middle East and in West and South Asia. It is necessary that this history is taught objectively. Recap the main points.

Reinforcement: Students should locate in the atlas (pages 40-41) the Middle Eastern and Gulf countries mentioned in this lesson. Discuss question 3 on page 117 and note the main points on the board for students' reference.

Homework: To answer Question 3 in their notebooks.

Fourth period

In this period, we come back to our own part of the world—Kashmir. Kashmir has been and is the cause of bitter relations between India and Pakistan. Ask the students when Kashmir Day is observed in Pakistan and why (on 5th February every year, to show solidarity with the Kashmiri people).

Describe the location of Kashmir and its topography. Then discuss its historical background.

For 500 years it was part of Muslim kingdoms until the 19th century. It was then seized by the Afghans. In 1847 it was annexed by the Hindu kingdom of Dogra. The majority of Kashmir's population is Muslim.

During the British rule of the subcontinent, Kashmir was the buffer zone between British India and Russia and China to its north.

Discuss what happened at the time of partition in 1947. The British offered three choices to the princely states: a) join India b) Join Pakistan or c) remain independent (hardly possible!)

Who was ruling Kashmir at the time? Sir Hari Singh, a Hindu, even though over 75 per cent of the population was Muslim.

What did Hari Singh want? To remain independent.

What was the reaction of the Muslims? They rebelled and the Pashtun tribesmen swept into the region.

What was Maharaja Hari Singh's reaction? In panic, he signed an accord to join India. This was expected. Explain the reasons: Muslim majority Gurdaspur was awarded to India, giving it an opening to Kashmir as well as land links to the rivers Chenab, Ravi, Sutlej and Beas. Explain that this control over the headwaters of the Indus tributaries has been an advantage to India. These events also reveal the intentions of the Indians and the British because the boundaries with India were confirmed o 16 August 1947—two days after independence.

How did India react? It entered Kashmir and there was a war between India and Pakistan (1948-49). The United Nations intervened and arranged a ceasefire in January 1949. But neither troops withdrew nor was a plebiscite held as proposed by the UN. A 'Line of control' was drawn with Pakistan in the North and West, and India in the South and North-east.

China vs India, 1962: Chinese troops invaded the north-eastern part of Indian-occupied Kashmir. China claimed the region as its own, under the name Aksai Chin (see the map on page 114 of the textbook.)

September 1965: There was another war between India and Pakistan along the line of control.

How did the war end? A treaty was signed by the two countries at Taskhent, Uzbekistan, to solve the problem through peaceful means, but border raids and skirmishes continued.

Talks begun in 1998 to solve the Kashmir issue ended abruptly when both the countries claimed to have nuclear weapons and tested their bombs. (Pakistan on May 28 1998 after the test by India)

1999, the Kargil episode: Pakistani troops and Kashmiri fighters entered Indian-controlled territory from Kargil, which developed into an eight week long war. Pakistan agreed to withdraw and an uneasy peace resumed.

Present situation: Talks between India and Pakistan continue periodically; direct air links and road links have been reopened within certain limits. However, the problem of self-determination for the Kashmiri Muslims remains unresolved and the oppression and atrocities continue in Indian-held Kashmir.

Take the lesson further by talking about subsequent events and new developments to improve relations with India. Ask the students to make a timeline. Help them get started by giving links to information sources (after checking them out yourself!).

Conclusion: Recap the main points of the lesson.

Reinforcement: Discuss questions 5 and 6 on page 117. Locate some of the places and rivers mentioned in the text on the map in the atlas (pages 8 and 9).

Homework: To answer question 5 in the notebooks, along with a map of the concerned area (see textbook page 114). Make a dateline of the Kashmir problem showing important events.

Fifth period

Bosnia: Look at the map of Europe on page 65 of the *Oxford School Atlas for Pakistan*.

Describe the historical background and composition of the country, and its population (textbook pages 115-116). After World War I Slovenia, Croatia, and Bosnia joined together to form Yugoslavia. An army of Resistance fighters grouped together under the communist leader, Josef Broz Tito. Yugoslavia remained intact till Tito's death in 1980. Then they broke up into different independent states. Muslims from Albania were massacred.

1999: Raids were carried out by NATO (North Atlantic Treaty Organization) on Yugoslavia because of the ill treatment of the Muslims especially in Kosovo. NATO forces restored peace and Serbs fled back to Yugoslavia.

The Yugoslav president Milosevic was tried for the terrible bloodshed, by the International Court of Justice in 2002, but died of a heart attack in March 2006 before the pronouncement of the verdict. It was hoped that he would be accountable for the death of more than 200,000 people. There is no fighting now.

Chechnya: Study the location of this country in the atlas. The majority of the population is Muslim. Discuss the historical background. It was a self-governing province under USSR. After World War II Chechnya was accused of helping the Germans and the Chechens were exiled to Central Asia, thousands of miles away. In 1957 Chechens were allowed to return but bitterness prevailed.

Chechenya declared independence in 1991; Soviet troops invade but were driven out. In 1994 the Russians attacked again and took over Grozny. A peace treaty was signed but the conflict erupted again in 1999. The Russians held on to the cities but not the countryside. 100,000 people were killed and four times as many were driven out. The Chechens resorted to terrorist attacks as a result. Technically, Chechnya is a republic in the Russian federation but in practice it is independent, at least inside the main cities.

Conclusion: Recap the main points of this lesson.

Reinforcement: Discuss the reasons for the conflicts in Bosnia, Serbia and Chechnya. What do you think is common between Chechnya and Kashmir? Both are Muslim majority regions under non-Muslim rule.

Homework: The worksheet is to be done for homework.

Divide the students into groups and assign research about the Central Asian and East European countries discussed on pages 115-117. Find out what their present status is and who the current leaders are.

1. Answer the following questions with reference to the Palestine conflict?

   a) Why is the city of Jerusalem/Bait-al-Muqqadas important to three main religions?

   b) What was the United Nations Resolution of 1947?

   c) When was the state of Israel announced?

   d) How were the Palestinians affected by the creation of Israel?

   e) How many wars have been fought since Israel came into being?

   f) What is 'Intifada'?

   g) What is the current position of the Israelis and the Palestinians?

2. a) What is the main reason of the Middle East conflicts?

   b) What led to the dispute between Iran and Iraq? What was the result?

   c) Why did NATO launch an attack on Yugoslavia?

3. Complete the statements.

   a) The Gulf War was fought in _____ between _____ and _____

   b) Saddam Hussain attacked the oil-rich kingdom of _____ in _____

   c) The war between Iraq and Iran began in _____ and lasted _____ years.

   d) USA launched its strike on Iraq in _____ on suspicion of possessing _____

   e) At the time of partition, the ruler of Kashmir was a _____ while the population was mainly _____

   f) The first war on Kashmir was fought between _____ and Pakistan _____ in _____

   g) In _____ the United Nations passed a resolution to hold _____ in _____

   h) Bosnia is part of a group of countries known as the _____

   i) The leader of Yugoslavia after World War II was _____

TEXT PAGES 118–125

Migration

The three main causes for migration today are:

i) Political—people move to another country because they fear or dislike the political system in their own country;

ii) Religious—to move where the majority of their co-religionists live or because they fear religious persecution in their own country;

ii) Economic migration—this is the commonest today. People move to countries where they think they can make more money or have a better lifestyle than in their homeland.

Perhaps ask if any pupils have relatives living abroad, permanently or on a job basis. Ask how they feel about living in a foreign country. What problems do/did they encounter? There are often considerable tensions, especially with the first-generation emigrants: the women, particularly, often do not know the language, and are unfamiliar with the customs and social life. They tend to cling together in limited areas, where shops selling familiar goods and foods are set up.

With the second generation there are sometimes problems of a different sort: younger people are often caught between different cultures—their traditional culture and customs at home, and western ones at school, and a particularly vexatious question among second-generation immigrants to the UK is arranged marriages: young people living in a more liberal society want to have the right to decide for themselves. There are also some areas where less educated locals resent the coming of immigrants, claiming that they are taking their jobs. This is rarely true—these extreme right-wing groups are usually already unemployed and/or unable to meet the job requirements.

The partition of the subcontinent resulted in the migration of millions across the border, from India to Pakistan and vice versa. An estimated eight million or more Muslims who had hitherto lived relatively peacefully with their Hindu neighbours migrated by train, on foot, by cart, by any means possible, to Pakistan, and six million Hindus migrated from what was now Pakistan to India. About a million people trying to escape were murdered by people of the opposite religion. The migrants had no homes or jobs and had to live as refugees in camps for a long time. While professional people like lawyers, doctors, bankers, etc. relatively quickly settled down as the new state needed their skills, the great mass of refugees were poorer people with few skills that were needed

The emigration to the oil states in the 1970s and 80s is very important to Pakistanis. Not only are they earning much more money than they could at home and sending this back to their families, but they are also learning technological skills. Better incomes allow them to provide a better standard of living and education to their next generation—economic and social uplift.

Immigration into Pakistan today is on a small scale: the refugee problem is different. Initially, refugees came from India at Partition and then later (1980s and after 2001) from Afghanistan. Many of the latter still live in camps, particularly those with no real

skills, while the more enterprising ones have found themselves work in the big cities. Pakistan has quite enough (6 per cent of the labour force) unemployment of its own, so that unskilled jobs are particularly difficult to provide.

Internal migration

Pakistan does have a migration problem—internal migration. This is the movement from the countryside to the towns and cities. This is common to most developing countries where the standard of living is so dramatically different in many cases. Outsiders see city life as some kind of paradise, but all too often what they find when they reach the urban areas is very different from what they had dreamed.

The reasons for migration and the situation of refugees are explained on pages 118–121. Remind pupils of the fact that one person in every 270 on earth is a refugee. The map on page 122 shows the main drift of migrations since the 1940s. The causes and effects of these movements have been explained in the text following the map.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 125:

1. This has been discussed in detail in the textbook and the teaching guide.

   The main migrations in the subcontinent after Partition were from Pakistan to Bangladesh and vice versa, after 1971 (though a very large number of Biharis continues to live in camps in Bangladesh); and from Afghanistan into Pakistan—perhaps the largest mass movement after Partition—in the 1980s and again in 2001–2. The Afghan refugee problem has not been solved really, as they continue to move back and forth across the porous border between the two countries.

   The wars and conflicts in African nations have led to migrations to safer parts of the continent as well as beyond. People from poor Asian countries are always trying to find ways to enter developed countries, mostly illegally, to find work.

   Reasons for migration today:

   (a) Searching for better jobs and standards of living—usually from underdeveloped countries to more developed ones

   (b) To find religious freedom—either to a country of their own religion or where there is total religious toleration

   (c) To look for political freedom—e.g. to escape a communist or an authoritarian system or to where there is freedom of expression

   (d) Escape from unstable countries where there are constant wars, usually civil wars with different groups fighting for power, e.g. Balkans, parts of South-east Asia, Africa (Somalia, Congo, Ethiopia and others), and parts of Latin America.

2. Pakistan has a serious problem with refugees because of various reasons: (a) at Partition millions fled from India; (b) successive waves of immigrants from Afghanistan when the Russians invaded, and when the Taliban took control, and now when an international force is trying to establish stability; (c) refugees from Kashmir.

3. Students to research further than the textbook and discuss the answer in class.

4. Women and children form the largest part of the refugees because their menfolk have either been killed, or have joined the forces fighting the invaders.

5. Problems facing refugees (a) no money—most depend on charitable organizations or government agencies; (b) accommodation—finding permanent housing for the many millions is impossible so that the great majority live in temporary tents in all sorts of climatic conditions; (c) education—it is almost impossible to provide any serious education for the millions of children, who are left to their own devices; (d) food, clothing supplies, and health care—again charitable organizations are trying to help; health care is a major problem as poor living conditions result in disease; (e) no employment and nothing to do all day tends to lead some people into crime or extreme behaviour and also results in psychological problems.
6. As explained in the textbook, people may leave their homes in the face of conflict and move to safer locations; they may be persecuted due to religious/ethnic differences; they move from the countryside to the cities in search of better jobs, more income.
7. Students to work in small groups to collect and compile data and share it with the class.

LESSON PLAN 16

Topic: Migration

Duration: Four periods (40 minutes × 4)

Objectives:
- To understand the meaning of migration/immigration and to distinguish between types of migration and their reasons
- To look at the problems of refugees, and organizations designed to help—Red Crescent/Cross, Medicins Sans Frontiers, etc.

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, and Internet

First period

Introduction: The students are aware that a large number of Pakistanis work outside their own country—in the Gulf States, UK, USA, and other European countries. Hence talk to them if any relatives are working overseas and the reason for this decision; the discussion will arouse their interest. Ask them why people are willing to leave home and go overseas. (Mostly for economic reasons) Write the topic 'Migration' on the board.

Explanation: Discuss the difference between migration, immigration, and emigration. Refer to the opening definitions in the textbook (page 118). For example, people migrated from India to Pakistan and vice versa at the time of partition. After World War II, many people from the subcontinent and other colonies emigrated to the UK and Europe for economic reasons. Compare the wages in Pakistan and UK. Talk about skilled and unskilled labour.

Discuss the advantages of emigrating to the UK or USA. (For example, having a basic knowledge of English is an advantage as there is no language problem.) Many Pakistanis do not prefer to go to other European countries because of the language problem.

Point out the reason for Islam being the second largest religion in the UK after Christianity—it is because there are a large number of Muslims from Pakistan and Bangladesh living in Britain.

<u>Emigration to the oil states:</u>

In present times, huge numbers of Pakistanis have emigrated to the oil states of Saudi Arabia, Kuwait, Qatar, and the UAE. The reasons are i) the growing economy, ii) opening up of new jobs and iii) the highly

attractive salaries. Discuss the remittances sent by Pakistani workers to Pakistan, which are an important source of foreign exchange reserves.

However, the other side of emigration is that the immigrants are often the target of dishonest 'agents' and should be extra cautious against such people. Ask the students whether they are aware of the frequent news reports about 'illegal immigrants' and worse still the sad fate they meet—either being arrested and deported, thus losing hundreds of thousands paid to the agents, or worse still, meeting untimely and horrible deaths because of terrible transport conditions.

Conclusion: Recap the main points of this lesson.

Reinforcement: Discuss question 1 on page 125.

Homework: Read the text on pages 118 and 119; answer question 1 in the notebooks.

Second period

The students are aware of the movement of Muslims and Hindus between India and Pakistan immediately after partition of the subcontinent in 1947—five to six million Muslims entered West and East Pakistan. There were many who were escaping from disaster and death, but there were also many who had struggled for the new country and made it their home. In the 1980s and again from 2001 onwards huge numbers of Afghans migrated to Pakistan because of the Russian invasion, civil wars, and post-9/11 attacks by the USA.

The number of refugees from Afghanistan to Pakistan was two to three million people. Discuss their condition in the refugee camps and how the economy of Pakistan was affected. Explain the aftermath of the events of 9/11 in the USA, which brought a new influx of refugees into Khyber Pakhtunkhwa and western Balochistan.

Consult the textbook (pages 119–120) for more details.

International Migration: Discuss the main reasons for migration.

a) Economic: people from underdeveloped or developing countries move to developed countries for a better standard of living. This is also called "push and pull factor".

b) Religious: due to religious persecution people from such countries migrate to countries where there are no religious restrictions or to countries where their religion is the main one.

c) Political: when people are persecuted for their political views they seek asylum in other countries, where there is more freedom of expression, or to a country which has the same ideology.

d) War: people from war zones flee to other countries for their security.

The refugee problem is considered serious because:

a) About one person in every 270 in the world is a refugee. (The world population is seven billion plus.)

b) South Asia has a quarter of the world's refugees, mostly in Pakistan and Iran.

c) Africa has 41% refugees, mainly Africans fleeing from civil war and war crimes in their country to a safer place in Africa.

d) Europe has 21% refugees, mainly from neighbouring Asian and African countries.

e. The saddest plight is of the Palestinians who for nearly 40 years have been forced out of their homes. (The students have already studied about the Israel-Palestinian conflict in the previous chapter.)

Explain the role of volunteer organizations as well as the UN in dealing with the problems faced by the immigrants and refugees as well as their host countries. Ask the students to name such organizations and to research for more detail about them such as where their headquarters are located, what work they do, what dangers they face (especially when they enter civil war zones), etc.

Conclude by recapping the main points of this lesson.

Homework: Question 2 on page 125 is to be answered in the notebooks.

Third period

Recent important migrations: the text and map on pages 122 to 125 briefly list, in sequence, and show the major movements of people across the world along with the reasons behind these mass migrations.

Read the text with reference to the map to point out the directions in which people moved.

1. Chechnya to Central Asia (1940): Explain who Stalin was and what policies he made and followed, and what the results have been. (People were forced to give up their surnames and thus their identity; they were forced to move to strange new places; they were not allowed to practise their religion.)
2. India – Pakistan-India (1947–50): More than 15 million people were affected because of the Partition. The Muslims migrated to Pakistan and the Hindus to India. This is regarded as one of the largest migrations in the world. Explain how Mr Jinnah and Mr Gandhi reacted to the violence that followed. Explain that when large numbers of people are caught up in such a situation, a mob mentality takes over and instead of acting with reason, people become emotional and react.
3. China to Taiwan, the USA, Australia and Europe: Explain the reason: the war between Communist China and Nationalist China (1948-50). The Nationalists fled from China to Taiwan claiming it as the real China, and also to other parts of the world. (Textbook page 123)
4. Caribbean to the UK (1950s): UK was short of labour after World War II. It encouraged people from the Caribbean to come to Britain. Page 123 of the textbook has details. (Many people from the former British colonies, especially the subcontinent, were encouraged to go to the UK for similar reasons.)
5. Turkey to Germany (1950s): Reason: Germany needed workers after World War II. It invited Turkish 'Guest labourers'. For details consult page 123 of the textbook.

Conclusion: Using an atlas, recap the events covered in this lesson. Ask the students to locate the countries from which people migrated and the countries to which they migrated.

Reinforcement: Ask short questions to ensure understanding of the terms immigration and immigrants, emigration and emigrants, migration, and refugees.

Fourth period

6. West Africa to the UK (1950-60s):

Reason: Political instability and civil wars in the home countries forced families to seek refuge in safer places. See page 123 of the textbook.

7. North Africa to France, Spain, and Italy (1950s and 60s):

Reason: The North African countries were colonies of France (Morocco, Algeria, Tunisia) and Italy (Libya), but after World War II the colonial powers had weakened and their colonies rose up in protest. There was

a lot of political instability and civil war in some places. Many people from these countries moved to Europe, even after gaining undependence.

8. Central Africa to all directions in Africa:

Endless wars by military leaders to gain their tribal superiority; instability and violence forced many people to flee in whichever direction they could. There are horrifying stories of violence and bloodshed, as in Uganda under the dictator Idi Amin. Consult page 124 of the textbook.

9. Vietnam to the USA, Australia, and other places (1970s)

Reason: The long-drawn war between Vietnam and USA (1965–75) led to the exodus of millions from this war-torn region to other safer places. They used whatever marine vessel they could find, and were known as 'boat people'. Discuss the details from page 124 of the textbook. Help students to research this war which killed hundreds of thousands of Vietnamese as well as Americans, and yet it was the Viet Cong from the North who won. It is a topic for discussion and understanding that war does not solve a problem: instead, it creates further problems.

10. Afghanistan to Pakistan (1980s–90s)

Reasons: Two decades of warfare against invaders, civil war, warlords, and terrible drought followed by the events of 9/11 in the USA resulted in the flight of millions to neighbouring countries as well as further west over the years. Read about the main reason for the US invasion of Afghanistan and, later, Iraq on pages 124–25.

Who helps the refugees? The United Nations, Red Crescent, Red Cross, and Medicins Sans Frontiers (Doctors without frontiers) are some of the organizations that extend support to refugees and war-afflicted communities across the world.

Conclusion: Repeat the main points. Discuss questions 3, 4, 5 and 6 on page 125.

Reinforcement: Explain the terms 'Stalinization' (info. on page 122 of the textbook), internally displaced people (IDPS) and 'seeking asylum'. Explain what 'internal migration' is—movement of people from countryside to cities' such as people coming to Karachi from different parts of the country in search of a livelihood.

Homework: Question 3 is to be answered in the notebooks. The worksheet may also be done. Project work: The class can be divided into groups to work on Question 7 and prepare their presentations in a week's time.

1 Match column A with column B

a) Economic migrants	i) seeking asylum
b) Religious migrants	ii) for a better future
c) Political migrants	iii) to escape persecuted because of religious beliefs.

2. Choose the correct answer:

a) One person in every _____ in the world is a refugee.

i) 100 ii) 150

iii) 50 iv) 270

b) South Asia has _____ of the world's refugees.

i) one half ii) a quarter

iii) three quarter iv) 35%

c) _____ of the world's refugees are in Africa.

i) 20% ii) 50%

iii) 41% iv) 75%

d) Europe has _____ of the world's refugees.

i) 15% ii) 30%

iii) 21% iv) 10%

3. Write short answers to these questions.

a) Explain what is meant by 'seeking asylum'.

_____

b) In which industries do the migrants to the Gulf States work?

_____

c) What does the term 'IDPs' mean? Give an example.

_____

d) Why do people move from the countryside to the cities?

_____

e) What kind of work did most Caribbeans do in Britain?

_____

DEMOCRACY AND HUMAN RIGHTS

TEXT PAGES 126–134

It might be worth mentioning that in the UK and USA, the Magna Carta, the Great Charter which the nobles of England forced King John to sign in 1215, is the basis of democracy. But this was really democracy only for the nobles: for the ordinary people it took another 600–700 years. Even now there are omissions, although in theory these are in place. Perhaps pupils could talk about this—is real democracy ever achievable?

The Greek assembly met 40 times each year and each person was allowed to speak once, if he wanted to. But the real decisions were taken by a small group.

The Roman system was more like the present system in Pakistan, but only free men were allowed to vote for candidates for their district. The candidates were of course all wealthy noblemen.

Government chosen by the people: should people be free to vote or not as they like, or should it be compulsory, as in Australia?

The same justice for all: should a rich person be allowed to hire a brilliant lawyer to run rings round a jury and possibly get him off?

The independence of the judiciary is important because in some countries the judges are under the control of the government which can then force them to do their wishes like sending opponents to prison, etc. In a democracy the judges and courts are independent of the government. The government makes the laws but the judiciary can overrule them if it thinks these laws do not conform to the constitution.

How much freedom of speech should people have? Should they be able to talk in public or write in papers criticizing the leaders? The religion? Other races? Should people be allowed to meet freely to discuss anything, as long as it is legal?

What should be done in a democracy if a leader is elected who immediately banishes all freedoms? Do not forget that Hitler was elected democratically.

Have we been able to achieve all or some of this? These are some points for discussion as it will yield interesting responses and also be an interactive and hands-on way of learning.

Great humanitarians

Only a few notable figures from the 20th century have been presented here, but obviously there are more individuals and organizations too that have been striving for human rights and freedom of oppressed peoples. Arundhati Roy of India, for instance, is one such person and Corazon Aquino of the Philippines was another.

Perhaps students can be guided to look up information on such personalities and institutions, both national and international, and present their findings as a group project or display.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 134:

1. Democracy means 'rule of the people'. This does not mean everyone can do as he or she likes, but must consider, and tolerate, the opinions, and religious, political, social beliefs of others. Extremes of poverty and wealth incite jealousy and envy, and can lead to social problems, and even rioting. Education is vital as people need to be able to read to get news and information, and to get rid of traditional old wives' tales about almost everything. So much of modern society depends on the written word that people must be able to read.

   The benefits of democracy come at a price: people must be prepared to exercise their rights in such matters as voting. They cannot justly complain about society if they are not prepared to bother to elect their representatives at all levels.

   In emergencies e.g. natural disasters, conflicts, etc. democracy can seem slow to make decisions as so many people and parties have to be consulted. A single ruler or dictator can make these decisions instantly.

2. Students can collect information from various sources such as newspaper archives and the Internet. Mandela's autobiography, The Long Walk to Freedom, is an engrossing and admirable account of an exemplary life.

3. Qualities that made Ataturk a successful leader of Turkey: sympathetic, focused, abolished obsolete laws and customs, made Turkey a secular state, took steps to educate people, etc. Ataturk succeeded in bringing his nation into the modern world and equipping it to survive successfully. Details are given in textbook and students can also research for more information.

4. Reference and research work for students, using news magazines, newspapers, and the Internet.

5. Again, this requires research by the students. Some of the organizations operating in Pakistan are the Edhi Foundation, Ansar Burney Trust, Dar-us-Sukoon, The Citizens' Foundation, The Jinnah Foundation, Infaq Foundation, and several local as well as international NGOs. Help students find out more by doing a little preliminary research to guide them.

LESSON PLAN 17

Topic: Democracy and human rights

Duration: Four periods (40 minutes × 4)

Objectives:
- To explain the meaning of democracy, and what it involves
- To inform about international human rights and aid organizations

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet

First period

Introduction: Students know what is meant by democracy as they have studied this in the previous class too. They have some idea of how democracy works and are familiar with elections held in the country. They would also know about the different political parties in the country and their leadership. To brainstorm ask the following questions.

1. Name some democratic countries of the world (India, Japan, Turkey, European countries, UK, USA, Canada, Brazil, Argentina, etc.)
2. Discuss how people elect their representatives in a democracy.

3. Ask the students to name some fundamental rights given in a democracy. (The students have already studied about fundamental rights in the previous chapter, United Nations.)

Introduce the topic and write 'Democracy and Human Rights' on the board.

Explanation:

Democracy: Define the source of the word 'Democracy' which comes from two Greek words 'demos' and 'kratos'. Discuss how the Greeks practiced democracy in their country. It was a restricted democracy as women and slaves who were in the majority were not allowed to discuss laws and vote on them; only 10,000 free men were allowed to do so.

Explain Roman democracy and compare it with Greek democracy. Clarify how the Roman government worked.

Explain that when Pakistan was established Quaid-e-Azam and the Muslim League wanted to have a democratic form of government in the country. Discuss whether this has been achieved and to what extent. Explain why democracy has not matured in Pakistan. Explain how it took England almost 700 years to achieve democracy. Discuss the role of the French Revolution, Industrial Revolution, and World War I in the evolution of democracy. Describe what the essentials of a democracy are.

- Government to be chosen through elections.
- Rule of law and order. Without it fair elections cannot be held.
- Justice for everyone.
- Separation of the judiciary from the executive. Discuss how a fairly independent Judiciary has been achieved in Pakistan.
- Freedom of speech, religion, and meetings. Explain these points extensively through discussion.

Some of the conditions for a democracy to flourish are:

1. Stability: Explain what is meant by stability. There is no division on the basis of ethnic, racial, or religious beliefs. Respect for other's beliefs.
2. Class difference: Explain that this refers to the differences between the rich and the poor. If the difference is great, it will harm democracy—the rich will dominate the poor and exploit them.
3. Education: People should be educated because educated people know their rights and duties. This is essential for a real democracy—compare the situation in developed western countries with recent democracy in developing countries where the literacy rates are low.
4. Exercise of democratic rights e.g. voting. People should be responsible and know the people to exercise their democratic rights through voting in elections.

Conclusion: Recap the salient points.

Reinforcement: The conditions for democracy may be discussed in context with the subcontinent—can we have a successful democracy in Pakistan?

Students should read through text on pages 126-127.

Second period

Great Humanitarians: Ask what is meant by humanitarians. These are people who work to improve the living conditions of their countrymen, and the world in general. They have fought for the fundamental rights of their people and have helped in stabilizing democracy. It is because of them that the world is a much fairer and more just place than it was in the past.

Ask the students to name some human rights leaders of the 20th–21st centuries. Discuss the discrimination against the black people in Africa. Talk about the great African leader, Nelson Mandela. Give a brief account of his life. Who was he? He was an African lawyer, a politician, and a statesman.

Discuss his struggle against the white regime and their discriminatory policies in South Africa, and how he brought independence to his people. Explain what 'apartheid' is, from page 127 of the textbook. Talk about the atrocities suffered by Nelson Mandela and his being sentenced to life imprisonment. Give details of Mandela's political party, the African National Congress (ANC) which was banned and how even the United Nations' resolutions were ignored.

Explain the role of F. W. de Klerk, a liberal, white president who lifted the ban on ANC and released Mandela. Mandela became the president after the elections of 1994 with de Klerk as his vice president. Discuss the peaceful transfer of power. Mandela resigned in 1999, but his influence continues throughout the world.

Encourage students to read more about Mandela and other great people like him who are an inspiration for the world.

Aung San Suu Kyi (1945–): She is a political activist and leader of Burma which is now known as Myanmar. Tell the students about her family background and the tussle between the military and the National League for Democracy (NLD), a party formed by Aung San Suu Kyi.

She won the elections in 1990 but the military did not allow the parliament to function and Suu Kyi was put under house arrest. She was awarded the Nobel Peace Prize in 1991, but was not allowed to collect it. Discuss the role of the army and the problems faced by Aung San Suu Kyi—her husband who was dying was denied entry into Burma and she was unable to be with him in the UK as she would not have been allowed to enter her country again. Suu Kyi was released in November 2010.

Suu Kyi has received several awards for her struggle for democracy in Burma. In April 2012, she was elected to the Burmese parliament and her party, the National League for Democracy, won a majority.

Conclusion: recap the main points of the lesson.

Reinforcement: The students should look up more about Burma, now called Myanmar—its location, the capital city, its history and any further interesting facts.

Homework: Read pages 130 to 132. Students to work on question 2 from page 134 as instructed.

Third period

Kemal Ataturk (1881–1938): Ataturk means 'Father of the Turks'; discuss why this title given to Mustafa Kamal Pasha was apt for him. Tell the students about his family and educational background. He was a soldier, a nationalist, and a statesman. Discuss his role in World War I when he fought against the Italians, and then he supported the Germans in defeating the forces of Britain, France, and Australia at Gallipoli in 1915. Also talk about his fight against the Greek invasion in 1919 and the establishment of a rival, provisional government in the village of Ankara in the north when the Turkish government gave away part of the country. He was elected president in 1923 and turned Turkey into a modern, western state. Ataturk was a great admirer of the West for its education and development and he revolutionized Turkey by imposing western ways and banning traditional dress and culture, and making education comulsory.

His reforms: He declared Turkey a secular state. He abolished Islamic laws and substituted them with western laws. Give details. Men's fez and women's head scarves were banned; he introduced the western calendar. Education was the keystone of his reforms. The Arabic script was replaced by Latin script. Explain that English is written in Latin script. He ruled autocratically, though his government was an alliance of a number of political parties.

Martin Luther King (1929–68): He was a black Baptist minister (explain Baptist and minister, religious terms) who led the civil rights movement and fought for justice for the coloured people in USA. Discuss the condition of the black people in America until the 1960s. King fought for the abolition of discriminatory laws. His visit to India and the influence of Gandhi's ideology of non-violence caused him to adopt the same ideology to secure the rights of coloured people in the USA.

Explain how he brought gradual changes in the USA. Discuss his arrest and nationwide fame, his peaceful protest in 1963 in Alabama; imprisonment and release; his letters from the jail. Talk about his March to Lincoln Memorial in Washington in which a quarter of a million people joined him. His famous 'I have a dream' speech made him famous as an orator. He was awarded the Noble Peace Prize in 1964 but he was assassinated in April 1968.

His achievements: A major civil rights bill was passed by the federal government, giving equal rights to all the people.

Conclusion: Recap the main points of this lesson; discuss how Kemal Ataturk and Martin Luther King brought about changes in their countries.

Reinforcement: Encourage the students to do research on the personalities discussed in this lesson.

Homework: Students to write the answers to question 3 and the given question in their notebooks.

Question: What was Martin Luther King's dream and how did he achieve it?

Fourth period

Yasser Arafat (1929–2004: He was a guerrilla leader, politician and statesman who fought for the rights of the Palestinian people. Discuss his movement, Al-Fatah and his role as chairman of Palestinian Liberation Organization (PLO) and then president of the Palestinian National Authority till his death. He used confrontation, peace, and diplomacy to achieve his goals. He signed the UN Security Council Resolution 242 to work towards peace and end the Arab-Israeli conflict. In 193, he along with Yitzhak Rabin of Israel, signed the Oslo Peace Accord, placing the West Bank and Gaza Strip under Palestinian rule. Arafat and the Israeli Prime Minister were awarded the Nobel Peace Prize in December 1994. Arafat died in 2004 after a long illness, the cause of which is disputed.

Now the United Nations has taken over the task of resolving humanitarian issues. Name the agencies that are working for this purpose. (Consult the textbook page 133).

Other Agencies working for Humanitarian Rights:

1. Red Crescent and Red Cross: Explain that these are international organizations (Red Cross is known as Red Crescent, *Hilal-e-Ahmer*, in Muslim countries); they provide relief to victims of war and natural disasters. Their concern is the treatment of war detainees; they ensure that they are treated humanely.

Medicins Sans Frontiers: They help the sick and the wounded throughout the world. It is an association of doctors, nurses, and other medical staff.

Charity Organizations: They belong to religions organizations and provide relief to suffering humanity, e.g. NGOs and Oxfam.

Conclusion: Recap the main points.

Reinforcement: Research about Nobel Peace Prize on the Internet and make a list of the winners during the decade (2000 to 2010). The students can also read the speech of Martin Luther "I have a dream", on the Internet.

Homework: Question 5 from page 134 to be answered in the notebooks. The worksheet can also be done.

1. Answer these questions:

   a) Who defined democracy as the "Government of the people, for the people and by the people?

   b) Which are the two Greek words from which the word 'democracy' is derived?

   c) Write down the first five important aspects of democracy.

   d) Write very briefly about the four conditions essential for democracy to flourish.

2. Complete these statements:

   a) _____ brought independence to South Africa.

   b) Apartheid means _____.

   c) ANC stands for _____.

   d) F.W.de Klerk abolished the apartheid laws in _____ and became the _____ of South Africa.

   e) Aung San Suu Kyi is a _____.

   f) Aung San Suu Kyi was awarded the _____ in _____.

   g) The man who modernized his country _____ was _____.

   h) The _____ movement in the USA was led by _____.

   i) _____ was killed in _____ in 1968.

   j) Yasser Arafat's name is synonymous with _____.

   k) PLO stands for _____.

   l) The Oslo Peace Accord was signed by _____ and _____ in _____.

CHAPTER SEVENTEEN

WORLD TRAVELLERS

TEXT PAGES 135–138

This chapter introduces the students to some famous travellers from the past. They are important, besides being interesting, because they opened up the routes to remote places for later travellers, merchants, and adventurers. They also brought back amazing accounts of distant places and different peoples and their way of life. Remember the value of such information at a time when it took months for news to reach people. Their voyages ultimately resulted in opening up business links between various countries and also brought an exchange of cultures and knowledge.

The three figures discussed in this chapter are notable because of the impact of their travels and discoveries on life in Europe. They are Marco Polo, who went east to China along with his father and his uncle. They travelled overland, along the Silk Route. This opened up trade with China and the Far East and also many new and useful systems and practices (see page 136). Another voyager who made a very important discovery for his time was Bartolomeo Diaz, who sailed along the African coast and around the Cape of Good Hope on the way to India and the east. However, he had to turn back because his men rebelled.

The next, and most famous, voyager was Christopher Columbus who set out seeking a new route to India, but landed on the islands off the east coast of the American continent. Believing they had reached their destination, they named these islands West Indies. The new land discovered was named America by Amerigo Vespucci, an Italian navigator who made a map of the new continent and named it after himself!

ANSWER TO QUESTION IN TEXT, PAGE 136:

This point on the tip of southern Africa was called the Cape of Good Hope, an apt name as it indicated the good chance of the ship's moving towards its destination, India. Diaz originally called it Cape of Storms, for obvious reasons, but it was later renamed Cape of Good Hope by King John II of Portugal because it offered good hope of a sea route to India, bypassing Turkish territory.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 138:

1. This opened up new routes and brought new countries and their riches within reach of the Europeans.
2. Having reached the American continent, Vespucci may have realized that the lands were not India or China perhaps because the people were totally different with a totally different lifestyle. The difference in flora, fauna, and people may have convinced him that this was not Asia or India, but a new land mass.
3. They introduced Europeans to completely new products e.g. tobacco from America, and fragile items such as pottery and furniture from Asia; increased supply of fabrics and spices, so that the prices of these fell in Europe, and stimulated conflict among European nations—Spain, Portugal, Holland, France, Britain—to get the lands as colonies.
4. Students to do this task with teachers' guidance.

LESSON PLAN 18

Topic: World travellers
Duration: Two periods (40 minutes × 2)
Objectives:
- To discuss the importance of early travellers and their discoveries
- To inform the class about Marco Polo, Columbus, and Vasco da Gama, particularly with relevance to Asia

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, newspaper, encyclopedia, Internet

First period

Introduction: Talk about the hardships faced by the merchants, businessmen, and other travellers during the time when rapid means of transport like railways, airplanes, ships, etc. were not invented. People were not aware of countries beyond the places they lived in nor were they aware of the routes that would take them to their destinations. Yet, some travellers in the past covered distances that were enormous even by today's standards. Write the topic "World Travellers" on the board.

Exploration: Ask the students to name some of the travellers they have studied about in their previous classes. Ask them the names of some Muslim travellers (Ibn Batuta, al Beruni, etc.) Ask the students if they know about the traveller who wanted to reach India but instead discovered America (Christopher Columbus) or about the one who succeeded in discovering the route to India by sea (Vasco da Gama).

Marco Polo (1254–1324): Marco Polo was an Italian merchant, a little before Ibn Batuta's time.
He travelled through Central Asia to China using the Silk Route which was in use by a large number of merchants and businessmen. Use the textbook (page 135) to give a family history of Marco Polo, who traded in Constantinople.

Discuss why they travelled eastward, to Central Asia, Afghanistan, Tibet, and Mongolia. Use the *Oxford School Atlas for Pakistan*, maps of Asia pages 36–37 to locate these places.

Tell the students that the Polos took three years and a half years to reach the capital of China (now near where Beijing stands). Compare the time taken by a plane journey today. Discuss why the Polos were important to the Mongols.

Kublai Khan, the Mongol ruler, refused to give them permission to return to Europe. So they stayed in China for 20 years. But in 1292 permission was given for them to return Italy accompanying a princess to Persia, where she was to marry a prince. Discuss about the disaster they had to face. They reached Italy in 1295, after three years.

Marco Polo was offered the position of captain of a Genoese warship but this proved unlucky as he was captured during a war between Venice and Genoa and was imprisoned.

What did he do in prison? He dictated his adventures to his fellow prisoner. Thus the Europeans learnt for the first time about Asia, its people and their life style. They also learnt about the postal service with a series of riders, the use of coal as a fuel, and about paper money in China. As a result of Marco Polo's adventures merchants and explorers tried to find a route to the East by sea, one of them being Christopher Columbus.

Discuss why the Europeans were so desperate to find a sea route to the East. it was to avoid the Turkish rulers who taxed the merchants.

Talk about the common belief about the Earth in those days—people thought that the Earth was flat like a plate. But there were a few who started to think that it was round like a ball. Tell the students that the people also believed that the Sun revolved around the Earth and anyone who denied this was punished! Bartolomeo Diaz (1450–1500), also spelt *Bartholomew*, was a Portuguese explorer who tried to find a route to the east, to India and further on. He sailed down along the African coast and rounding the southernmost tip, he realized that the Sun was rising from the right instead of the left as when they were moving south. This meant they were sailing north. However, he could not continue further because of mutiny among his men (explain 'mutiny' i.e. rebellion). Discuss the details of his journey from the textbook, page 136.

Conclusion: Recap the main points of this lesson. discuss questions 1 and 2 on page 138 nad note salient points on the board.

Reinforcement: Ask the students to find more detail about these figures—Marco Polo, Columbus, Amerigo Vespucci, and Diaz--from the school library and encyclopedia resources.

Homework: Questions 1 and 2 on page 138 to be answered in the note books.

Second period

This period will cover one of the most interesting explorers of his time. His discovery left a lasting impact on the geography and history of the world, but the interesting fact is that he himself did not know its importance!

Christopher Columbus (1451–1506): He was an Italian working in Portugal, for his brother who was a map-maker. Columbus believed that the Earth was round and that he could reach Asia by sailing westward across the Atlantic Ocean. (Check the world map in the *Oxford School Atlas for Pakistan* on pages 70 and 71 for Portugal, Spain, and the trans-Atlantic and trans-Pacific routes.) Explorers need financial help and support, in all ages, and Columbus hoped that the monarch would help him in finding an alternate route, but the Portuguese king refused. However, the king and queen of Spain agreed to help him and provided the ships. Give the details of the journey from page 137.

Where did they reach? A small island in the present Bahamas (see page 57 of the *Oxford School Atlas for Pakistan*, extreme right at the bottom, or use the Gazetteer). As he believed he had reached his destination, these islands were called 'West Indies', a name they have to this day. Discuss his second and third voyages too. He actually saw the mainland of South America but believed it was the coast of India! Explain his last expedition when he landed at Panama, (look at the world map to find Panama's location) and also discuss what problems he faced on his return and why.

Columbus died in 1506 and never realized that he had discovered a new continent. He believed that he had discovered a quick route to China and India.

Amerigo Vespucci (1454–1512): He was an Italian explorer who, at the invitation of the Portuguese king, participated in several trans-Atlantic voyages and sailed along the east coast of South America, between 1499 and 1502. He realized it was not Asia, but a new continent. In the letters he wrote during this period, and which were also published later, he describes the people, flora, fauna, and the land discovered. In 1507 Martin Waldseemuller made a world map showing the new continent which he named America after Vespucci's first name, Amerigo. In 1508 Vespucci was appointed the chief navigator of Spain. Vespucci died in 1512.

The other explorer of this period, who was most successful and made an important contribution, was Vasco da Gama (1469–1524). He was a Portuguese sailor, who ventured to find the sea route to the East. Describe the route of his expedition; for details see pages 137–138. When he reached Kenya, he was

guided to India by an Arab sailor. He reached Malabar Coast in India. He died in 1524 in India during a later voyage as the envoy of the Portuguese king.

The results of these discoveries were very important for trade between Europe and the East because

- the Europeans now had access to the eastern countries without having to go through lands controlled and taxed by the Turks and other Muslims.
- the kind of goods that were traded changed because ships could now carry heavy weights in large quantity.
- goods were carried directly from Asia to Europe.
- the centre of trade moved from northern Italy to the Atlantic coast—Spain, Portugal, England, and France. See the European continent on the world map and also discuss why the Mediterranean route was not so useful at this time (because there was no passage like the Suez Canal through land to the seas).
- trade between East and West increased rapidly.
- Europeans wanted extremely rare and expensive items like spices, jewels, silk, fine cotton, high quality steel for weapons, rice, oranges and lemons, and fine pottery, while the Asians wanted guns, which were more developed in the West.
- Asians wanted payment in gold and silver of which America and Europe had plenty because of the huge reserves in the American colonies.

Conclusion: Recap the main points.

Reinforcement:

1. Collect more information about Vasco Da Gama and his voyages.
2. Research and collect more information about Kublai Khan, the Mongolian ruler.

Homework: Questions 2 and 4 from page 138 are to be answered in the notebooks. The worksheet may be done too.

Project work: The students have learned about Ibn Batuta and al-Beruni in Book 2, Class 7. Divide them into groups to research these explorers and compare their voyages, discoveries and contributions with those of the European explorers in this chapter.

1. Answer the following questions:

   a) Who was Kublai Khan?

   _____

   b) What does 'baumwolle' mean?

   _____

   c) Give the name and length of Columbus' ship, given to him by the Spanish king.

   _____

   d) What was the name given by Columbus to the Bahamas and why?

   _____

   e) List any two major changes following the voyages of discovery.

   _____

2. Complete the following statements by writing the correct answer:

   a) Marco Polo was a/an _____

      i) Englishman ii) Portuguese

      iii) Dutch iv) Italian

   b) It took Marco Polo _____ to reach China.

      i) 3 months ii) 3.5 years

      iii) 13 years iv) 6 weeks

   c) The Mongolian ruler of China when the Polos were there was _____

      i) Mao Zedong ii) Changez Khan

      iii) Kublai Khan iv) Timur

   d) Bartholomew Diaz was a/an _____

      i) Thinker ii) Explorer

      iii) Scientist iv) Astronomer

   e) Christopher Columbus was searching for another route to _____

      i) the North Pole ii) Antarctica

      iii) Australia iv) India and China

   f) The newly discovered land was named 'America' after _____

      i) the king of Spain ii) Amerigo Vespucci

      iii) Columbus iv) Vasco do Gama

   g) The Malabar Coast is situated in _____

      i) Kenya ii) China

      iii) Indonesia iv) India

CHAPTER EIGHTEEN

EXPLORERS, SCIENTISTS, AND INVENTORS

TEXT PAGES 139–147

This chapter gives a brief overview of the contribution of some remarkable individuals of the 19th and 20th centuries. These men and women enhanced our knowledge of the world, science, and technology. They gave us products and ideas that have changed the way we live, travel, think, and more.

The explorers were driven by a sense of curiosity as well as adventure to dare, as it were, where no one or few may have gone. Their discoveries and accounts led the way to later exploration and the opening up of the lands.

Livingstone: Although he failed in his great ambition to discover the source of the Nile, he did discover a number of other geographical features. His main achievement was to open up the centre of Africa (then totally unknown to the West) to later explorers. Get the pupils to find the Nile and trace it back to its source (Oxford School Atlas for Pakistan, page 62). Though confusing as the river has many tributaries, but it generally accepted that the source of the Nile is Lake Victoria (Uganda).

The first men on the Everest: It is interesting that once a seemingly impossible task has been done, like reaching the summit of Mt Everest, it seems so much easier. Today several hundred people have done it—on one day 40 people stood on the summit.

In 1924 two Englishmen, a school teacher and a student, Mallory and Irvine, set out to climb the Everest. They had no oxygen, no radio (which had not been invented in a portable version), and no modern mountaineering equipment. They wore just thick everyday walking clothes. Their support team watched them from the base camp through telescopes and last saw them a few hundred feet from the summit, still climbing upwards. Then heavy cloud came down, and they vanished. 75 years later (1999), a lost climber on Mt Everest came across a perfectly preserved body: the name tags on the clothing showed it was Mallory. A desperate search for his camera began, because it could have the film showing if they had reached the summit. So we may never know if Hillary and Tensing really were the first people on top of the world.

There are more people in the past, and at present, whose discoveries and inventions are invaluable: perhaps students can be guided to do some research on other personalities and put up a display for the class.

Before Bessemer, steel was extremely expensive and made only in very small amounts. Most of this was used for weapons, in making swords, where its strength and hardness were essential. Bessemer's process of making cheap steel by blowing air through great furnaces of molten iron was really the key to the Industrial Revolution and to our modern world, which could not exist without millions of tonnes of steel every year,

Robert Koch: There are stories that during the Crusades, when the Europeans fought the Arabs for control of Palestine in the 12th–14th centuries, they saw the Arabs putting what seemed to be mouldy bread on the wounds of their soldiers. It seems almost certain that the mould was penicillin. When the Crusaders tried this, sometimes it worked, sometimes not—they did not realize in those times that they did not have the right mould.

ANSWERS TO QUESTIONS AND ACTIVITIES, PAGE 147:

1. Although Livingstone failed in his great ambition to discover the source of the Nile, he did discover a number of other geographical features. His main achievement was to open up the centre of Africa (then totally unknown to the West) to later explorers.
2. Map work to be done individually by the students.
3. No one knew if living creatures could stand the stress of being launched into space, so the Russians trained and sent a stray dog named Laika into space. She survived the launch, but died after a few hours in orbit because the cooling system on the satellite broke down. But it showed that living creatures could survive the shock of the launch. Laika was launched into space on November 3, 1957 in a Soviet spacecraft named Sputnik 2.
4. The jet engine has revolutionized air transport (a) by making it much faster—propeller-driven planes can fly at about 400 kph, while jets can fly at more than 800 kph, which means shorter travelling times; (b) propeller-driven aircraft can fly only at relatively low altitudes—about 1500 metres—because the propellers need air to 'get a grip on'; jet planes fly at 10,000 metres where the air is very thin so that they can travel much faster and use less fuel; (c) a jet airliner can travel from London to Hong Kong non-stop in 13 hours: a propeller plane would take several days and have to stop several times to refuel.
5. Von Braun had been one of the leading scientists in developing the V2 rocket which caused so much damage in London in the last years of World War II. As the Russian armies started to invade Germany, Von Braun, along with forty colleagues, fled to surrender themselves to the US army. They were eagerly accepted and worked to develop the US space rockets which had always been Von Braun's main interest, rather than rockets as weapons. Von Braun's rocket propulsion system is the foundation of space exploration. Of course, this has been further refined, but the principle is more or less the same.

LESSON PLAN 19

Topic: Explorers, scientists and inventors

Duration: Four periods (40 minutes × 4)

Objectives:
- To study briefly some of the people who have explored the world and significantly contributed to scientific activities, discoveries and inventions in the last two centuries
- To provide an opportunity for further work on famous figures of the last two centuries

Resources: Textbook, Teaching Guide, *Oxford School Atlas for Pakistan*, encyclopedia, Internet

First period

Introduction: This chapter presents a brief account of the discoveries, inventions, and explorations made by some remarkable individuals during the mid-19th century and the 20th century, which have made the lives of the people comfortable and have opened new vistas of knowledge before them.

Talk about the discoveries and ask the students what in their opinion have made great changes in our life. Ask them which of these discoveries are most important, without which they cannot imagine their lives (e.g. computer, T.V, telephone, means of transport, life-saving drugs, etc.)

Write the topic on the board.

Explanation:

David Livingstone (1813–74) was a Scottish medical missionary and an explorer of Central Africa; he had worked in a cotton factory from the age of 10 to 24 and then trained as a doctor. He visited areas where no white man had ever been and discovered a number of lakes, rivers and, above all, the great Victoria Falls. His great dream was to discover the source of the River Nile and to explore the land between this and the source of the River Congo. For further details about his explorations, life and death, refer to the textbook on pages 139–140. Explain how the old maps of this region became useless after Livingstone had made new maps as he explored the areas.

Edwin Robert Peary (1856–1920): He was an American Arctic explorer who claimed to be the first person to reach the North Pole. He made seven journeys to the Arctic and set the principles of Arctic exploration which have been followed ever since. Some of his other achievements were that he helped in planning the Panama Canal and explored Greenland thoroughly. (Find these places in the atlas, in the world map; what did Peary prove by his exploration of Greenland?)

Roald Amundsen (1872–1928): He was a Norwegian explorer and the first man to reach the South Pole. Amundsen also searched for the magnetic North Pole and sailed the Northwest Passage from the Atlantic to the Pacific oceans around the north of Canada. (Find these places on the world map.) Talk about the race between him and Robert Scott to the South Pole in 1918. Scott's expedition was a failure. Amundsen was also the first to fly across the North Pole in an Italian airship and was the first man to fly from Europe to America. Talk about how Amundsen's aeroplane disappeared during a flight to the North Pole in 1928 and the remains were not found till several months later. Discuss the perils of exploration and adventure.

Sir Edmund Hillary (1919–2008) was from New Zealand and he was the first man to reach the highest point on Earth: the Peak of Mt. Everest in the Himalayas, on 29th May 1953. His guide was Tenzing Norgay, a Nepalese Sherpa guide (1914–1986). Edmund Hillary was knighted for this achievement. In 1958 Hillary led an expedition to the South Pole and in 1985 he accompanied the astronaut Neil Armstrong on a flight that landed on the North Pole. In 1977, he led an expedition from the mouth of the River Ganges to its source in the Himalayas.

Edmund worked for the welfare of the Sherpas and set up a trust for them. He worked for the ecological conservation of the Himalayas. The 50th anniversary of Hillary's and Norgay's achievement was celebrated in 2003. Edmund Hillary died in New Zealand in 2008.

Valentina Tereshkova (1937—): While the personalities studied above explored the Earth, there are also people who have explored space and the exploration continues. One such person is Valentina Tereshkova, the first woman to fly in space; she made 48 orbits of the Earth, lasting 71 hours. Tereshkova was selected from among 400 candidates and five finalists to pilot the spacecraft Vostok 6 that took her into space. She now leads a retired but active life and is held in great esteem in Russia, even after the breakup of the USSR. She has been awarded several times and a crater on the far side of the moon is also named after her. More information about Tereshkova can be had from the Internet; search and share the information with the class. Ask the students who the first man in space was (Yuri Gagarin of Russia) and who was the first to land on the Moon (Neil Armstrong of the USA). Ask if they know who said the words 'A small step for a man, but a leap for mankind' (Neil Armstrong, when he walked on the Moon's surface).

Conclusion: Recap the main points. Discuss the problems faced by the explorers, especially when there were no means of instant communication and support as there are today.

Homework: Read about these personalities on pages 139-141 in the textbook. Discuss questions 1, 2 and 3 on page 147 and answer question 1 in the notebooks.

Start a research project to get further information about these and other personalities.

Second period

Scientists and inventors

Ask the students to look around and identify equipment, furniture and other items made using steel. Discuss why steel is important and also tell the students about the composition of steel and its various uses. Talk briefly about how and when steel was first made. Steel is an alloy of iron and a very small amount of carbon. The earliest evidence is from Anatolia in Turkey, dated around 4000BCE; evidence of steel-making has been found in Sri Lanka, India, Syria (Damascus steel, which was famous for sharp-edged flexible swords), Africa and China, besides other places. The process of steel-making was a long and difficult till the Bessemer method came into practice.

Sir Henry Bessemer (1813–98) was a British inventor and an engineer who discovered a cheap way of making steel. To explain the process, refer to the textbook page 142. Explain the importance of steel in the world and the value of Bessemer's invention to industry. Bessemer was knighted, though not for inventing cheap steel, but for discovering a new wax seal for legal documents.

John Logie Baird (1888–1946) was a Scottish engineer whose discovery was the television. Ask the students what life would be like without this source of information and entertainment. The world's first television service was started by the BBC in 1929. Marconi and EMI, whose system produced better and clearer images and was accessible to the wider public in the 1930s, were his rivals.

Explain how inventions are improved upon by later entrants in the field and the original work is often forgotten—hardly anyone would know today who Baird was and what he did. Ask the students who the leaders are in today's technology (they will most likely name the manufacturers!).

Wernher von Braun (1912–77) was a German rocket scientist. His greatest achievement was that the giant V2 rocket was designed under his supervision and was used by the Germans in the last months of World War II, inflicting massive damage. After the war, von Braun was taken to the USA where he worked on rocket science for peaceful purposes. The 110 meter long Saturn V rocket that was built under his guidance was used to launch the Apollo spacecraft that landed the first man on the moon. Von Braun's skills were used for progress and peaceful purposes and he was recognized and rewarded for his work. Wernher von Braun died in 1977 in the USA.

Do you know what diesel is and where this name comes from? Rudolph Diesel (1858–1913) was a German engineer who invented the diesel engine in 1892. His invention was important because it used the cheaper and lighter oil, called 'diesel' after him, and the engines being more powerful were used for trucks, trains and similar heavy vehicles; they are also more economical than petrol engines. Explain that most of these inventions have been further refined and advanced with time.

Sir Frank Whittle (1907–96) was a British aeronautical engineer who invented the jet engine. Discuss how the jet engine compares with a propeller driven engine. Ask the students if they have seen a Fokker aircraft or a Boeing or Airbus aircraft or travelled by air in either one of them: what differences were there in the flights? Flying altitude, speed, noise level, etc.

Explain the advantages of a jet engine and talk about the effectiveness of jet engines in air force aircraft. Consult the textbook (pages 143–144) for details, especially with reference to the drawing showing the cross section of a jet engine.

Conclusion: Recap the main points of the lesson.

Reinforcement: Ask the students to find out more about automobile engines, particularly how modern engines operate and to what extent technology has changed the means of transport.

Homework: Answer questions 4 and 5 in the notebooks.

Third period

We come now to an eminent Pakistani scientist and the only Nobel prize-winner, Dr Abdus Salam (1926–96). He was who was awarded the Nobel Prize in Physics in 1979 for his remarkable work on the theory of elementary particle physics. Dr. Abdus Salam had an outstanding academic record from school and Matriculation right through to university. He not only studied but also taught at the best universities in the world. He returned to Pakistan and was a member of the Atomic Energy Commission of Pakistan and in 1961 he set up the Space and Upper Atmosphere Research Commission, known as SUPARCO. Dr Salam was committed to education and to providing opportunities for Pakistani students, but denied the opportunity of setting up a science centre in Pakistan, he established the International Centre for Theoretical Physics in Trieste, Italy in 1964. The institution was later renamed after him. He provided scholarships for deserving and outstanding students from Pakistan. He also founded the World Academy of Sciences. Dr. Salam received several national and international awards and 32 honorary doctorates from universities in 23 countries. He died in 1996.

Sir Alexander Fleming (1881–1955): He was a Scottish doctor, whose discoveries included the antibiotic penicillin which saved millions of lives. Read page 145 to know more about how penicillin was discovered and how it was particularly important during and post-World War II.

His research was carried further by a pathologist Howard Florey, and a chemist Ernst Chain at Oxford University. Fleming, Florey, and Chain were awarded the Nobel Prize in 1945 for their life-saving discovery.

Robert Koch (1843–1910) was a German scientist who is known as the father of modern germ (bacteria) technology. Some of his other achievements include the diagnosis of tuberculosis, the deadly anthrax bacteria, and cholera. (For details see pages 145–146 of the textbook.) Koch was awarded the Nobel Prize in 1905. Students should use the school library resources to find out more about Alexander Fleming and Robert Koch and their contribution to the control of disease and human health.

Christiaan Neethling Barnard (1922–2001): He was a South African surgeon and the first one to transplant a human heart successfully in 1967. Read and discuss the importance of this advance in medicine: it led to organ transplant surgery and many lives have been saved as a result. For details see textbook page 146 and also research details about Dr Barnard from the school library resources and the Internet. Also talk about pioneers in surgery, abroad as well as in Pakistan.

Dr. Salimuzzaman Siddiqui (1897–1994): He was a Pakistani who was the pioneer of scientific research in Pakistan. Dr. Siddiqui set up the Pakistan Council for Scientific and Industrial Research (PCSIR) and launched a scientific journal, still in circulation. He was the head of the chemistry department at Karachi University and he also established the prestigious Habib Ebrahim Jamal (HEJ) Research Institute for Chemistry, where he served till 1990. Dr Salimuzzaman is credited with the discovery of various plants with medicinal properties and their application.

His personality was truly versatile as he was also a poet, writer, musician, and an artist whose work was exhibited in Europe, India, and Pakistan.

Apart from the personalities discussed in this chapter, there are many more people across the world, who have contributed in various fields. Two such people are Bill Gates and the late Steve Jobs, both of whom have revolutionized Information Technology. Look up more such individuals, for example, the person who invented 'Velcro', and find out more details about them and their achievements.

Conclusion: Recap the main points of this lesson.

Reinforcement: Ask the students to select a person of their choice from all the personalities they have studied about and say why they admire him/her.

The students may be asked to do a project on Dr. Abdus Salam and Dr. Salimuzzaman Siddiqui and exhibit it in the class. They may also prepare projects on various othe eminent scientists and inventors of Pakistan.

Homework: The worksheet is to be done for homework.

1. Follow the clues and give the correct answer:

   a) A Scottish, medical missionary, discovered the great Victoria Falls. _____

   b) An American Arctic explorer, made seven journeys to the North Pole (or Arctic). _____

   c) A Norwegian explorer, the first man to reach the South Pole. _____

   d) A New Zealander, the first man to reach the highest point on Earth along with his Nepalese guide. _____

   e) A Russian woman, the first to fly in space. _____

   f) A Scottish engineer who invented the television. _____

   g) A German rocket scientist who designed the giant V2 rocket. _____

   h) A German engineer who invented the diesel engine. _____

   i) A British aeronautical engineer who invented the jet engine. _____

   j) A Pakistani who was awarded the Nobel Prize for physics in 1979. _____

   k) A Scottish doctor who discovered penicillin. _____

   l) A German scientist, father of modern germ (bacteria) technology. _____

   m) A South African surgeon, the first to transplant a human heart. _____

   n) A pioneer of scientific research in Pakistan; also a poet, writer, musician, and an artist. _____

2. Choose the correct answer.

   a) Where are the Victoria Falls?

      i) Kashmir ii) America

      iii) Africa iv) Canada

   b) The 50th anniversary of the scaling of Mt Everest by Hillary and Norgay was celebrated in

      i) 1995 ii) 2000

      iii) 2003 iv) 2010

c) Who was the guide with Sir Edmund Hillary?

i) Morton Stanley ii) Sir John Franklin

iii) Henry Bessemer iv) Tenzing Norgay

d) How many orbits did Valentine Tereshkova make around the Earth?

i) 50 ii) 48

iii) 45 iv) 36

3. Name three institutions established by Dr Abdus Salam.

_____

_____

4. Name two institutions established by Dr Salimuzzaman Siddiqui in Pakistan.

_____

_____

5. When was the first television service launched and who launched it?

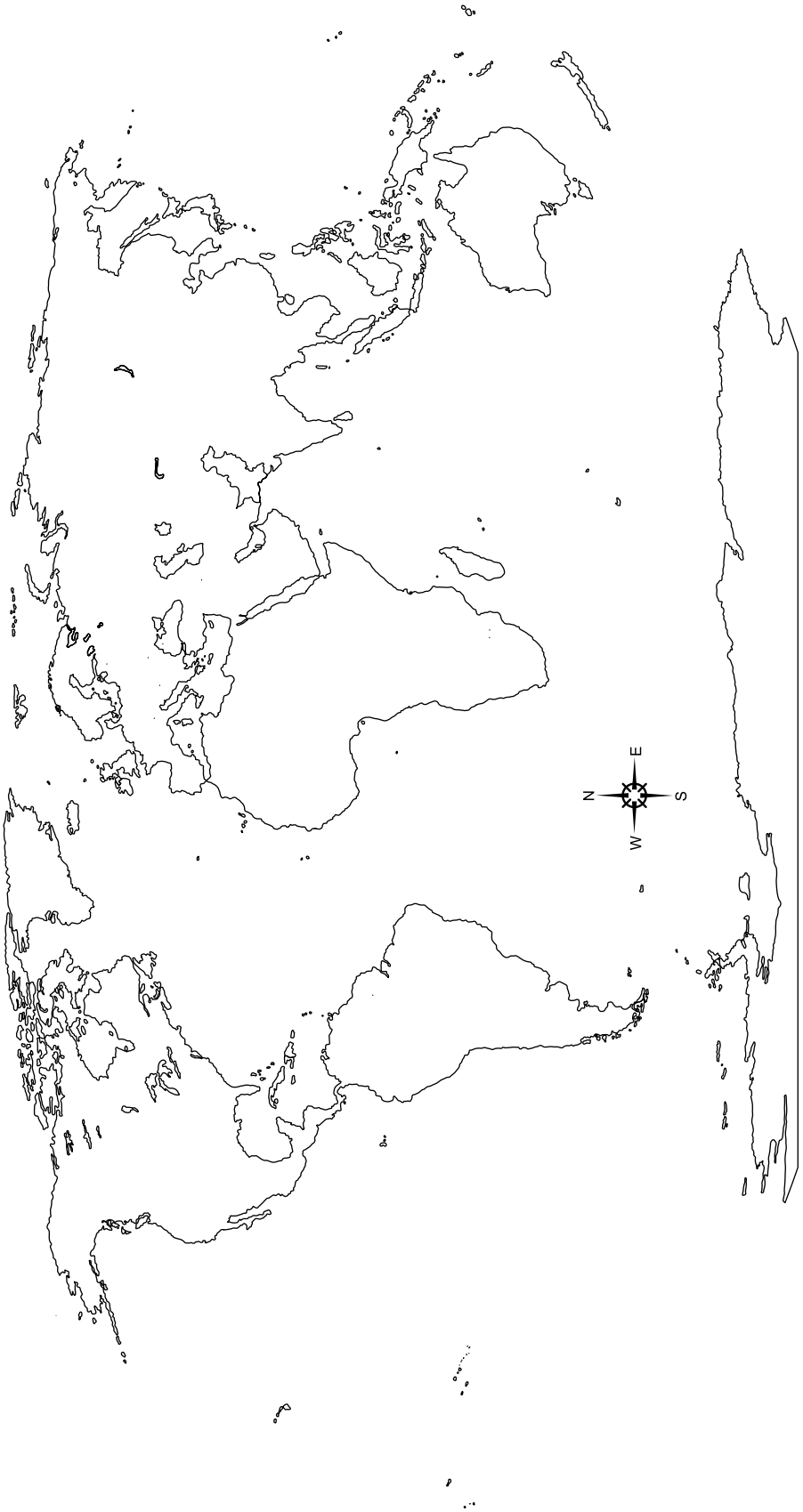
_____

_____

6. Who discovered an easy way of melting steel?

_____

_____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ASSESSMENT PAPER 1, GEOGRAPHY

Objective questions

1. Select the correct answers.

a) An artificial satellite that orbits the Erath and transmits images of space.

i) Pluto ii) Moon iii) Chandra X-ray Laboratory

b) This planet has gigantic ice rings orbiting it.

i) Neptune ii) Saturn iii) Jupiter

c) The largest planet in the solar system is

i) Jupiter ii) Saturn iii) Neptune

d) Krakatoa was a volcano in

i) Malaysia ii) Madagascar iii) Indonesia

e) The deepest place undersea, Mariana Trench, is located

i) off the coast of Alaska ii) off the island of Guam

iii) off the southern tip of South America

f) The process of water breathed out by plants is called

i) exhalation ii) respiration iii) transpiration

g) The world's largest flower, Rafflesia, is found in

i) The Amazon rainforest ii) Sri Lanka

iii) South-east Asian rainforests

h) Gold is valued mainly for

i) its beauty ii) its use in jewellery

iii) not corroding and not losing purity

i) The country with the lowest life expectancy is

i) Korea ii) Nigeria iii) Maldives

Subjective questions

2. Answer the following questions in complete sentences:

i) Define the term 'nebulae'.

ii) Define what is meant by 'phases of the Moon'.

iii) Explain the terms 'Pangaea' and 'Panthalassa'.

iv) What are the differences between the Prime Meridian and the International Date Line?

v) How are ocean currents formed?

vi) How do currents affect the climate?

vii) Name one cold and one warm current and the direction in which each one flows.

viii) What is the main difference between whales and other marine life?

ix) Name the causes of weathering with an example of any one type.

x) Why is the tundra region known as a waste space?

xi) What is quinine and where is it found?

xii) What are the two inventions that brought a major change in the life of early mankind?

xiii) What is the difference between cottage industry and automated industry?

xiv) Give examples of three different types of service industry?

xv) Why is population not distributed evenly across the world?

xvi) What are the main requirements for a country to develop and progress?

xvii) What are the factors that affect the world's environment?

xviii) Why is nuclear energy a problem as a power source?

ASSESSMENT PAPER 2, HISTORY

Objective questions

1. Match events/figures in Column A with dates in Column B.

A		B
a) Shah Waliullah	i)	1930
b) Allama Iqbal selected Chairman, Muslim League Conference	ii)	1946
c) First constitution of Pakistan	iii)	1703–62
d) Creation of Bangladesh	iv)	1986
e) Gen. Zia ul Haq's tenure	v)	1979–89
f) Benazir Bhutto's first return from exile	vi)	1990
g) Nawaz Sharif's first tenure as Prime Minister	vii)	1977–88
h) Pakistan tests its nuclear bomb	viii)	1971
i) Gen. Pervez Musharraf takes over power	ix)	2004
j) Benazir Bhutto's second return from exile	x)	1994
k) Formation of the United Nations	xi)	1998
l) Egypt's suspension from the Arab League	xii)	1952–54
m) Nelson Mandela elected president of South Africa	xiii)	2007
n) Death of Yasser Arafat	xiv)	1999

2. Complete these statements:

   a) Political and social developments in the subcontinent from the 18th century onwards were influenced by _____

   b) The two major political Muslim figures of the 19th century are _____ _____ They were both knighted by the British.

   c) Mr Jinnah proposed a separate Muslim state at _____ in _____

   d) Ideology is defined as _____ _____ that guide a specific group of people.

   e) The ideology of Pakistan is also given in _____ passed in _____

   f) The years 1970 and 1971 are significant in Pakistan's history because _____ _____

   g) Two significant developments from 1971 to 1973, during Z.A. Bhutto's government were _____ _____

   h) Columbus and his men reached the Bahamas on _____

Subjective questions

3. Answer the following questions in complete sentences:

   i) Who was the leader of the Awami League in East Pakistan?
   ii) Why and when did Gen. Zia ul Haq hold a referendum?
   iii) What event of world importance took place in 2001 and where?
   iv) Name the prime ministers, along with the dates, during Gen. Musharraf's government (2002–07).
   v) Name the most powerful body of the United Nations and its permanent members.
   vi) What is the head of the UN called? Who holds this post at present?
   vii) Name any five agencies of the UN. Describe the work done by any one of them.
   viii) What were the three steps by the British during World War I that affected the status of Palestine?
   ix) Name the countries that were part of Yugoslavia after World War I. What happened after 1980?
   x) Why do people leave their country and homes to live elsewhere?
   xi) What were the reasons behind the migration of Afghans to Pakistan in the 1980s and after 2001?
   xii) What does Stalinization mean?
   xiii) In what ways did Kemal Ataturk modernize Turkey?
   xiv) Name three humanitarian organizations and the work they do.
   xv) Select any two of the personalities discussed in Chapter 18 and write what their main achievements were.

ANSWER KEY TO WORKSHEETS

Worksheet 1

1. (1) Mercury (2) Venus (3) Earth (4) Mars (5) Jupiter (6) Saturn (7) Uranus (8) Neptune
2. (a – iii), (b – v), (c – i) (d – ii) (e – iv)
3. (a – iii) (b – ii) (c – iii) (d – iii) (e – iv)
4. (a – True) (b – True) (c – False) (d – True) (e – True)

Worksheet 2

1. a) Pangaea is the name given to the huge single land mass on Earth millions of years ago. It means 'all land' in Greek.
   b) Panthalassa means 'all sea' in Greek; it was used to describe the huge single volume of water that covered the Earth.
   c) Continental Drift is the term used to describe the drifting away of land from the mainland to form continents.
   d) The Indian Ocean earthquake in December 2004 resulted in a tsunami 30 metres high which killed nearly 230,000 people.
   e) The volcanic explosion of Krakatoa in 1883 was heard 4000 km away and the dust caused spectacular sunsets for three years.
2. a) = iii) latitudes b) = i) longitude c) = vii) zero degrees
   d) = iv) Greenwich (London) e) = ii) 23.5° North f) = vi) 66.3° North
   g) = v) 23.5° South h) = viii) 66.3° South
3. a) = iv) 4000 m b) = ii) Pacific Ocean c) = iii) 700 – 800 mm
   d) = iv) 250 mm e) = i) stone statues (Moai)

Worksheet 3

1. a) the equator; the poles
   b) altitude/height
   c) southwest; northeast
   d) the winds change direction because of the shape of the subcontinent and lose most of their moisture.
   e) the penguins on the shores and seals in the coastal waters.
2. a) – iii) b) – i) c) – ii)
   d) – v) e) – iv)
3. (a – c) (b – B) (c – B)
   (d – D) (e – A)

4. Answers should be in complete sentences.
   a) It is 28 to 32 degrees C.
   b) They are small rat-like animals who live in holes under the snow.
   c) This is because of the heavy vegetation overhead.
   d) It is called chicle and is found as sap from some trees in the Amazon forest.
   e) These crops are from the grass family.
5. a) – iv) 250 – 500 mm b) – i) 1500 – 10,000 mm c) – ii) 350 – 900 mm
   d) – iii) 250 – 500 mm

Worksheet 4

1. a) growing crops in an area b) largest; East and South-east Asia
   c) paddies d) feet in the water and head in the sun
   e) transplanting the seedlings
2. a) – ii) b) – iii) c) – ii)
   d) – iii) e) – i)
3. a) – v) b) – iv) c) – vi)
   d) – i) e) – iii) f) – ii)

Worksheet 5

1. Primary level: (1) orange picking (2) oil drilling
   (3) skin collecting (9) mining
   Secondary level: (4) oil refining (6) manufacturing of shoes
   (7) cosmetic (10) making of steel
   (13) manufacturing of TV sets
   Tertiary level: (5) distribution of juice cans (8) beauty saloons
   (11) export of steel goods (12) TV programmes
   (14) hotels (15) publishing
2. (a) shafts (b) two (c) near the surface
   (d) one kg of gold (e) veins
3. (a) false (b) false (c) true
   (d) true (e) true

Worksheet 6

1. a) A wholesaler buys products in bulk, i.e. large quantities, and the sells them in smaller lots to retail buyers.
   b) A retail business buys items in lots from wholesalers and sells them to individual customers as per need.

c) Any two of the functions a) – e) on page 57 of the textbook.

d) The service industry provides support for business and for communication and information; for example, office workers, call centres, transport, and news media.

2. Mohenjo Daro for its ancient history as an Indus Valley Civilization site; Swat for its scenic beauty and ski resort at Mingora; Taxila for its historical interest; Hunza, Shangrila, northern region for mountain climbing and tourism.

3. a) True b) False c) True

d) False e) True

Worksheet 7

1. (a – out), (b – into), (c – Trade deficit), (d – Trade Surplus)
2. Cotton – 1st; Rayon – 2nd; Rice – 3rd; Sports equipment – 4th; Carpets – 5th
3. Invisible imports are the remittances sent home by overseas Pakistanis, working abroad as labour or in business. Invisible exports are the profits made by foreign investments in Pakistan and income earned by foreigners working in Pakistan, which are sent back to their home countries.

Worksheet 8

1. (a – i) (b – i) (c – iii) (d – ii) (e – iii)
2. World map activity, as instructed.
3. Reasons for rural to urban migration:

   i) better job opportunities

   ii) better living conditions

   iii) better education and health facilities

Worksheet 9

1. See table on page 77 of the textbook for the answers.
2. The main reasons for higher unemployment in developing countries are a) lower literacy rates, b) inadequate vocational training (skills), and c) lack of job opportunities due to lower economy
3. a) The workforce in Pakistan is 30.5 per cent of the population

   b) Six per cent of the workforce is unemployed.

   c) The highest number of people, 43.37 per cent, is employed in agriculture.

   d) The lowest number of people is in the electricity and gas sector (1.89 per cent).

Worksheet 10

1. (a – global warming) (b – kill insects, pests and weeds)

   (c – DDT, developing countries) (d – banned, being tested, the USA)

   (e – nuclear power plants) (f – nuclear weapon)

Worksheet 11

1. a) Shahwaliullah, Syed Ahmed Shaheed Barelvi
   b) British, separate consideration, independence
   c) justice and fair dealing
   d) equal citizens of a sovereign state
   e) Chaudhri Rehmat Ali
2. a) It marks the spot where the Lahore Resolution, demanding a separate state for the Muslims, was passed in 1940
   b) The first constitution of Pakistan was framed in 1952–54
   c) Ayub Khan, 1962; Zulfikar Ali Bhutto, 1973
3. a) Chaudhri Rehmat Ali
   b) Allama Mohammad Iqbal

Worksheet 12

1. a) 1971
   b) Twice; 1988 to 1990 and 1993 to 1996
   c) 1973 to 1977
   d) 11 years; 1977 to 1988
   e) Nawaz Sharif
   f) The collapse of the Twin Towers in New York and plane attacks on the Pentagon by the Al-Qaeda. The event is known as 9/11.
   g) Pakistan was forced into being a US ally against Afghanistan which was then home to Al-Qaeda.
   h) Benazir Bhutto was assassinated during an election rally in Rawalpindi.
2. a) – iii) b) – i) c) – ii)
   d) – iv) e) – iii) f) – iii)

Worksheet 13

1. a) in January 1920
   b) to prevent conflicts among countries.
   c) – Intolerance of criticism by member states.
   d) in April 1946
   e) 192 countries
   f) Four small Pacific islands, Taiwan, and Vatican City—the first are too small, and Taiwan's status is controversial, while Vatican is a religious entity.
2. a) The General Assembly, the Security Council, the Secretariat, the Economic and Social Council, and the International Court of Justice.
   b) Provide a platform for countries to present ideas and debate issues.

c) China, Russia, France, USA, and UK.

d) General Secretary Ban Ki-moon, Republic of Korea

e) hear and settle disputes between countries

3. For example: Cyprus, Somalia, Angola, Iraq, Afghanistan (refer to map on textbook page 105)

4. a) Organization of Islamic Cooperation (formerly Conference); came into being in 1967, in Rabat, Morocco.

b) Thailand, Bosnia, Central African Republic

c) Jeddah

d) To set up an Islamic Common Market like Europe

e) The Arab League was formed in 1945 in Cairo; its headquarters are in Cairo.

f) In 1985.

g) Iran, Turkey, Pakistan, Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

h) To use the resources of the member states and develop them for trade.

Worksheet 14

1. a) i) For Muslims, it has the Masjid-ul-Aqsa and the Dome of the Rock, which mark the Prophet's (PBUH) *Meraj*

ii) For Christians it is the place where Christ was crucified.

iii) For Jews it contains the remains of the great temple of Solomon, of which only part of the Wailing Wall remains.

b) A resolution was passed dividing Palestine into Arab and Jewish areas, but strongly in favour of Jews.

c) When the mandate of the United Nations expired in 1948, the Jews declared this land as the state of Israel.

d) The Palestinians were forced into exile, as refugees in camps in the neighbouring countries and even overseas.

e) In 1956 (Suez); 1967 (The Six Day War); and 1973.

f) Intifada is the retaliation by Palestinians against the Israelis, by throwing stones at their tanks and armoured vehicles.

g) Israel has continued to make illegal settlements despite international protest; Palestinians have been evicted for their homes and walls have been built to confine their living and movement, creating enormous problems for them.

2. a) This area produces more than half of the world's supply of oil. They have become potential targets of the developed countries that wish to control energy sources.

b) The dispute was over the boundary of the two countries along the Shatt-al-Arab River. Iraq took advantage of the confusion after the downfall of the Shah and invaded Iran.

c) NATO forces attacked Yugoslavia in 1999 because of the atrocities on the Muslims, especially in Kosovo.

4. a) 1990, Iraq, Iran
   b) 1980, eight
   c) April 2003, weapons of mass destruction (WMDs)
   d) Hindu, Muslim
   e) India, 1948–49
   f) 1949, a plebiscite in Kashmir
   g) Balkans
   h) Josef Broz Tito

Worksheet 15

1. (a – ii) (b – iii) (c – i)
2. (a – iv) (b – ii) (c – iii) (d – iii)
3. a) Seeking asylum means moving to another country to escape persecution in one's own country, on political and /or religious grounds.
   b) Migrants to the Gulf States are mostly in construction and other labour-intensive industries; a small percentage works in offices, banks, and multinational business, etc.
   c) IDPs stands for Internally displaced persons; they are people who are compelled to move elsewhere because of dangerous conditions or natural disasters in their own regions, such as because of border strikes in the northwest of the country or after the earthquake in 2005.
   d) They worked as unskilled labour, and also as bus drivers and railway workers.

Worksheet 16

1. a) Abraham Lincoln
   b) Demos (people) and kratos (government/rule)
   c) i) Government chosen by the people through voting
      ii) Equal rights
      iii) Rule of law and order
      iv) Justice for everyone
      v) Separation of judiciary from the executive
   d) i) Stability i.e. free from infighting and strife
      ii) Free from class difference due to good economy and facilities
      iii) Education, as it it gives awareness and empowers people
      iv) Exercise of democratic rights—freedom of expression, respect for law and for people
2. a) Nelson Mandela
   b) 'setting apart' on basis of colour and race or separate development on these grounds
   c) African National Congress
   d) 1992

e) political activist and leader in Myanmar

f) Nobel Peace Prize in 1991

g) Kemal Ataturk of Turkey

h) Civil rights movement, Dr Martin Luther King

i) Dr Martin Luther King, Memphis, Tennessee

j) Palestine (he led the Al-Fatah and the Palestine Liberation Organization, PLO)

k) Yasser Arafat and Yitzhak Rabin, 1993

Worksheet 17

1. a) He was the Mongol ruler of China in the 13th century.

   b) Baumwolle is a German word, meaning tree-wool, for cotton.

   c) Santa Maria; 35-metre long ship

   d) West Indies because Columbus believed he had reached the west coast of India.

   e) i) The type of goods that were traded—heavy items could be shipped by sea;

      ii) the centre of trade moved away from Italy and land routes to countries on the Atlantic coast: England, France, Spain and Portugal.

2. a) – iv) b) – ii) c) – iii) d) – iv)
   e) – iv) f) – ii) g) – iv)

Worksheet 18

1. a) David Living Stone b) Edwin Robert Peary
   c) Roald Amundsen d) Sir Edmund Hillary
   e) Valentina Tereshkova f) John Logie Baird
   g) Wernher von Braun h) Rudolf Diesel
   i) Sir Frank Whittle j) Dr Abdus Salam
   k) Sir Alexander Fleming l) Robert Koch
   m) Christiaan Neethling Barnard n) Dr Salimuzzaman Siddiqui
2. a) – iii) b) – iii) c) – ii) d) – ii)
3. SUPARCO; World Academy for Sciences; International Centre for Theoretical Physics (in Trieste, Italy)
4. PCSIR; HEJ Institute for Higher Chemistry
5. In 1922 by the BBC, London
6. Sir Henry Bessemer

ANSWERS TO ASSESSMENTS

PAPER 1, GEOGRAPHY

Objective questions

1. a) – iii) b) – ii) c) – i) d) – iii)
   e) – ii) f) – iii) g) – iii) h) – iii)
   i) – ii)

Subjective questions

2. i) These are clouds of dust and gases around clusters of stars in space.
   ii) Phases of the moon are its stages for the crescent to quarter moon to half moon, then full moon and half and quarter again to no moon.
   iii) Pangaea means all land and Panthalassa means all sea in Greek. It refers to the Earth as it was in the early stages of its creation.
   iv) The Prime Meridian is at 0 degrees, and runs in a straight line from North to South. The International Date Line is at 180 degrees, but it follows a zigzag course from North to South in order to keep the Pacific islands in one time zone.
   v) Ocean currents are like undersea rivers, often quite wide and long, that are moved mainly by the wind.
   vi) Currents keep the climate of the regions where they flow, hot or cold according to where they originate from.
   vii) The Benguela Current, flowing from the Antarctic, is a cold current. The Equatorial Current, as its name implies is a warm current.
   viii) Whales are warm-blooded mammals while the other forms of marine animals are mainly fish, mollusks, crustaceans, etc.
   ix) Weathering is erosion of landforms caused by water, wind and severe temperatures. Extreme heat causes rocks to expand and cold makes them contract; after a long time, the rocks crack and disintegrate.
   x) Quinine is an anti-malarial drug found in the bark of the cinchona tree, a native of Peruvian rainforests. It is now grown in India, Sri Lanka, and Java.
   xii) Fire and the wheel are the two most important inventions of early humans. Fire kept humans warm and also safe from wild animals, while the wheel made it possible to move heavy objects from palce to place.

xiii) Cottage industry is home-based, often handmade, small scale production of goods. Automated industry is large scale production of goods using automated machinery/plants in factories.

xiv) Tourism, transport, postal service, communication and media, hospital, municipal services, call centres, and hotels, etc.

xv) Because some regions in the world have harsh conditions, have no facilities, nor job opportunities, people cannot live there.

xvi) Education and vocational skills and training for the people are necessary for a country to develop and progress.

xvii) Pollution due to over-population, atmospheric impurity, land and water pollution negatively affect the Earth's environment.

xviii) Nuclear power for energy is dangerous because of radio-activity in the atmosphere and fallout effects causing life-threatening diseases. Dispoasal of radio-active waste is also a problem.

SECTION 2, HISTORY

Objective questions

1. Matching events/figures in Column A with dates in Column B.

a) – iii)	b) – i)	c) – xii)	d) – viii)
e) – vii)	f) – iv)	g) – vi)	h) – xi)
i) – xiv)	j) - xiii)	k) – ii)	l) – v)
m) – x)	n) – ix)		

2. Completing the statements:
   a) Shah Waliullah and Syed Ahmed Barelvi
   b) Sir Sayyid Ahmed and Allama Iqbal
   c) the Muslim League meeting, in Lahore
   d) set of ideas, ideals and beliefs
   e) the Objectives Resolution, March 1949
   f) rise of the Awami League in East Pakistan and the creation of Bangladesh
   g) socialization and nationalization programme; a new constitution; Islamic Summit Conference
   h) 12 October 1492
3. Answers to questions:
   i) Sheikh Mujibur Rehman
   ii) 1984; to seek approval for his religious policies and to stay on as president till 1990
   iii) The attacks on the Twin Towers in New York and the Pentagon in Washington by aeroplanes that crashed into them; the event is known as 9/11.
   iv) Zafarullah Jamali, 2002; Chaudhry Shujaat Hussain, 2004 (interim); Shaukat Aziz, 2004.

v) The Security Council; China, Russia, France, UK and USA.

vi) Secretary General; Ban Ki-moon

vii) Matter for the answers to this question is on pages 104 – 105 of the textbook.

viii) The MacMahon Letters (1915) that promised an independent Palestine; the Sykes-Picot Agreement (1916) through which Britain and France agreed to share the region; the Balfour Declaration (1917) that went back on earlier promises and gave the land to the Jews.

ix) Slovenia, Bosnia, and Croatia were part of Yugoslavia after World War I. In 1980, Yugoslavia broke up into seven countries, two of which formed part of it and five became independent.

x) To escape war and threats; to find a better life for themselves and their families; to escape persecution.

xi) The Russian invasion in 1979 and its aftermath; the US and Western forces attack on Afghanistan after 9/11 catastrophe in 2001.

xii) Stalin forced his ideology on the Muslims of Central Asia, then part of the USSR, by evicting them from their homes and resettling them elsewhere, changing their names and identity, and disallowing religious practice.

xiii) He reorganized the army; abolished the old rule, Khilafat, and became president, making Turkey secular. People were compelled to wear western dress; the Gregorian calendar was introduced and education made compulsory; the Arabic script was replaced by the Latin script and Western laws were adopted instead of Islamic laws.

xiv) See page 133 of the textbook the answers to this question.

xv) Chapter 18: students' choice.