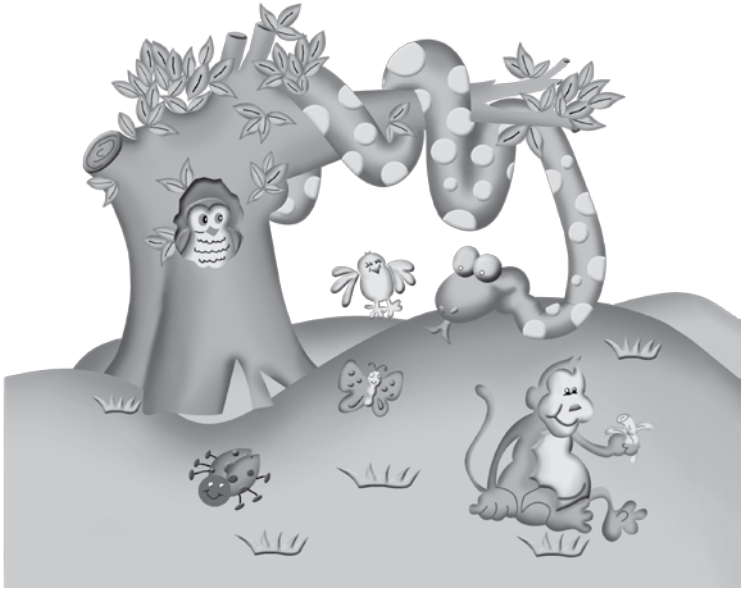
introductory Book **Three**

MATHS WISE

Teaching Guide

Second Edition with lesson plans



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Introduction

A. The *Maths Wise* series

When human beings lived in caves, their only teacher was nature. Man discovered various aspects of counting and of working with numbers from his own body, plants, and animals in his environment. Knowledge of shapes, and modes of travel were also guided by nature. This knowledge, along with other values, remained with man and was later formalized and termed 'education.'

Three-year olds come to their new school surroundings from the warmth of their homes, unsure of what to expect. Everything is new—class fellows, the teacher, the books, the sounds, the ringing of the school bell, and all need a lot of getting used to. The main objective of *Maths Wise*, therefore, is to develop a sense of security by making use of objects that children are already familiar with such as plastic or soft cloth toys and plastic dishes.

If the teacher presents the lessons in an interesting, practical, and fun manner, learning becomes a game. New concepts should be introduced in a warm, cheerful, and friendly manner. Children who have difficulty learning through memory initially can enjoy learning through games. As the children discover new concepts, their short-term memory becomes active and constantly feeds their retentive memory. Simple facts and figures will remain with them all their lives and will be instantly recallable.

Maths Wise and the accompanying Teaching Guides have been written to appeal to and support teachers who may or may not have undergone a teacher training programme. It is hoped that, with the help of the Teachers' Notes and Teaching Guides, they will be able to adapt their practice to meet the learning requirements of pre-primary and primary school children.

Some of the important concepts that the *Maths Wise* series is based on are outlined below.

1. Children learn through discovery

Motivation is the one important factor which helps little children learn easily and with enjoyment. We see at home that children learn every minute they are awake; they want to learn and know more. With the help of this series, teachers will be able to give children the right direction and encourage them as they actively learn new things, in the school as well

It will be satisfying to know that:

- the children are happy.
- each learning experience is fun.
- concepts learned at any given stage will remain with them throughout their lives.

- Most children assimilate each topic in such a way that they can analyze situations later in life and apply their knowledge at the appropriate time. For example, addition is applied to 'number families' for addition and subtraction. They recognize the addition pattern in multiplication tables, and apply knowledge of addition to daily life situations such as adding up a bill at a restaurant or finding out how much money is left after paying a certain amount.

Lessons are often preceded by practical classroom or outdoor activities so that the children learn through discovery at every step. They are also encouraged to ask questions about everything. In a happy, carefree environment, children are more confident to ask; the more questions they ask, the better they learn.

2. Children use all the 5 senses

It is a known fact that the more senses used in the learning process, the better the understanding and retention. This is why the use of at least three senses in the classroom is recommended: touch, sight, and hearing. How a toy feels, (soft or hard), remembering and recognizing the shape of a toy, listening to what others have to say about it, and asking questions related to it, all contribute to learning. Sense of taste and smell are also used, whenever necessary.

Fun-filled classroom or outdoor activities will encourage children to use their senses fully and promote quicker learning and longer retention. By routinely engaging the children in these activities, their instincts, creativity, imagination, motor skills, and visual perception will develop. Classroom activities can be either preceded, or followed by a visit to a zoo, a garden, a market, a sweet shop, a welfare home for children, or even a bank, according to the topic being covered.

A sense of sharing with others can also be developed by inviting children from welfare schools, and organizing a small picnic with them in the school garden.

3. Freedom in learning

The most important thing to provide in any classroom is freedom for children to learn at their own pace without undue pressure. Some children work faster than others: this must never be curbed. It is useful if teachers provide supplementary tasks to meet their needs so that they are not bored.

If a child is a slow learner, more practical work or repetition may be required. This must be provided in a patient, an encouraging, and a positive manner. A child must never be made to feel inadequate. Statements such as, 'Will you never learn?' or 'You are so slow!' are very hurtful, and must never be voiced. Every child is unique and special. The reward of seeing the progress made by a slow learner is no less valuable than that of observing the quick wit of a bright child. This is the most important principle of teaching.

If, on occasion, an activity seems to be beyond the understanding of most of the children in the group, insistence will only lead to frustration. It is prudent to leave the topic for a

later date when the children are better prepared for the activity and are ready to absorb it. Demonstration is always the best form of explanation; a live object is better than an illustration.

4. Teachers praise/commend good work

Words of praise encourage children and ensure further good work. To illustrate this, a 'smiley' can be stuck or drawn on a relevant page. It is a good idea to have blank smiley or WoW stickers as teaching aids. Interestingly, WoW stickers placed upside-down read 'MoM' which is always encouraging for children.

Smileys can also be stuck or drawn on each page in advance, and the children can then colour them—green for good and orange for improved work. WoW stickers can be used for the top achievers. Suggestions should always be given to indicate how poor work could be improved; it is discouraging to write 'Poor' or to show a crying 'smiley'.

Excellent

Good

Can do better

B. Use of the *Maths Wise* series

1. Maths Laboratory

A maths laboratory is highly recommended at all levels of school and becomes mandatory as children enter primary and secondary classes.

Teachers using *Maths Wise* will find it useful to look through the three Introductory Books in advance and assemble a variety of material suited to the topics taught at this level.

Children could be asked to bring toys, empty plastic bottles, bottle caps, beads, buttons, shells, and colourful pictures of animals, plants, aeroplanes, cars, buses, beaches, trees, the Sun, the Moon and the stars—almost anything they are likely to encounter in daily life. How teachers display and use these thematically can be worked out as teaching and learning progress.

A set of shelves or a solid trunk is useful storage for these items until they are needed. If the lab is large enough, children can work there in groups; otherwise the materials could be brought to the classroom as required.

At the pre-primary level, a central Maths lab will need all kinds of objects that the children are familiar with:

- toys, both soft and hard, made from 'safe' materials (i.e. no detachable bobbles or beads and no sharp edges)
- shells and beads (large, so that the children cannot swallow them)
- several sets of three objects, such as hats, two identical and one slightly different, dolls, two identical and one different
- colourful pictures or charts to display on the walls of the classroom (eg. animals, cars, buses, flowers)
- fabric or card (plain or with straight or curved lines)
- solid 3-D wooden shapes such as balls, cubes, ovoids (egg shapes), cuboids, pyramids, and cones
- flat shapes such as circles, squares, and triangles cut out of thick cardboard or wood, so the children can feel the flat surface and can count the corners and edges
- different lengths of twigs, ropes, and ribbons
- jars and tins of different sizes
- a handful each of large buttons; dried rajmanh and kabuli channa seeds
- pencils and crayons of different colours and lengths
- wall charts relating to different concepts in the book
- identical halves of different flat shapes (such as pictures of butterflies and solids)
- squares of reflecting surfaces, preferably plastic
- 2-piece (or 3-piece) jigsaw cards with a number and corresponding picture for number concepts; similar cards for addition/subtraction sums
- non-identical halves of play dough or wooden toys for example, a bus cut into halves, a ship cut into halves
- a giant number line, either drawn on the floor of the classroom or in the playground
- cardboard cut-outs of the numerals 1 to 9
- number trays for number recognition
- sheets of paper with square, triangular and hexagonal grids
- number jigsaw pieces
- number tabs
- abacus sets
- number fact cards for +, –, ×, and ÷
- a rod with 1 to 10 hanging beads for number recognition
- cane, plastic (or wooden) baskets or trays to contain the items
- plastic (or steel) bottles, glasses, and bowls
- a sandpit (outside)

- a patch of garden with different shrubs and pets (such as birds, rabbits, white mice, tortoises)
- a fish aquarium and an aviary are all very useful for making comparisons

You will be working with very small children so a great deal of care needs to be exercised when selecting objects for the Maths lab. All items should have rounded edges and must not be small enough for children to put in their mouths, noses, or ears. Supervision is very strongly recommended.

2. Wall charts and a maths table in the classroom

It is useful to have a Maths table in each classroom. A selection of objects from the Maths lab can be brought in as and when necessary. Changing wall displays frequently goes a long way towards making the learning of basic concepts of Maths stimulating and exciting.

Wall charts and a Maths table will help children to:

a. take interest in the subject and consequently improve concentration.

b. be aware of numbers in everyday life such as: 1 Sun, 1 tail of an animal, 1 nose, 1 mouth, 2 eyes, 2 legs of a bird; some birds have 3-toes on each foot (such as crows and Sandhill Cranes); 4 legs of animals; 5 fingers and toes of humans; 6 legs of a spider (a hexapus has 6 legs); 7 colours of the rainbow, 7 leaflets in a leaf of the *saptaparni* tree also—known as the Devil's tree; 8 legs of a spider or an octopus; 9 planets, (there were 9 planets in the solar system, till Pluto was found to be a non-planet in 2006), and 10 fingers and toes. (Star constellations can be found with 7, 8, 9… 101 stars.)

c. associate animals with their homes and food. Big animals have big homes while small animals need small homes. For example, a lion lives in a den, a dog in a kennel, a rabbit in a hutch, a mouse in a hole, and an earthworm in a tiny hole in the ground. Similarly, a lion eats several kilogrammes of meat at a time, while a dog eats up to one kilogramme of meat a day.

d. identify similar objects, or the odd one out, in a group.

e. apply logic. Animals with four long legs run fast; birds, although they hop on two legs, cannot walk fast, and so have wings to fly.

f. observe colours. Tomatoes, capsicums and some roses are red; identify all the colours of the rainbow (and more) in flowers, fruits, and vegetables.

g. observe shapes in real-life. A carrot is a cone, as is a wigwam; there are many examples of spheres and ovals (egg shapes, aubergine). Bees build beehives with hexagons (6-sided polygons).

h. recognize fractions: two halves of any object are equal, be it a walnut, an apple, or a cake.

i. learn to do mental addition: 2 white mice and 1 more make 3. This leads to multiplication: 2 hands plus 2 hands plus 2 hands makes 6, or 3 lots of 2 = 6

j. recognize sets: a set of vegetables, a set of toys, a tea set, a set of jewellery.

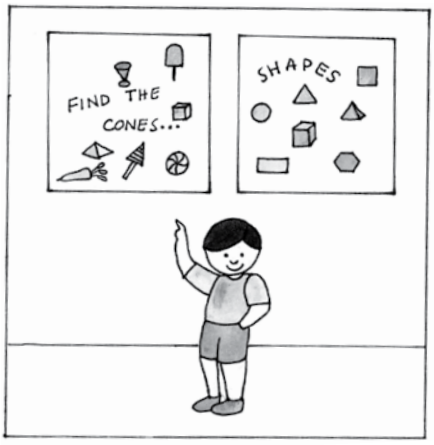
k. observe similarities and opposites:
   i) big elephant and small mouse
   ii) a mango and an apricot each have 1 seed, but an apple and a cucumber each have many seeds.
   iii) the seeds are always INSIDE a fruit while the skin is on the OUTSIDE.
   iv) an aubergine and a tomato have SMOOTH skin, but a bitter gourd has a ROUGH skin. Many more such examples can be found.

l. count—bring me 1 apple please, eat 2 cherries, a tricycle has 3 wheels.

m. associate numerals with sets of objects.

n. improve motor control as children hold objects, colour pictures, count on their fingers, draw curved and straight lines, and write letters or numerals.

o. develop a vocabulary as new terms are introduced, e.g. a pair of hands, a pair of eyes, a tricycle, a tripod, a quadruped, heavier than, longest among….



3. Theme weeks and wall charts

Theme weeks add a zing to the topic at hand. The topics can vary from pets, to flowers, to neighbouring countries, to water transport. Pictures or wall charts related to a particular theme should be collected in advance (often with the help of the class), taped onto soft boards and brought to the lesson. They can be displayed for a few days, or as long as required.

Large, colourful pictures can often be found in newspapers and magazines. Many theme-related picture books can be bought from second hand bookshops. It is also very easy to find appropriate pictures on the Internet and print them on paper or clear plastic sheets.

a. *A Week on Flowers*

A week on flowers can be planned for the flowering season, February/March, when most gardens are in full bloom. Activities could include a visit to a garden, with a display of pots of fresh flowers; display of paper flowers from a 'birthday party' store or pictures from magazines; making simple paper flowers; 'Wear a flowery dress/shirt day'; …a week is too short for all these ideas! But planned well, it can work.

What do the children learn?

Counting the petals on a flower; flowers in a flower pot; the different types of flowers in the park; different *colours* (any matching vegetables?) and their various shades; *shapes* of petals and leaves; *textures* of petals or leaves (rough or smooth or velvety) or

associating a fragrance with a particular flower. The list is endless.

There are, for example, many different shapes of leaves. Some are oval, some are elongated, while others spread out like a fan. Some leaves have little 'leaflets', like the leaves of the tamarind tree or flame of the forest. Some leaves have smooth edges, others-have serrated edges (*vocabulary*).

Shapes of flower beds or sequences in a flower bed can be observed: the curved edge of a flower bed; shorter plants, such as petunias, are planted in the front, taller ones like marigolds behind them, and the tallest ones such as dahlias, right at the back.

b. *A Week at the Farm*

'A week at the farm' can be held in the school playground if it is spread out, or in a neighbouring area or a farmhouse with animals (such as a horse, a cow, some sheep, some hens, ducks, and white mice).

Birds and animals: Caterpillars may look like big earthworms, but butterflies emerge from caterpillars, not earthworms (similarities and differences). Frogs croak while crickets twitter. If the visit is in the early evening, maybe fireflies could offer a variety of information. (Some birds use fireflies in their nests to provide light.)

A Pets Day can be organized as part of this week. Children who own pets can bring them to school. They can be introduced to friendly dogs, cats, rabbits, and birds, observing number of toes, texture of fur and food habits. They can bring different fish in a suitable container. Discussion about babies is always exciting: a baby dog is a puppy, a duckling is a baby duck, a baby lion is a cub, and so on. And above all, children learn to handle pets and treat animals gently, and with affection.

Trees can contribute a great deal to learning: a beehive on one tree, a woodpecker pecking at the trunk of another, or peeling off the rough bark, or a squirrel scurrying up and down (feathers and fur).

Association of one to one... 1 dog in a kennel, 2 birds in a nest, 3 eggs being hatched or 4 fish in a pond. (please treat these merely as suggestions, to be developed as per the convenience of the teachers)

c. *Protection of the Environment*

- Before preparing for an outdoor visit, each child must have *an extra napkin*.
- Children learn *not to pluck* flowers, and to care for plants.
- Children learn *not to throw* sweet wrappers or any other rubbish on the ground.
- Children are *not be allowed to eat chewing gum* or *spit it out.*
- Use of plastic MUST be discouraged.

  The teacher can lead the conversation to the importance of planting trees (*helps purify air and reduce pollution*).
- Children must learn to *wipe their shoes on a doormat* when going home after school.

- Children must be taught that hands gather dust all the time, especially after a farm visit. They must *not wipe their hands on their clothes.* They should *wash their hands properly and wipe them on clean napkins*

All this leads to *observation* (comparisons, similarities), *association* (grass is green and a cricket is green too), *logic and recognition* (this creature has two pairs of wings, which are not so colourful; so it is not a butterfly, but a moth). A hen lays big eggs, but an ostrich lays an egg equal in size to 24 hen's eggs! What about a pigeon's eggs, a frog's eggs and a mosquito's eggs?

d. *Vegetable and Fruit Day*

Encourage children to eat more vegetables and fruit because they are good for their health. A vegetable patch can be cultivated in the playground. They can bring, for example, 2 or 3 oranges, bananas, cucumbers, apples, carrots, guavas, and *chikoos*. A market is held, where each vegetable is priced at Rs 10. The children are given pretend money to buy vegetables and fruit from the market. At lunch time, the teacher could make fruit *chaat* for everyone to share... it is a good way to introduce recipes...

Make a chart showing pictures of common fruits and vegetables. Record the names of the children who eat these during one week. It is essential to explain that eating fruit and vegetables is healthy. For example, a banana, an apple, some grapes, cucumber, and tomato (a combination of green, yellow, and purple foods) or some pomegranates, *lady fingers*, radishes, carrots, and capsicums (red, green, white, orange, and yellow) are readily available fruits and vegetables.

Have a competition: ask the children to draw the fruits and the vegetables that they have eaten during the week. Compare their lists, and award prizes to those who have eaten the most fruits and vegetables during a week.

Theme activities may appear non-mathematical, but for 3 to 6 year olds, all learning is integrated. Most of the language used daily contains mathematical terms or references. A variety of experiences will lead to a greater field of knowledge as they grow, improved motor control, reasoning, (a frog cannot lay a big egg), and creativity, and develop observation, association, recognition, retention, and logic skills.

4. Games and mazes

The books contain plenty of interesting games and mazes that help maintain the children's interest in Maths. Most of these are based on the concepts taught in the books, so working with these helps revise and reinforce the concepts.

Create new mazes, where the children:

i) Pick up the fruits and the vegetables along the way, and not the pizzas and hot dogs.

ii) Pick up waste paper and put it in the dustbin.

iii) Pick (not PLUCK) all the pink flowers from the ground, and put them in a vase.

5. Worksheets

The pages in the introductory books are designed as worksheets. Based on each of these, the teacher can make additional worksheets for extra practice.

For example, *Introductory Book 1, page 3* shows halves of a butterfly and an ice cream. Additional worksheets may show halves of a flower, a bird, a chair, a bottle, or a tennis racquet. There are at least two ways to halve a circular cake (vertically … many, many, ways, and 1 way horizontally) and 3 ways to halve a square cake (one way is horizontally, and two ways vertically), but 4 ways to halve a triangular cake (one way horizontally, and 3 ways from the 3 corners vertically).

Worksheets with grids forming squares, triangles, and hexagons lend themselves to drawing different patterns.

Worksheets showing animals and their homes, other than those shown on page 5 of *Introductory Book 1* can be designed.

There can be more examples of IN and OUT (*Introductory Book* page 22) e.g. a boy going inside a house, and another one coming out, a rabbit in or outside a hutch, a seed in or outside a fruit.

For sequencing, design more patterns like those shown in *Introductory Books 2 and 3.* The children could be engaged in designing these worksheets; they will happily draw different patterns.

Based on the units on shapes, help the children make additional worksheets using pictures of the shapes being taught as on page 17 of *Introductory Book 3.*

C. Assessing the children's learning

Review and assess sections in all the three *Introductory Books* helps the teacher to assess the children' learning, retention, and understanding of concepts after a year.

End of term or annual tests are not recommended at this level. Use of words such as 'test' or 'examination' tends to create a sense of discomfort, or even fear, amongst children at this level; these terms are best avoided. If testing is necessary, it should be flexible and open-ended, with emphasis on assessing their retention, and their ability to understand and learn new concepts. Assessment throughout the term using worksheets or activities is a good alternative to testing.

Assessments may be conducted on the following lines:

1. Muscle control (Does the child sit upright? Can he/she write letters/numbers? Does he/she hold a pencil, spoon, or ruler in the correct manner? Can the child tie his/her shoe laces?)
2. Memory (Is the child good at memory games? Does he/she remember to say, 'Please' or 'Thank you'? Does he/she remember names of class fellows and shapes?)
3. Recognition (Can the child recognize shapes, or find objects/numerals/letters hidden in pictures?)

4. Association (Does the child associate brown shoes and brown clips with a brown T-shirt? Can the child group sets of objects according to numbers, shapes, colours, or any other characteristics?)
5. Observation (Can the child identify missing features in an incomplete picture of an animal? Can he/she place things in a prescribed sequence, e.g. ascending or descending order?)
6. Logic and decision-making, memory, association, recognition, and observation tasks develop reasoning and decision making skills. For example:
   a) 'The teacher has asked us to stand in a line in ascending order of height, starting in the front. I am the tallest. I must stand at the end of the line.'
   b) Squares are flat shapes, and wooden cubes are solids. To gift-wrap a box, flat paper is needed.

D. The three introductory years

A child's first association is with the parents and then with the other members of the family. They learn at home by seeing, hearing, feeling, smelling, and tasting. A baby starts with feeling, first (the warmth of his mother's embrace, the tight hug of his father, then seeing their faces and hearing their voices.)

At home, everything and everybody is warm and every corner is comfortable. The child leaves this comfortable atmosphere and comes to a new environment where new faces and things greet him/her. A bond of love, trust, and security must develop between the teacher and the child before learning-through-play can begin.

Affectionate gestures need to be transferred to school: a little touch on the hand, a little pat on the back, a hug. All these go towards creating a friendly environment for the child in school. The responsibility for this, and for forming friendly bonds with the children lies squarely on the shoulders of the teacher. A relaxed, easy posture, a soft voice, encouraging words, a friendly touch, and a caring attitude, must be demonstrated before any learning can start. All children in such an environment will always be happy, and grow up as happy youngsters.

E. Lessons

It is suggested that the teachers spend 30 minutes per lesson. However the time spent on each lesson is entirely on the teacher's discretion and the ability of the students to grasp the concept.

UNIT 1
REVIEW AND ASSESS 1

Teaching objectives

- to revise and review concepts introduced in Introductory year 2
- to revise numbers from 1 to 10
- to revise adding 1 to numbers from 1 to 10
- to develop observational skills
- to revise shapes taught in Introductory year 2
- to count groups of objects

Learning outcomes

Children should be able to:

- count from 1 to 10
- add 1 to numbers between 1 and 9
- identify familiar shapes
- match, pair, and find the odd one out from a given group of objects

Teaching materials

- cut-outs and items of familiar shapes
- counting beads
- number cards
- chart showing opposites

Learning activity

Lesson 1: Hidden numbers

Review of concepts already learnt is a very important part of teaching in the formative years. Concepts must be consolidated before new ones are introduced. When you revisit concepts, always use previous examples or activities so that the children can connect to them, and then move on to new examples and activities.

Use number cards and counting beads to revise numbers from 1 to 10. Beads can also be used to revise addition and subtraction.

Task: Children attempt page 1.

Lesson 2: Simple addition

The following activities will help reinforce numbers from 1–10 and make the learning process fun.

Play a card matching game where sets of cards are laid out face down and the children take turns to turn over two cards. If the numbers on them match, the child keeps the cards; if they are different, the cards are turned face down again and the next child tries to find a matching pair.

Cooking can be fun and very useful for revising counting: the cups (for milk, juice and flour) or spoonsful (for sugar and butter) as ingredients, are measured. Eggs can be counted: there were 6, we used 2, how many are left?

Use toy telephones for children to order kebabs, noodles, or pizzas. Write on the board numbers for various imaginary restaurants. Help each child in turn to dial an 8-digit landline number or a 10-digit cell number.

Encourage the children to create telephone numbers based on the numbers they know.

Task: Children should attempt page 2.

Lesson 3: Matching

Always try to relate teaching to real life experience. Children of this age are very observant and are able to come to conclusions themselves based on their earlier experiences. Show the children a number of objects and ask them to find the objects that are similar. Show them two toy cars, stuffed toy animals or dolls, and ask them to point out the similarities between each pair.

Task: Children attempt page 3.

Lesson 4: Recognizing shapes; pairing

To revise the names of shapes already learned, use the set of teaching aids from the previous year. Display gift-wrapped objects and ask the children to look at the shape of each parcel and guess what could be the toy inside.

Stamping with flat shapes, and looking at and counting the sides of 3-D objects are simple classroom activities to revise shapes. Colour the faces of a dice or write numbers from 1 to 6. Pyramid is another familiar shape to work with.

Talk about why things are similar or different, how to pair the same or similar objects, and how to differentiate the odd one out from a group of items.

Task: Children attempt pages 4–6.

Lesson 5: Counting; odd one out

Revise colours by asking the children to identify the colours of familiar objects. Revise numbers by asking them to count objects of the same colour or shape.

The following activities will help reinforce the concepts taught.

A slightly modified, I SPY WITH MY LITTLE EYE …

Something in groups of:

2: 2 eyes, 2 doors, 2 fans, 2 ears

3: 3 blades of a ceiling fan or a standard fan, 3 holes in an electrical socket, 3 dots on a dice, 3 legs of a stool

4: legs of a table, a chair and all animals

5: fingers or toes

6: dots on a large wooden dice, sides of a cube, corners of a cell in a beehive

While revising, talk about how things are similar or different. Encourage the children to pick out a different object from a group of similar things.

Show and discuss the chart of opposites.

Take the children out for a game of 'Simon says' and revise opposites through the game. For example,

Simon says, 'Lift your hands UP.'

Simon says, 'Put your hands DOWN.'

Simon says, 'Take a BIG step forward.'

Simon says, 'Point to the TALL lamp post in the grounds.'

One step FORWARD and one step BACK.

Task: Children attempt pages 7–10.

Additional resources

At the end of this guide are worksheets 1 and 2.

Use them to reinforce counting numbers.

UNIT 2
SHAPES

Teaching objectives

- to introduce the shapes, circle, square, rectangle, triangle, oval
- to relate shapes to familiar objects
- to identify shapes by their geometric properties
- to use shapes to draw objects

Learning outcomes

The children should be able to:

- identify circles, squares, rectangles, triangles, and ovals
- identify shapes by their geometric properties
- draw given shapes

Teaching materials

- play dough and shape cutters
- a chart of 2-D shapes
- a 'shapes' puzzle

Learning activity

Lesson 1: This is a circle. Colour the circle red.

Ask children to work in groups and give each group a lump of play dough and some cutters. Help them to roll out the dough and cut shapes as a baker would cut biscuits. As one group shows the shapes they made, the other groups should name the shapes and state a property of the shape, e.g. this shape has three sides.

List the properties as the children suggest them. Ask the child to trace the shapes with their fingers. As they do this, ask questions that will help them identify the properties of each shape and distinguish between similar shapes. For example, a circle and an oval have just one curved line around a space, but the oval is an elongated circle. This can be shown by cutting out a circle from the play dough slab and flattening it; then, stretch it from two opposite ends, to make an oval.

A square and a rectangle both have four sides, but all four sides of a square are of the same length. Demonstrate this by folding a paper square into two halves along a diagonal.

Associate the two shapes with familiar objects such as the ceiling, walls, windows, windowpanes, doors, tables, the surface of a duster, the board, books and the surface of a snack box.

Task: Children attempt page 11.

Lesson 2: This is a square. Colour the square blue.

Use play dough as in the previous lesson to explain the properties of a square.

Give the children square wooden shapes and ask them to put them together to make different patterns, tessellations, or fun shapes. There should be no spaces between the shapes. Ideas for tessellations can be found in books and on the Internet.

Task: Children attempt page 12.

Lesson 3: This is a rectangle. Colour the rectangle yellow.

Instructions are identical to those for Lesson 1.

Task: Children attempt page 13.

Lesson 4: This is a triangle. Colour the triangle orange.

Use play dough and wooden shapes as in previous lessons.

Instructions are identical to those for Lesson 1.

Task: Children attempt page 14.

Lesson 5: This is an oval. Colour the oval purple.

Use play dough and wooden shapes as in previous lessons.

Task: Children read page 15.

Lesson 6: Fun with shapes

Recap all the shapes introduced. Ask children to identify the shapes on page 16.

Give the children a selection of wooden shapes and ask them to make different patterns, tessellations, or fun shapes, (with no gaps between them) as in the earlier lessons. Ask them to count the number of triangles, squares, and rectangles they have used in their patterns.

Ideas for tessellations can be found in books and on the Internet. It is difficult to form tessellations with circles and ovals, unless there are other shapes involved.

Task: Children attempt page 16.

Lesson 7: Miss Robot; Find the difference.

Recap all the shapes introduced in the preceding lessons and ask the children to identify the shapes on page 17. This exercise will familiarize them with shapes of different sizes.

Do the exercises on pages 17 and 18 orally before asking the children to complete them in their books. Several other similar exercises can be given to reinforce the concept.

Task: Children attempt pages 17 and 18.

Additional resources

At the end of this guide are worksheets 3 and 4.

Use them to reinforce the shapes learnt.

UNIT 3
LENGTH, SPACE, AND DIRECTION

Teaching objectives

- to introduce the concept of length
- to compare the lengths of given objects
- to introduce the concepts of 'more' or 'less' space occupied by given objects
- to identify the directions up, down, right, and left

Learning outcomes

Children should be able to:

- use the term 'bigger' to compare the sizes of given objects
- use the term 'longer' to compare the lengths of given objects
- use non-standard units of measurement to measure given objects
- identify the directions up, down, right, and left

Teaching materials

- a set of similar toys, e.g. bats, animals, cars, etc. of different lengths
- small tiles
- sticks or rods
- strings of different lengths
- blocks of different sizes
- beads
- pencils of the same and different lengths
- paper

Learning activity

Lesson 1: Length

Give each child a picture and small tiles (approx. 10 cm square). Ask each child to guess how many tiles long the picture is. They should note down their answers.

Show the children how to use the tiles to measure the length. Refer back to their 'guesses' and see how close they were. Reward the child who made the closest guess. Repeat the exercise using a stick and some beads. The child threads the beads onto the stick to see how many beads will fit on it.

Ask each child to trace his/her stretched palm onto a piece of paper and cut along its outline. They should then use this cut-out to measure various objects in the classroom, and then compare their results. Discuss the different results. Explain how people in olden days used the length between the tip of their thumb and the tip of their little finger (demonstrate by holding out your hand) as a standard unit of length. Discuss the problems that could arise as a result of using this as a standard.

Discuss any local units of measurement that the children may know, e.g. litre for measuring liquid, metre for measuring length, etc. Ask for other ideas for a standard unit of length, for example, a pace, or the length of a foot.

Task: Children attempt page 19.

Lesson 2: Long and longer

Show the children a toy car and then a second car. Ask them to say which car is longer, e.g. the red car is longer than the yellow car, and other 'guessing games' like this. Repeat with other cars. Give groups of children 4 or five cars, ask them to arrange them in order of length and then ask them to compare them, using the word 'longer'. 'The green car is longer than the yellow car.'

Then, give the children rods, lengths of string, blocks of different sizes and ask them to arrange them according to their sizes. Reinforce the words long and longer.

Task: Children attempt page 20.

Lesson 3: Space: more or less

Give the children a group of objects and ask them to arrange them in order of size. As they do this, discuss which object occupies more space: a block or a bigger block?

Show the children several pairs of familiar objects and ask them to pick out the one, which occupies more space.

Task: Children attempt page 21.

Lesson 4: Directions

Introduce this concept with an action song:

You put your right hand in
You put your right hand out
You put your right hand in
And you shake it all about.
You do the Hoky Pokie
And you turn yourself around
And that's what it's all about.

Put your left hand……..

Put your right foot……

Put your left foot ……

Put your whole self in……..

Help the children do body motions when they are singing this song.

Take the children outside for a game of 'Simon Says' and give instructions such as left or right hand up or down, and so on.

Organize a treasure hunt. Hide some objects in different places. The children work in groups and hunt for the hidden items as you call out the instructions. Use directions, for example, take 3 steps to the right of …., take 7 steps to the left of…, look down at the…, the team that finds most items wins.

The children enjoy a blind-fold game. Put the children in pairs. Blind fold one of them. The other child has to direct his or her friend through a series of directions ('Turn right, take 2 steps.' OR 'Turn left, take 4 steps.') and taboos ('Don't step on the stone.' OR 'Don't touch me.') to reach the safe house.

Talk about the importance of directions and how useful they are in everyday life. Start with east and west, where the Sun rises and sets. Show them a large compass, and the manner in which the needle always points to the North.

Set a project to find out how each child comes to school each day. Have an open session were he or she talks about the directions taken on the journey from his or her home to school.

Task: Children attempt page 22.

Additional resources

At the end of this guide are worksheets 5 and 6.

Use them to reinforce length and direction.

UNIT 4
COLOURS

Teaching objectives

- to introduce the colours pink, brown, grey, black, and white
- to produce the colours pink, brown, and grey by mixing paints
- to associate the new colours with familiar objects and animals

Learning outcomes

The children should be able to:

- identify the colours pink, brown, grey, black, and white
- mix 2 colours to produce pink, brown, and grey
- name some items that are pink, brown, grey, black, and white

Teaching materials

- a chart showing the rainbow with the letters VIBGYOR written on it
- spectacles made with card frames with pink cellophane paper lenses
- red, white, green, and black paint
- objects of different shades of pink, brown, and grey

Learning activity

Lesson 1: It's magic!

Display a large chart of a rainbow, with the letters of VIBGYOR written on each band of colour. Talk about the names of the colours represented by the letters. If possible, make a chart with fabrics making up the arches of the rainbow according to this order:

V … violet

I … indigo

B … blue

G … green

Y ... yellow

O … orange

R … red

Ask the children to name the primary colours: blue, red, and yellow.

Show them some pink objects and introduce 'pink' … the name of the colour. Make spectacles with card frames and lenses made from pink cellophane paper. Let the children look at different familiar objects through these glasses. Ask them the colour of each object when seen with the naked eye and through the glasses.

Mix red and white paint on a palate and show how it makes the colour pink.

Task: Children attempt page 23.

Lesson 2: It's magic!

Ask the children to bring a brown object from home. Recap the primary colours. Remind them that red and white make pink.

Mix the colours red and green (or red, yellow, and blue) on a palate to show how they can get a new colour: brown. Show different objects that are brown ……. hair, shoes, socks, buttons, book covers, desks, window panes. The choice is vast. Ask them to name and show the class the brown objects they have brought from home.

Task: Children attempt page 24.

Lesson 3: Black and white

Give the children black and white paint and ask them to mix the colours, in different proportions, to get shades of grey.

Ask them to name some objects that are black, some that are white, and some that are grey.

Look for objects in the classroom that are black or white (not a difficult task). Take the children outside and ask them to name objects that are pink, brown, or grey.

Recap how mixing two colours will produce a new colour. Introduce the terms light and dark by showing items that are light and dark shades of the same colour. Explain that adding black will make a colour darker and adding white will make a colour lighter.

Cover the glass of some torches with different coloured cellophane. Switch off all the lights in the room. The children turn the torches on and aim the beams on the white walls and the ceiling to see a variety of colours and shades.

Task: Children attempt page 26.

Additional resources

At the end of this guide are worksheets 7 to 9.

Use them to reinforce colours.

UNIT 5
SEQUENCING

Teaching objectives

- to introduce the concept of sequences
- to practice sequencing in the right order
- to practice sequencing three different elements
- to introduce ordinal numbers

Learning outcomes

The children should be able to:

- identify the sequence of a given pattern
- continue a given sequence
- identify and copy sequences of three given elements
- use the first three ordinal numbers correctly
- identify what happens next in a given sequence of pictures

Teaching materials

- sets of matching and different objects
- paint
- sheets of paper

Learning activity

Lesson 1: Complete the sequence

Take the children outside and show them the pattern in which the petals of a flower are arranged (in circles), the pattern in which leaves grow on a stem (sometimes next to each other on opposites sides and at other times one higher than the other). Tell them that some flocks of birds fly in a V- shaped formation.

Use the example of the colours of the rainbow to introduce the concept of a sequence; the colours in a rainbow always follow each other in the same order.

Ask the children to stand in rows. Explain that you are going to ask them to complete a sequence of movements. Call out the following instructions:

1. Clap your hands,
   Touch your head,
   Clap your hands.
2. Arms by your sides.
   Stretch your arms straight up
   Stretch your arms to the sides (like a cross)
   Clap your hands, clap your hands,
   Arms down, by your sides.
3. Walk 2 steps front, 1 step back
   Repeat a few times with different instructions such as:
   3 steps front, 1 step back
   3 steps front, 2 steps back
4. Clap your hands, 10 times
   Stamp your feet 2 times
5. Turn right
   Shake your right hand with the right hand of your neighbour.
6. Turn left
   Shake your left hand with the left hand of your neighbor.

Repeat….

Ask a child volunteer to create a short action sequence to perform in front of the class. The children observe carefully and describe or copy the sequence.

Explain how the actions are being performed in a sequence.

Task: Children attempt page 27.

Lesson 2: Continue the sequence

Recap the concept of a sequence. Ask a child to place some given objects in a sequence. Ask another child to continue the pattern by copying the sequence.

This activity can be done in pairs or groups. Give them a few similar or different objects, and ask them to create their own sequences. Make sure each group can show and explain their work to the entire class.

Put the children in groups of three and give them coloured paints. Ask them to create their own colour sequences on a sheet of white chart paper.

Task: Children attempt pages 28 and 29.

Lesson 3: Tick (✓) the 1st . …

Tell the children the first, second, and third thing that you do in the morning; the first, second, and third thing that you do after arriving at school.

Ask the children to list the activities that they do first thing in the morning. What is the second thing they do? What is the third thing they do? What is the first thing they do when they arrive at school? What is the second? What is the third? What is the first lesson on Mondays? Second lesson? Third lesson?

Ask three children to stand in line, and ask who is first, second, and third.

Ask a child to perform three actions, such as 'Raise your arms straight over your head', 'Touch your toes', and 'Stand up straight.' Ask what the first, second, and third activities were.

Task: Children attempt page 30.

Lesson 4: What comes next?

Ask the children to look at the pictures on page 31. Discuss the manner in which they should number the pictures so that they are in the correct order, before asking them to complete the task and then continue the story. Each child tells his/her version of the story.

Play BUZZ to create a pattern. For example: 1 (clap, clap) Buzz; 2 (clap, clap) Buzz; 3 (clap, clap) Buzz, up to 50.

This exercise will also revise counting to 50. It is not easy: you may need to remind children of which number to use after each Buzz.

Task: Children attempt pages 31 and 32

Additional resources

At the end of this guide are worksheets 10 and 11.

Use them to reinforce sequencing.

UNIT 6 NUMBERS

Teaching objectives

- to revise numbers from 1 to 10
- to revise addition of numbers
- to introduce the number line
- to practice adding two digits up to 10
- to introduce subtraction up to 10
- to practice number sequencing
- to teach the written form of numbers from one to ten
- to teach simple counting up to 100

Learning outcomes

The children should be able to:

- count accurately and confidently up to 10
- add two digits up to 10
- use a number line for addition and subtraction
- sequence numbers correctly
- count scattered objects
- write in words the numbers from 1 to 10

Teaching materials

- objects such as tables, chairs, chalk/markers, and books
- toys, beads, and balls
- pictures of various objects to practice counting

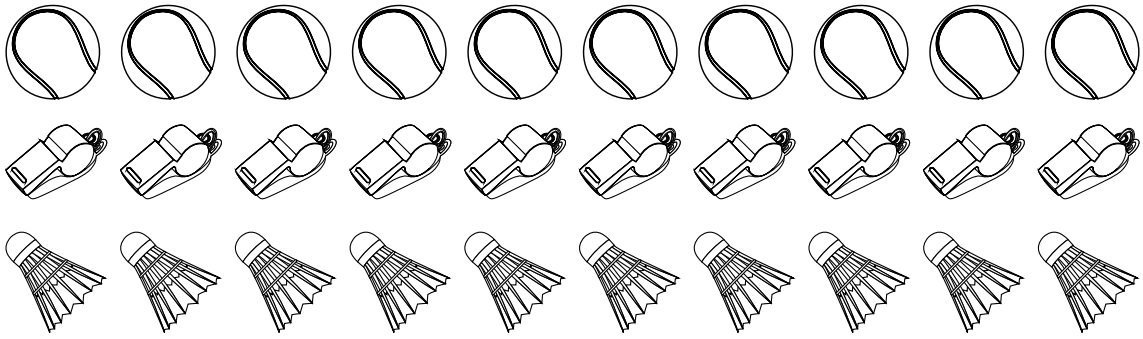
Learning activity

Lesson 1: Ten; Zara's birthday; Count and draw

Ask the children to write the numbers 1 to 10 in the sand with a stick, or on the board with a marker/chalk.

Ask them to count aloud from 1 to 10. Show them sets of objects and ask them to count each set. Ask them to count the chairs or tables in one row, and so on. They make groups of 10 from tiffin boxes, books, chalks, pencils or any other objects easily available.

Keep them in 10s as shown:



The children understand the concept of groups of 10.

Ask questions such as: You have 8 slices of bread; if you take two more, how many will you have?

Task: Children attempt pages 33–35.

Lesson 2: Number line, Addition

Ask the children to count a number of objects, e.g. toys and books. Add one more to each set, and ask, 'How many are there now?'

Draw a number line on the board. Explain how adding 'one more' takes you to the next number.

Do the same with adding more objects. For example, 'If you have 2 balls, and add 2 more, how many balls do you have altogether?'

Task: Children attempt pages 36–39.

Lesson 3: Subtraction

Numbering steps on the school staircase is very useful for demonstrating 'more or less', 'one more, one less', and addition and subtraction concepts.

A number line is also a very useful tool for demonstrating one more, one less, addition and subtraction. Draw a number line on the board or on the floor. Work as for 'addition' … for '1 less' one needs to move to the left of the number.

Task: Children attempt pages 40 and 41.

Lesson 4: Number sequence, Number ladder

This lesson practices numbers from 1 to 10. By now, children should be able to count from 1 to 10 confidently. They should be able to count backwards as well. They practice backward counting, if necessary.

Show a number of objects or pictures and ask the children to count them. Ask them to count backwards to zero, as you remove the items one at a time.

Task: Children attempt pages 42–44.

Lesson 5: What's the number? Count and write

Count from 1 to 10, pausing in places for children to fill in the next number. Do this several times until they are confident with having to insert the given number.

Write the numbers from 1–10 on the board, leaving out some numbers. Ask child volunteers to write the missing numbers.

Ask the children to listen carefully as you count from 1–10. Explain that one number will be missed out every now and then; they will be required to call out the missed number.

Ask them to read the numbers from 1 to 10 in words.

Task: Children attempt pages 45–48.

Lesson 6: Counting

Make two groups of toys; ask the children which group has more. The children count the items in both groups, and answer. Repeat this activity with different groups of items. Are there more boys or girls? More pencils or erasers? More windows or doors?

Ask the children to look at page 51. Teach them the names of the new numbers from 11 to 100. Count with the children …. 1, 2, 3, 4, 5, ……..100.

Ask each child to count from 1 to 100. Repeat this several times, starting with a different child each time.

Ask the children to count in groups and individually.

Have a 10 x 10 chart on the wall (large numerals), starting with 1, going up to 100.

Give each child a 10 x 10 square sheet of paper, big squares, with a few numbers randomly filled in. Each child completes his sheet, looking at the wall chart, if necessary.

Task: Children attempt pages 49–51.

Additional resources

At the end of this guide are worksheets 12 to 16.

Use them to reinforce numbers, addition, and subtraction.

UNIT 7
REVIEW AND ASSESS 2

Teaching objectives

- to reinforce and assess learning of concepts taught during the year
- to review counting, addition, subtraction, shapes
- to reinforce more or less

Learning outcomes

The children should be able to:

- demonstrate understanding of concepts taught during the year
- perform addition and subtraction of numbers from 1 to 10
- use a number line correctly to add and subtract numbers from 1 to 10
- identify circles, squares, rectangles, triangles, and ovals
- compare given quantities and amounts and state which is more or less
- count and write numbers from 1 to 100

Teaching materials

- revision worksheets

Learning activity

Lesson 1: Count and write the numbers

Ask the children to repeat the numbers from 1 to 100. Go through the earlier chapters in the Teaching Guide for Maths Wise Introductory 3, as revision.

Task: Children attempt pages 52–55.

Lesson 2: Addition

Use any practical exercises not completed. Work with familiar objects, charts, and on the board, as necessary to revise addition.

Task: Children attempt pages 56–59.

Lesson 3: Count how many: yellow circles; More and fewer

Revise the shapes taught. Ask children to identify the shapes of familiar classroom objects Show pairs of shapes, cut-outs and ask, 'Which triangle is bigger? Which circle is smaller?'

Revise addition and subtraction using familiar objects.

Task: Children attempt pages 60 and 61.

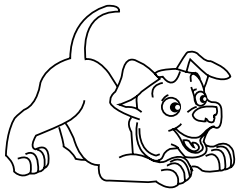
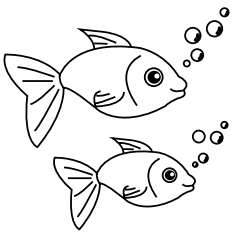
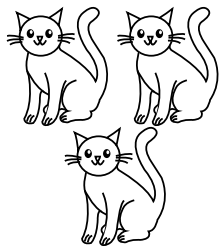
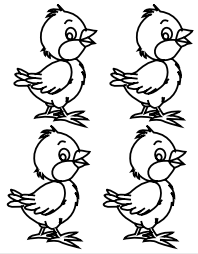
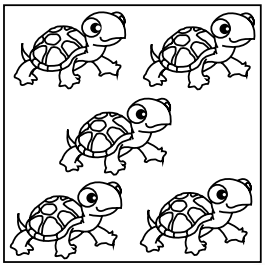
Additional resources

At the end of this guide are worksheets 17 to 19.

Use them to reinforce concepts taught.

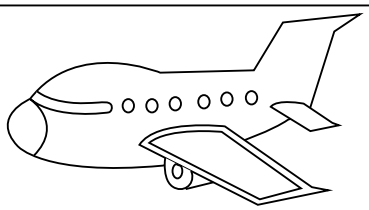
Worksheet 1

Trace the numbers and then write them.

	1		
	2		
	3		
	4		
	5		

Worksheet 2

Count and circle the correct number.



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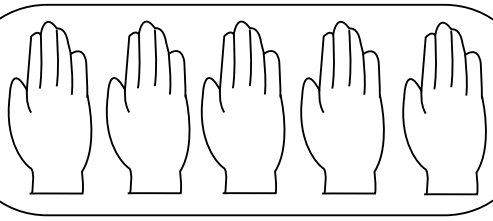
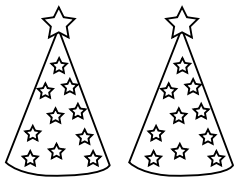


5 4 2



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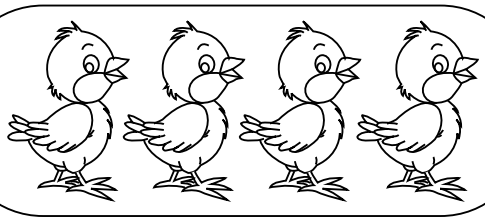

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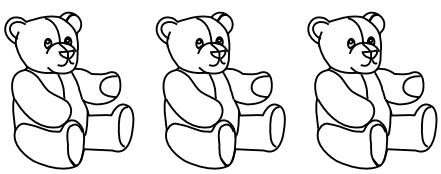
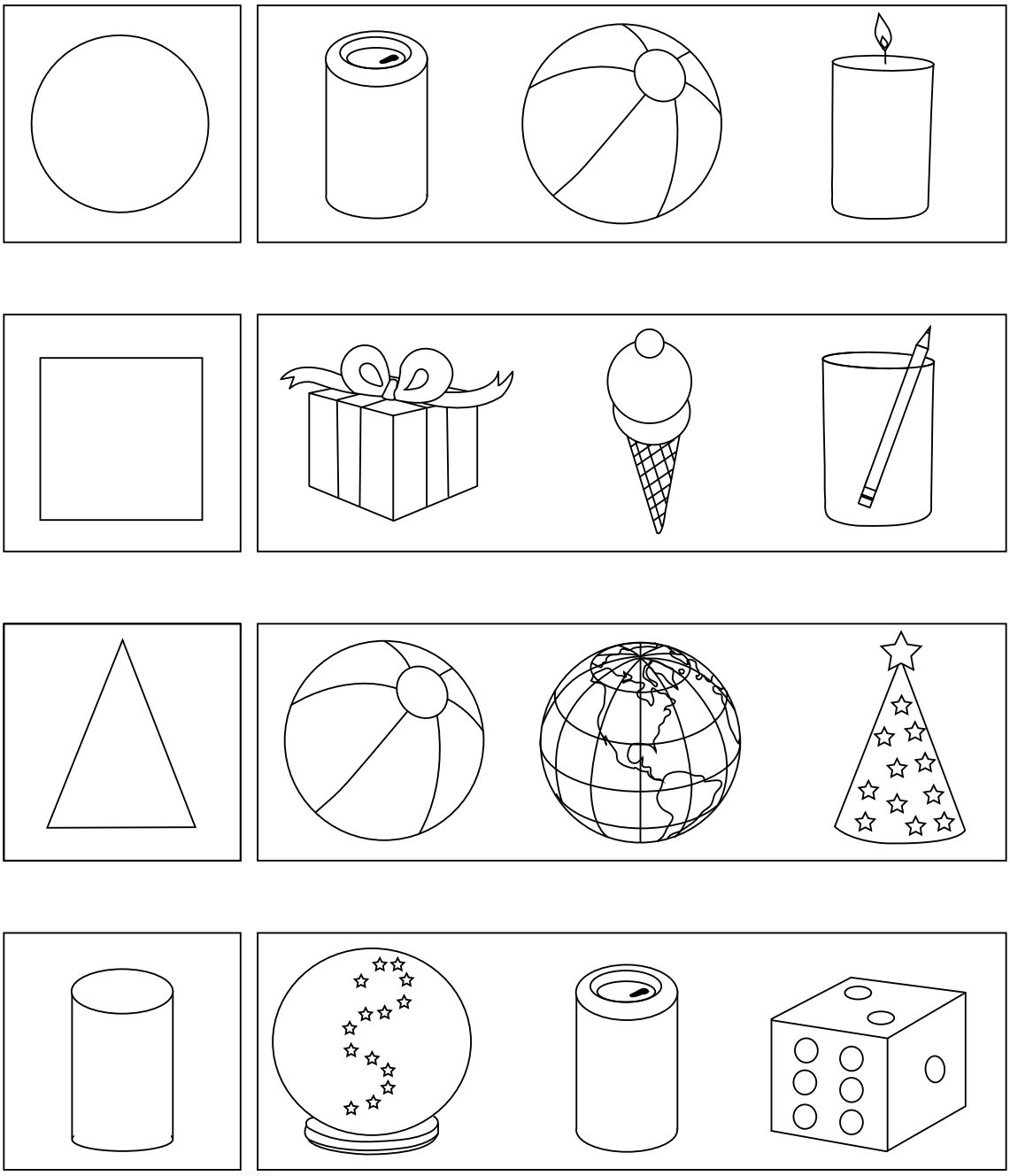


2 1 3

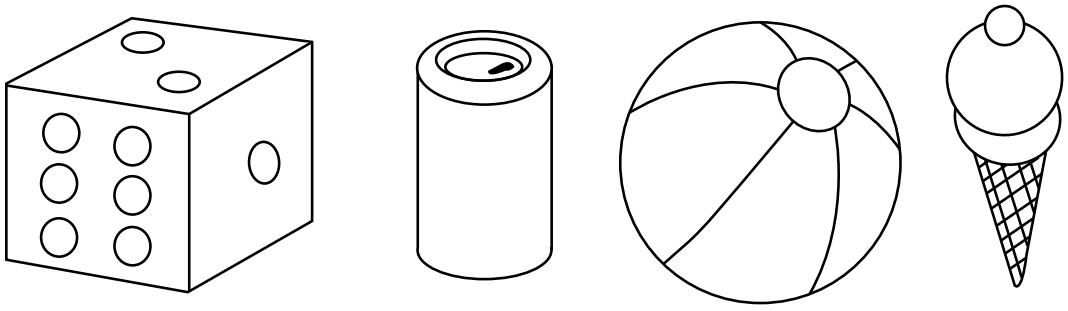
Worksheet 3

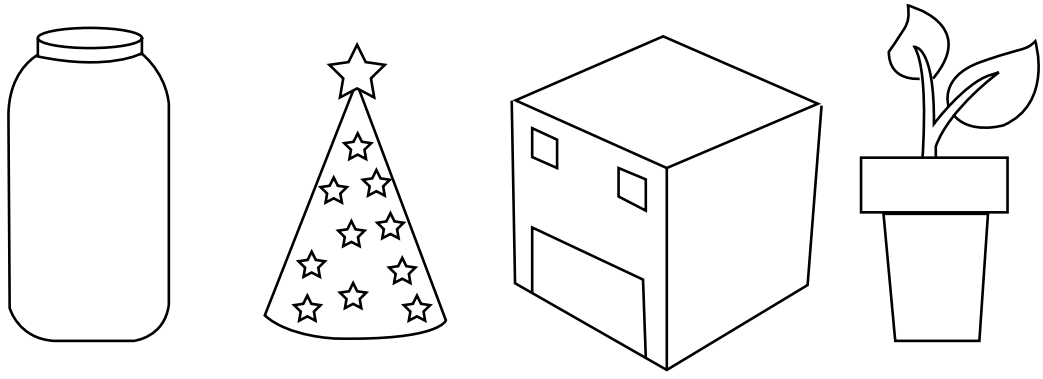
Match the shapes with the objects and colour them.

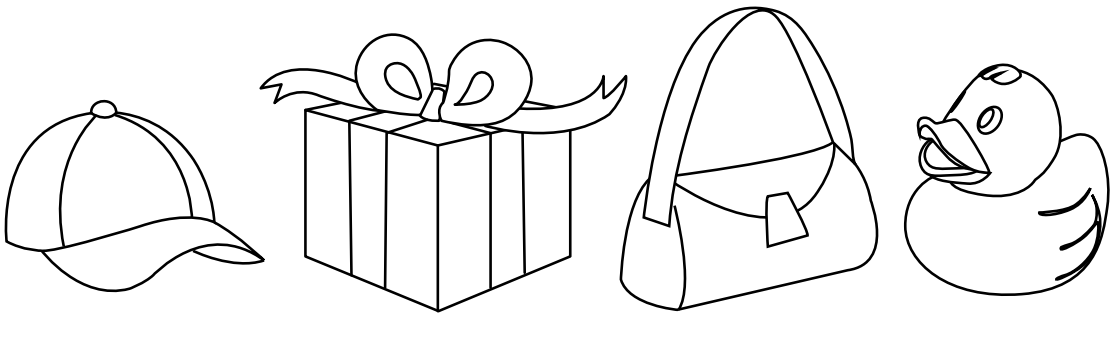


Worksheet 4

Circle the shapes with a square surface and colour them.

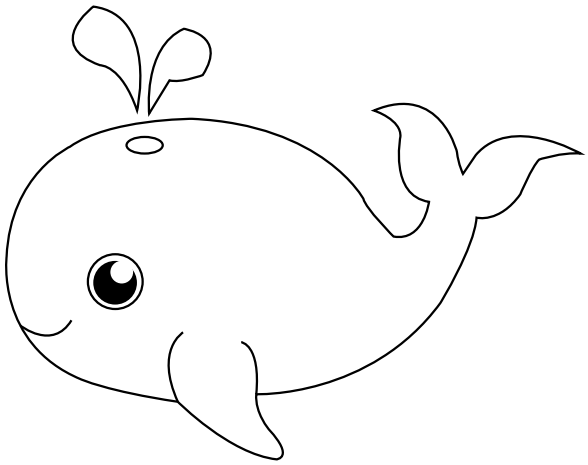


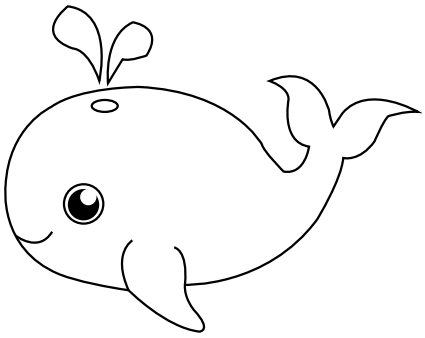


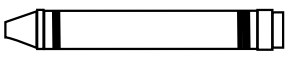


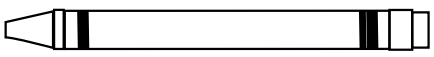
Worksheet 5

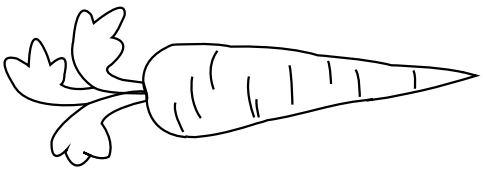
Tick (✓) the one that is longer.





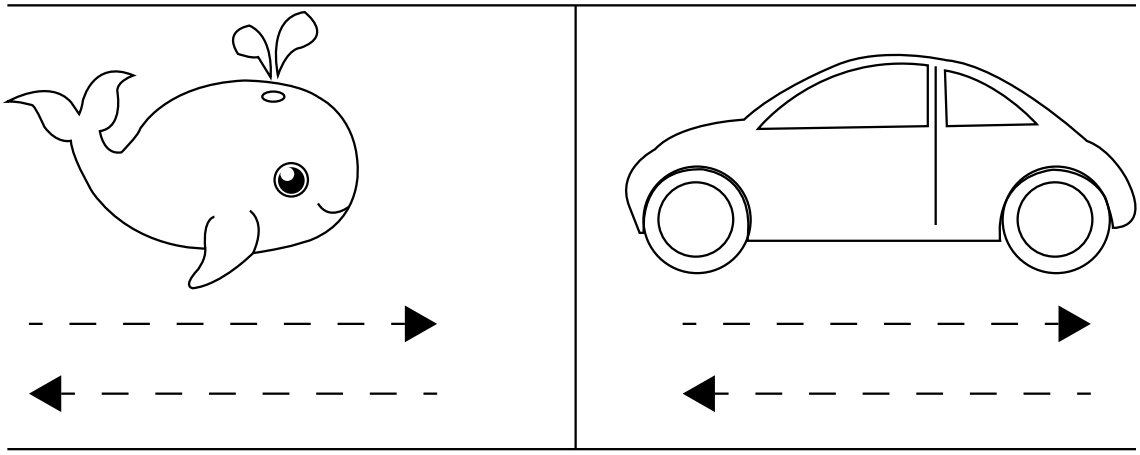


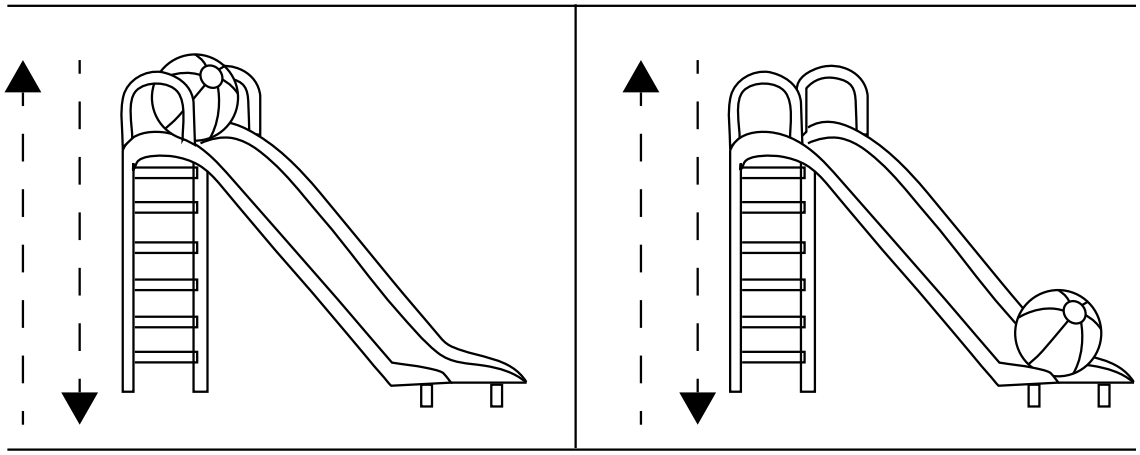




Worksheet 6

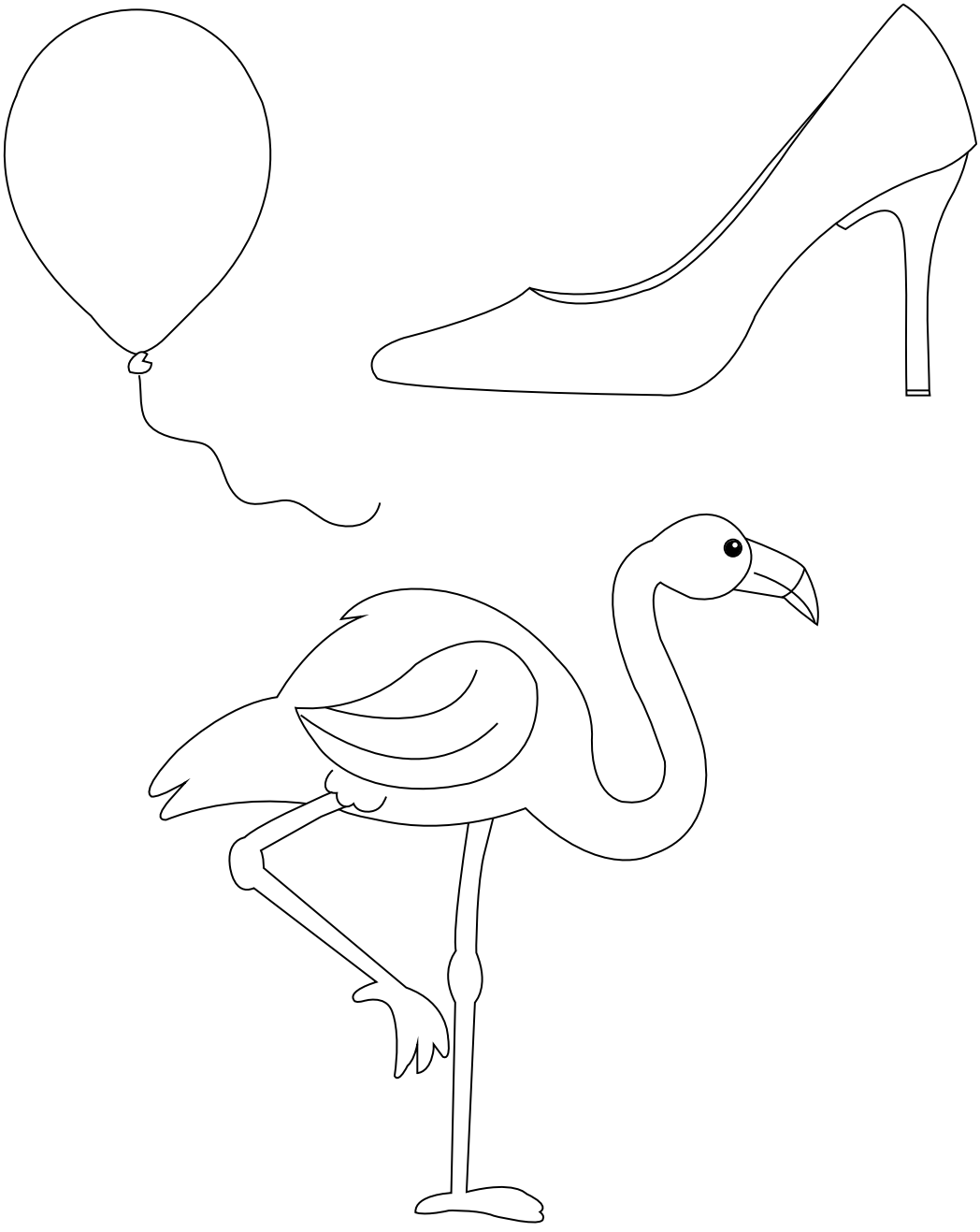
Trace the arrow that shows the correct direction.





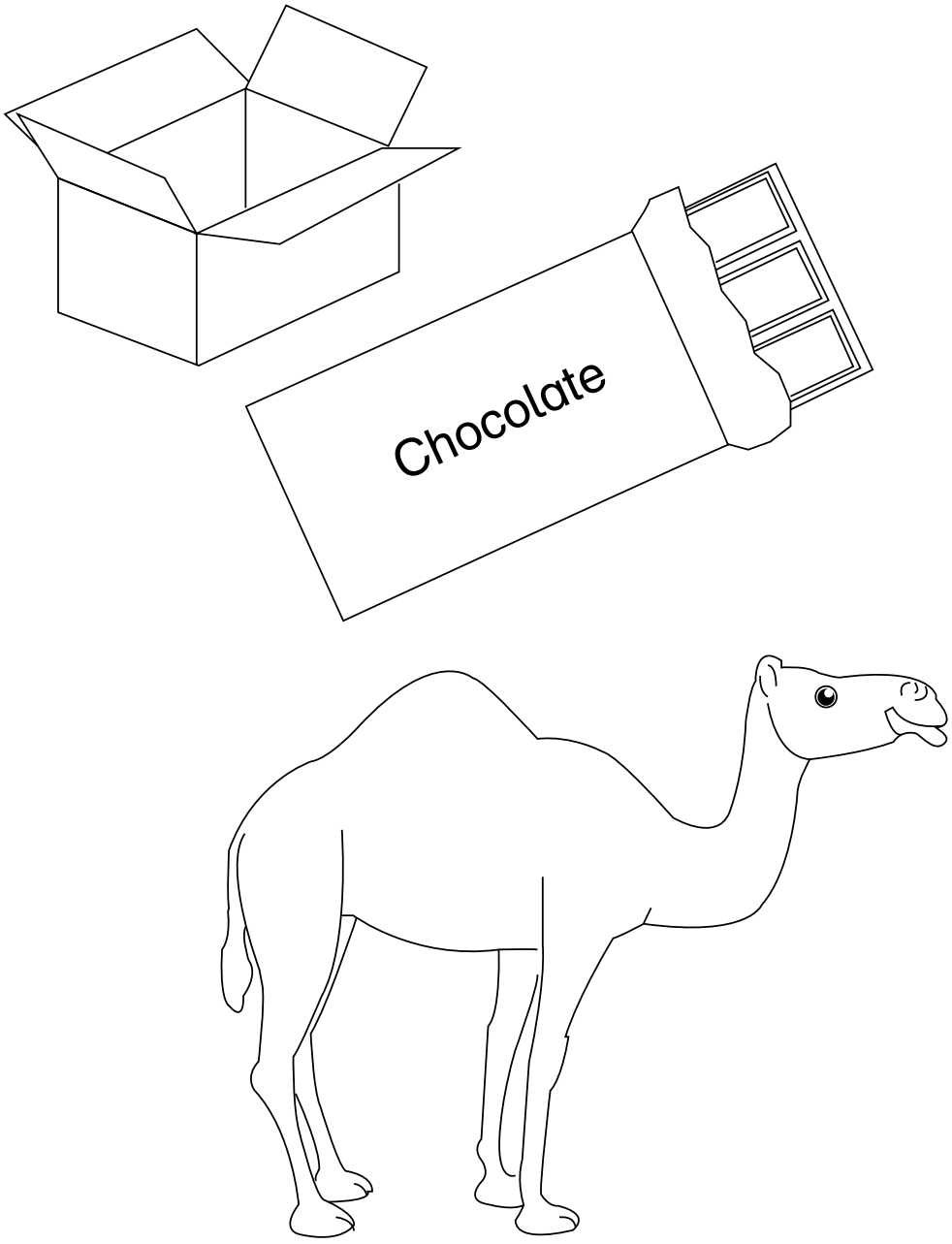
Worksheet 7

Colour these pink.



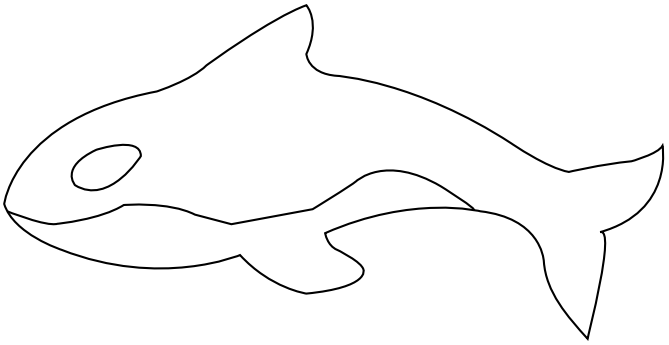
Worksheet 8

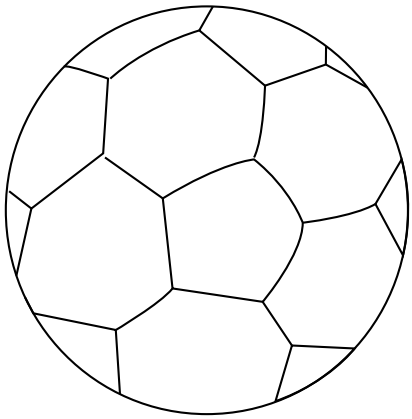
Colour these brown.

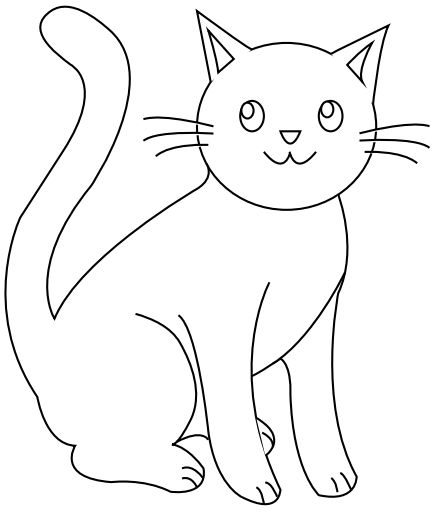


Worksheet 9

Colour these black.

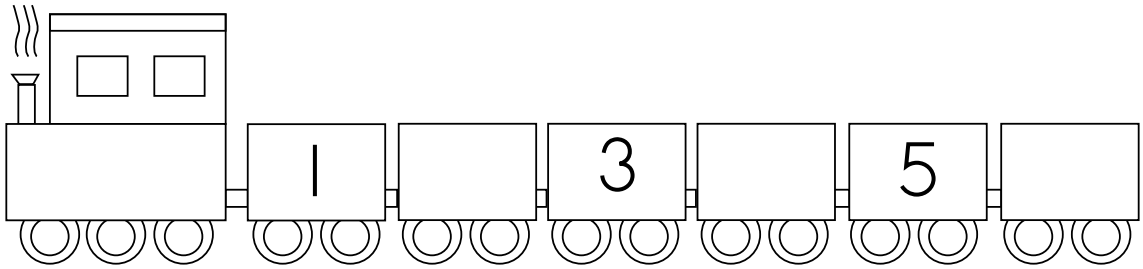


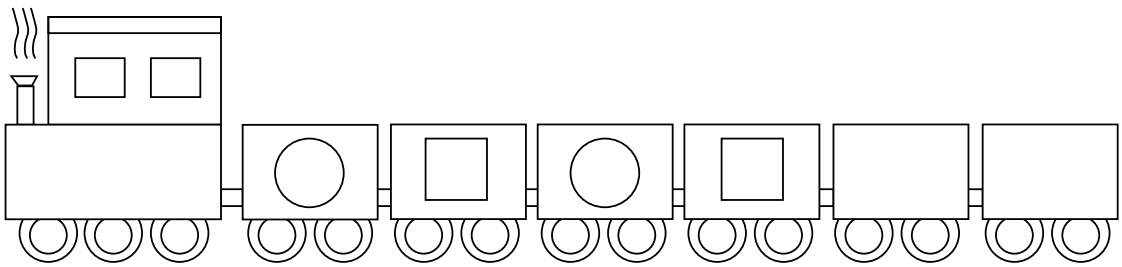


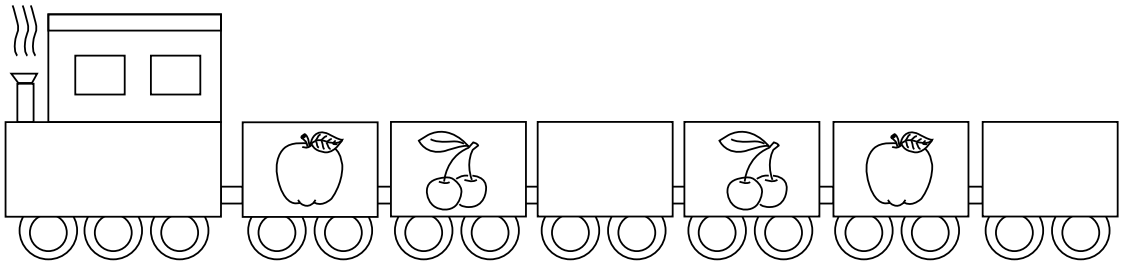


Worksheet 10

Complete the sequence.

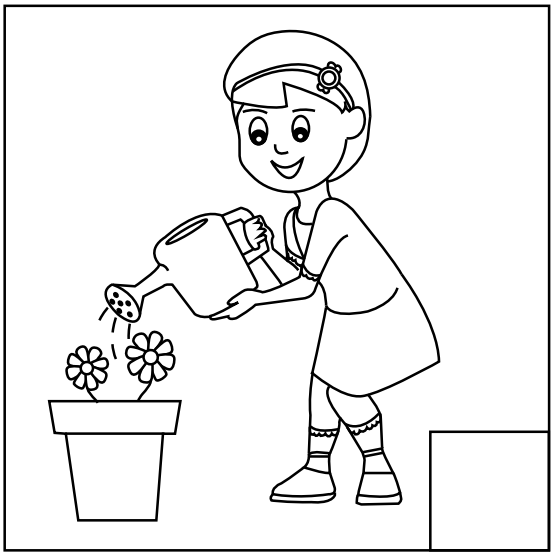


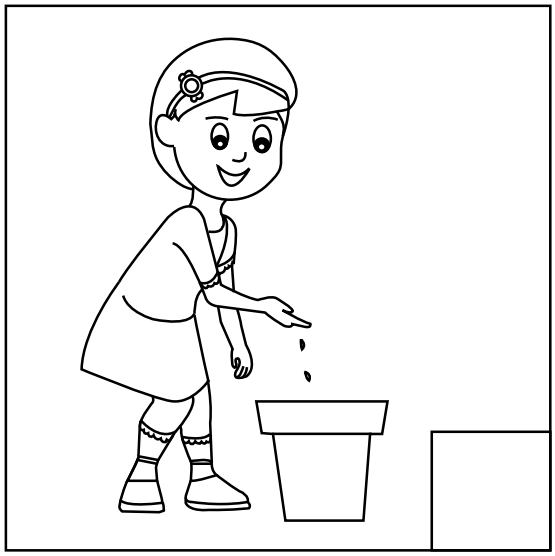


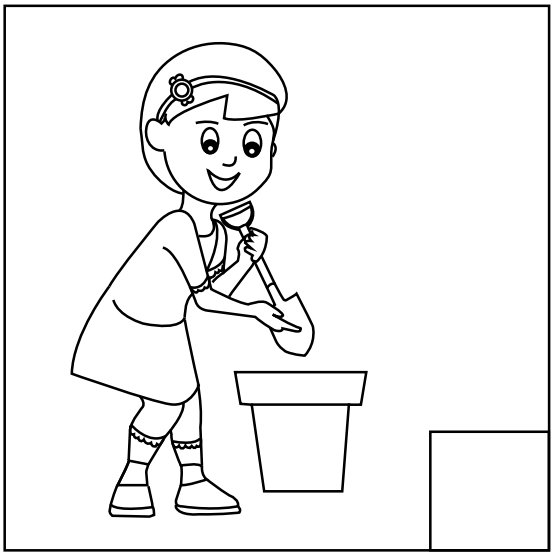


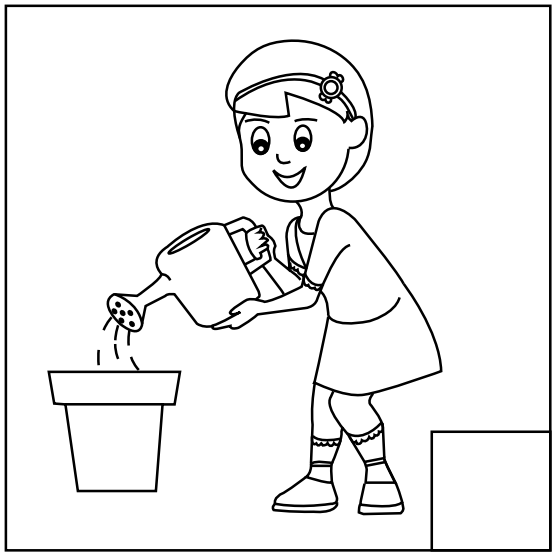
Worksheet 11

Number the pictures in the correct sequence.



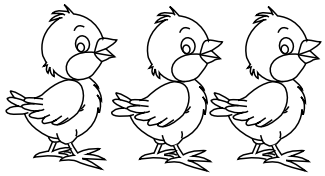
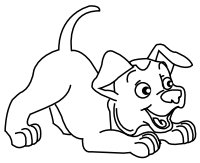
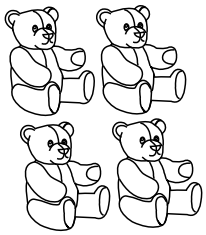
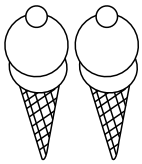
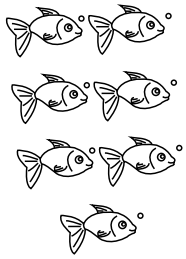




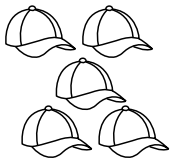


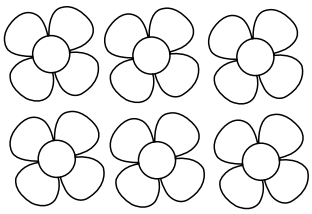
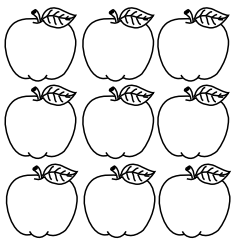
Worksheet 12

Count and match with the numbers.

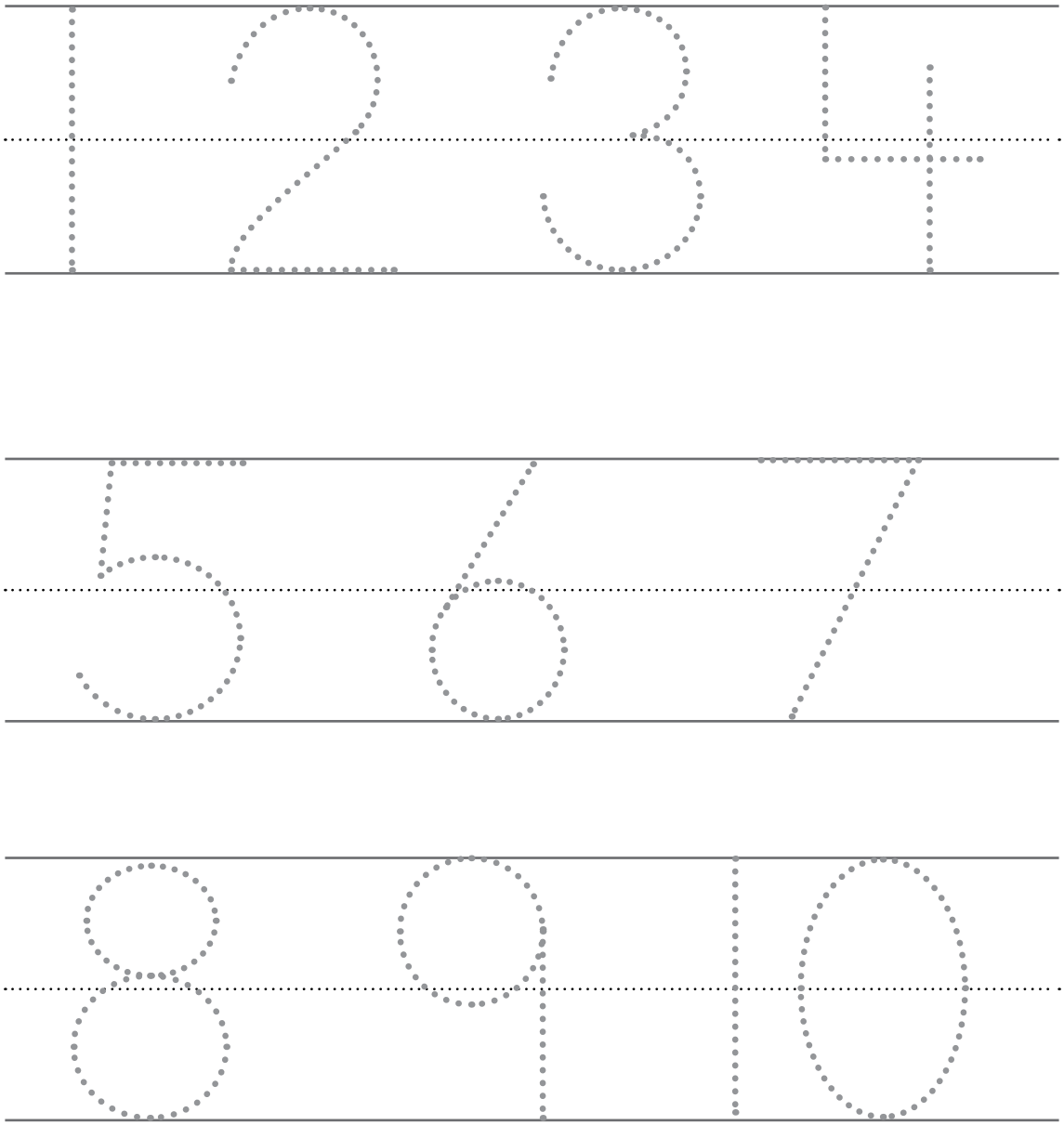
1	2	3	4	5
6	7	8	9	10



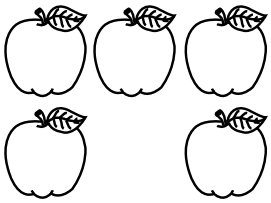

Worksheet 13

Count and trace.



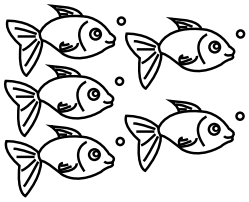
Worksheet 14

Addition

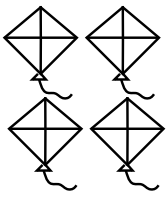


5 + 2 =

8 + 3 =



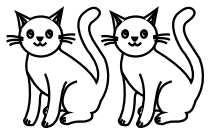
5 + 2 =



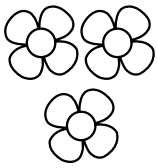
4 + 2 =

Worksheet 15

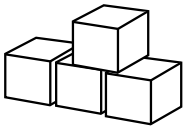
Subtraction



2 − 1 =

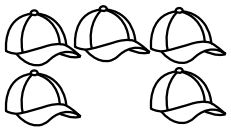


3 − 2 =



4 − 2 =

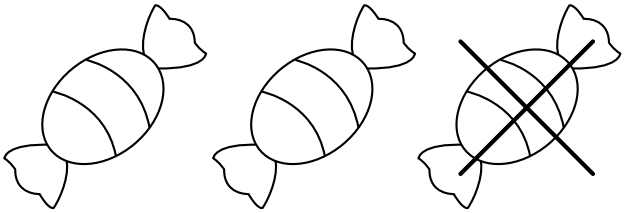
6 − 2 =



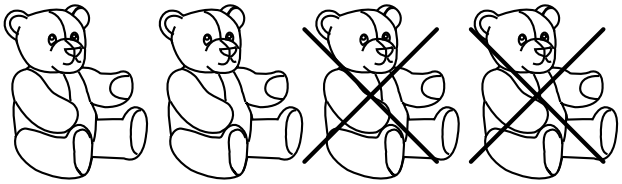
5 − 2 =

Worksheet 16

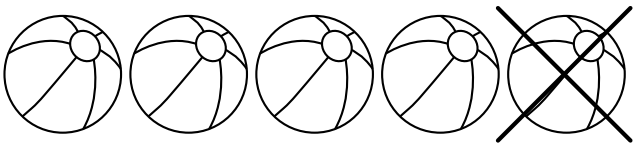
Subtraction



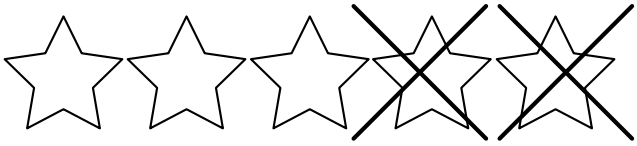
3 − 1 = ☐



4 − 2 = ☐



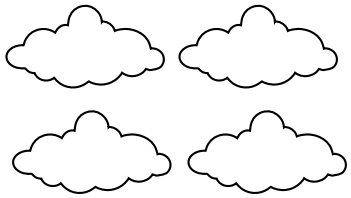
5 − 1 = ☐



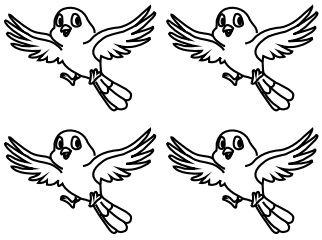
5 − 2 = ☐

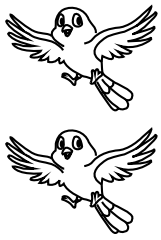
Worksheet 17

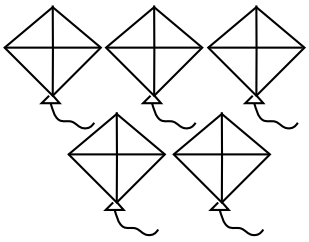
Count and write.

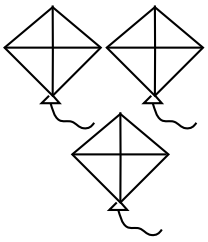


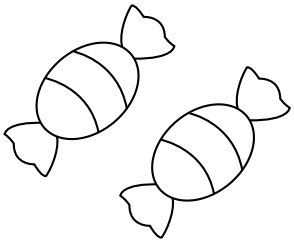
4 +  3 = ☐

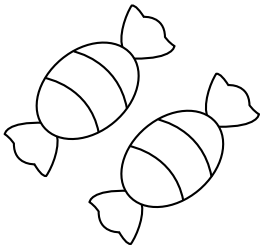


4 +  2 = ☐



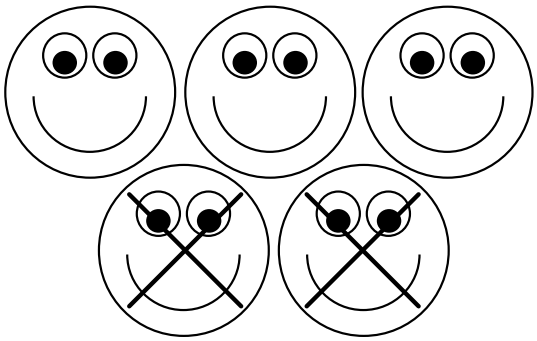
5 +  3 = ☐



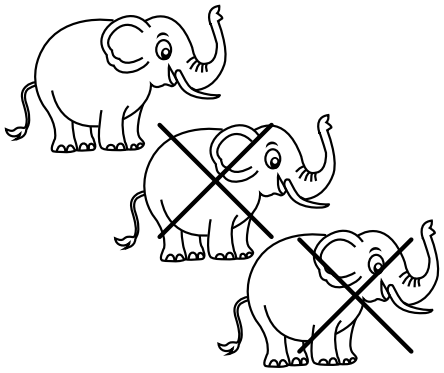
2 +  2 = ☐

Worksheet 18

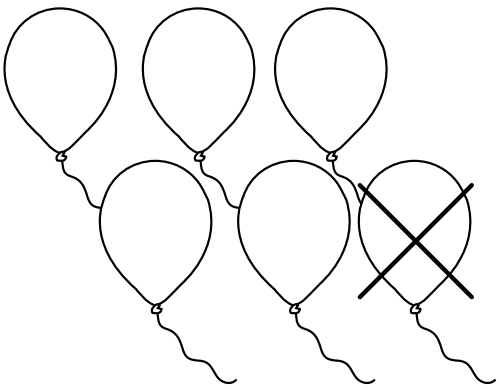
Count and write.



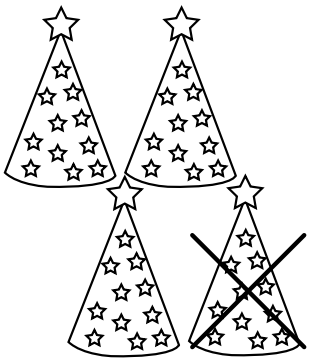
5 − 2 =



3 − 2 =



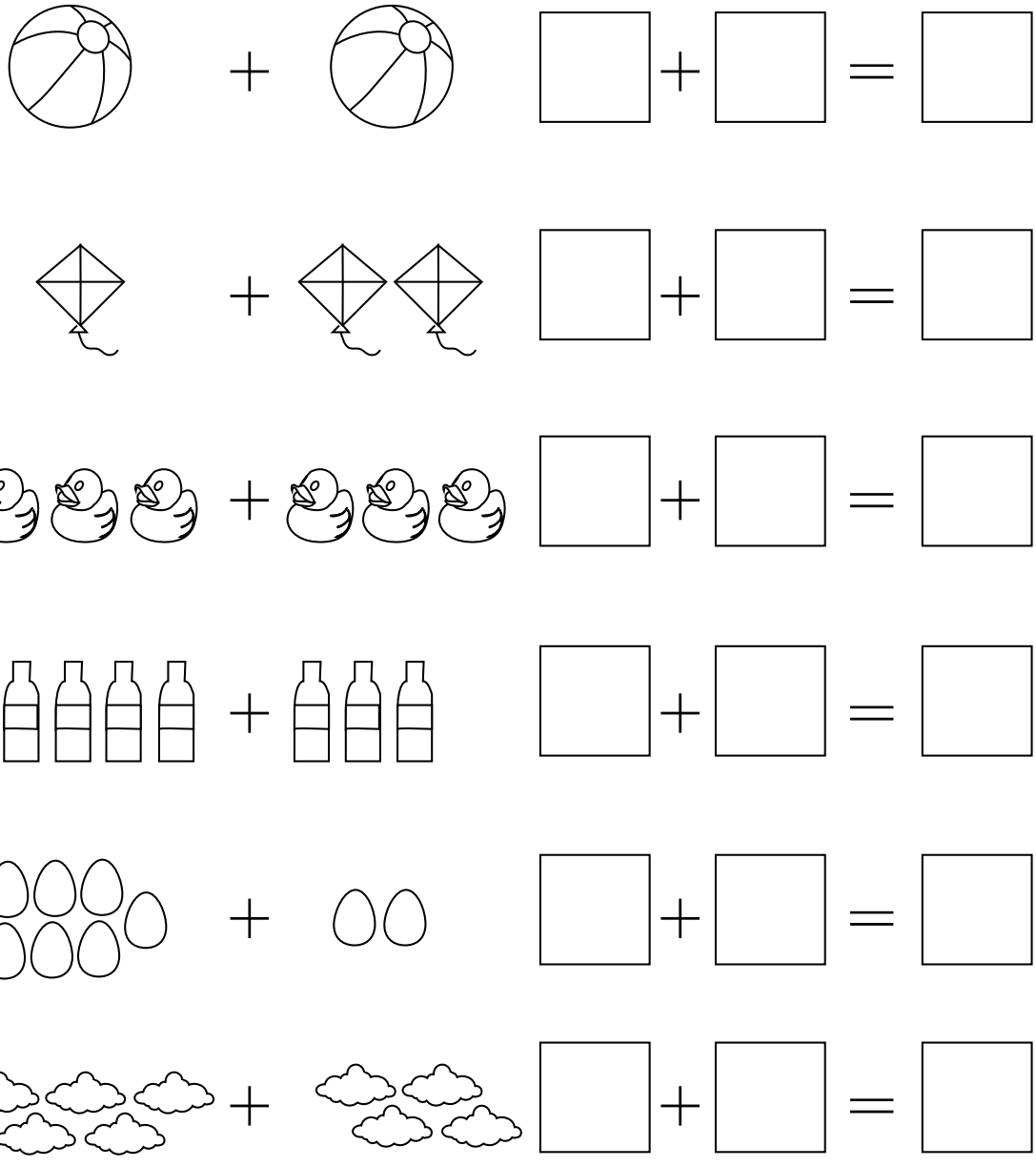
6 − 1 =



4 − 1 =

Worksheet 19

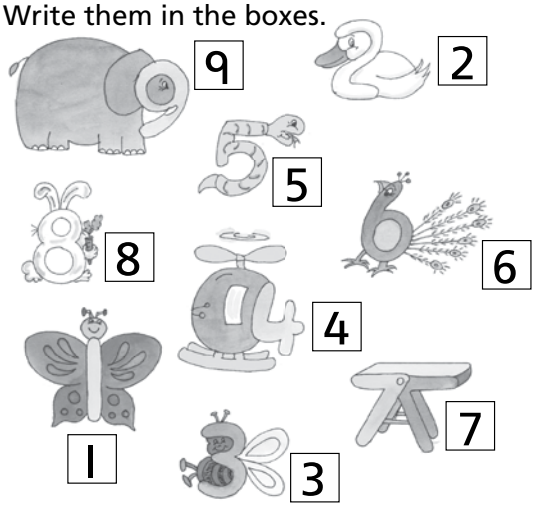
Addition



Solved Exercises: Introductory Book 3

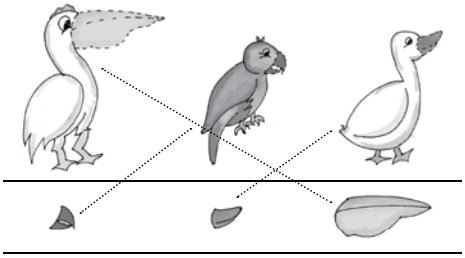
Page 1

- Find the numbers in these pictures. Write them in the boxes.

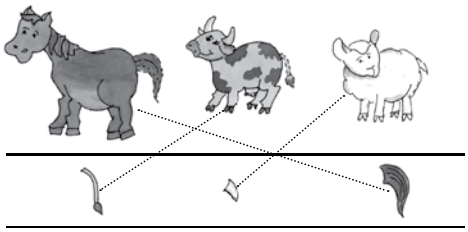


Page 3

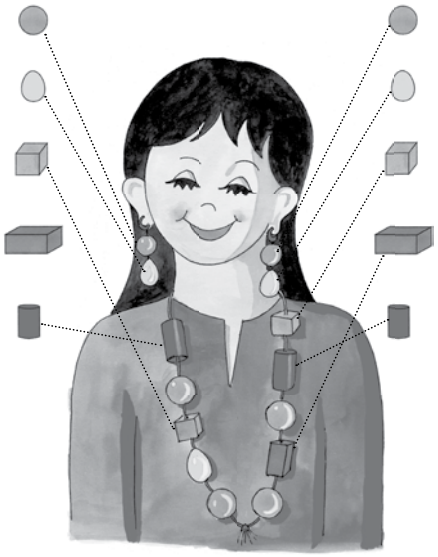
- Draw a line from each bird to the correct beak.



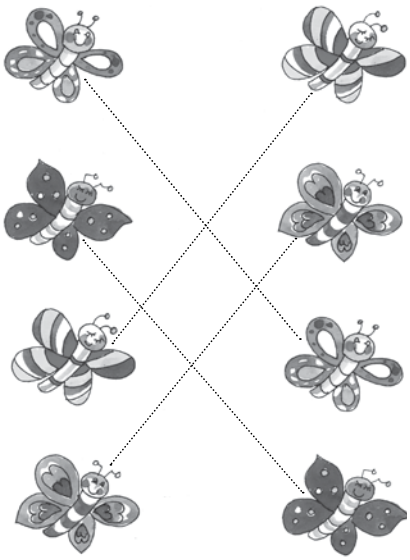
- Draw a line from each animal to the correct tail.



Page 4

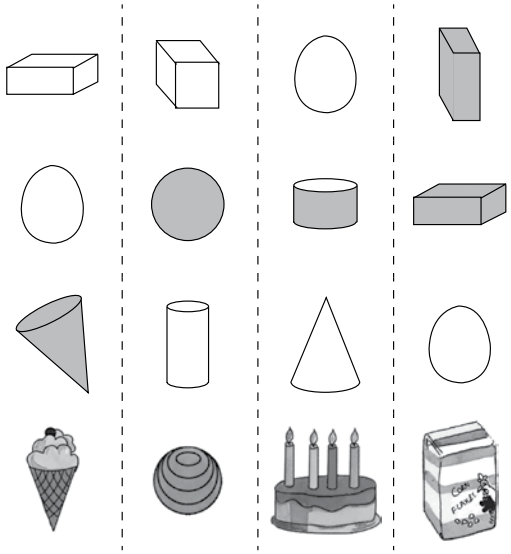


Page 5



Page 6

Colour the shape in each column that matches the object at the bottom.



Page 7

Counting

How many stars are there? ☆ 9

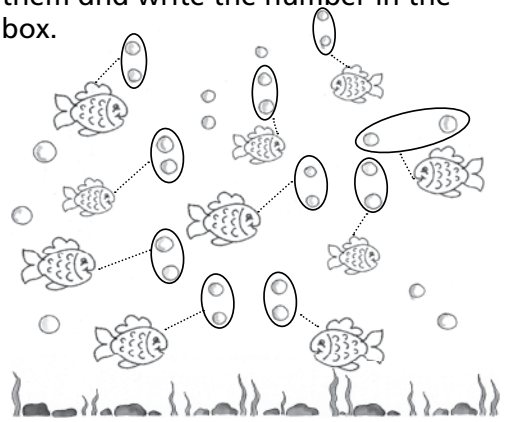
How many flowers are there? ✿ 8

How many candles are there? 7

Page 8

Colour the big fish red. Count them and write the number in the box. 6

Colour the small fish yellow. Count them and write the number in the box. 4

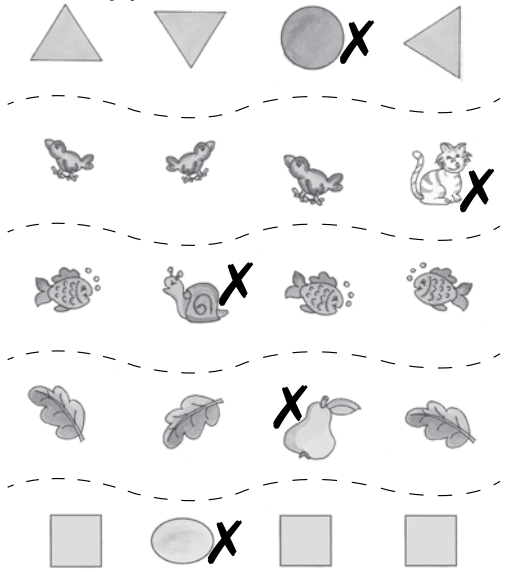


Draw lines to join each fish to two air bubbles. How many bubbles are not joined? 8

Page 9

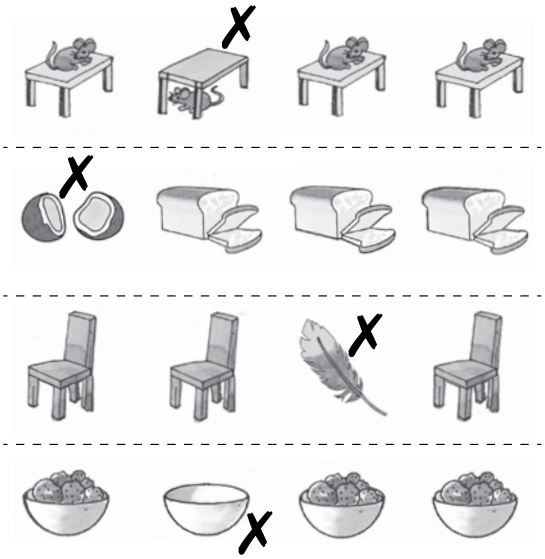
Odd one out

Cross (x) the odd one out.



Page 10

Cross (x) the odd one.

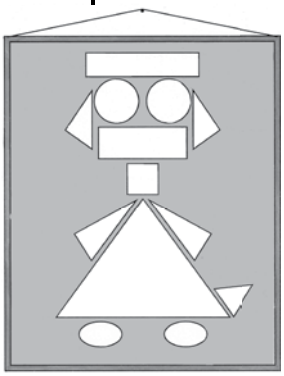


Page 17

Miss Robot

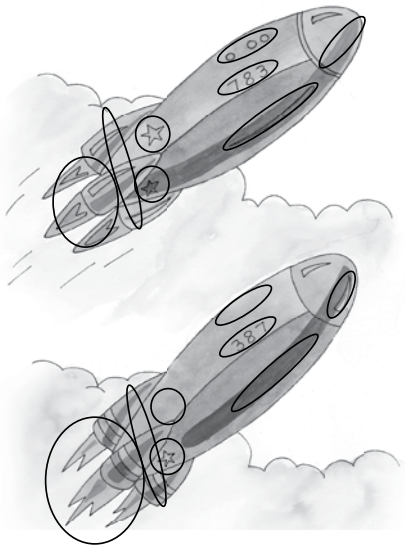
Count the different shapes.

circles	2
squares	1
rectangles	2
triangles	6
ovals	2



Page 18

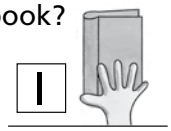
There are 8 differences between the rockets. Can you find them?



Page 19

How many hand spans is your maths book?

1

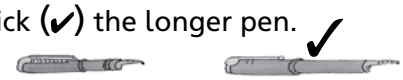


How many hand spans is your ruler?

2

Page 20

Tick (✔) the longer pen.

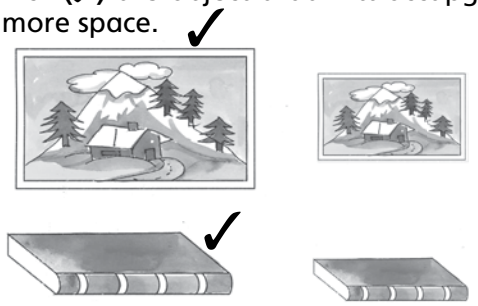


Colour the longer pencil.

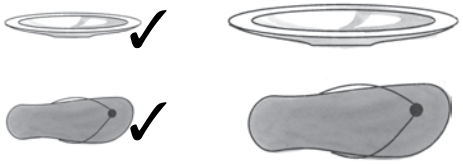
Tick (✔) the longer ruler.

Page 21

- Tick (✔) the object that will occupy more space.

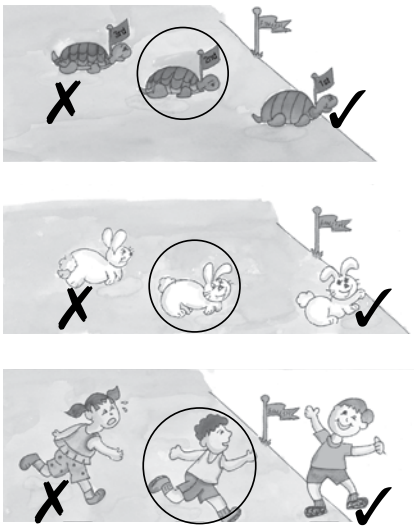


- Tick (✔) the object that will occupy less space.



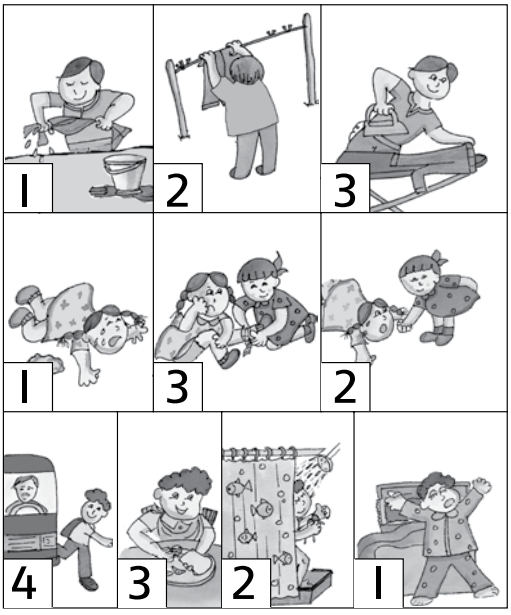
Page 30

- Tick (✔) the 1st.
  Circle the 2nd.
  Cross (✗) the 3rd.



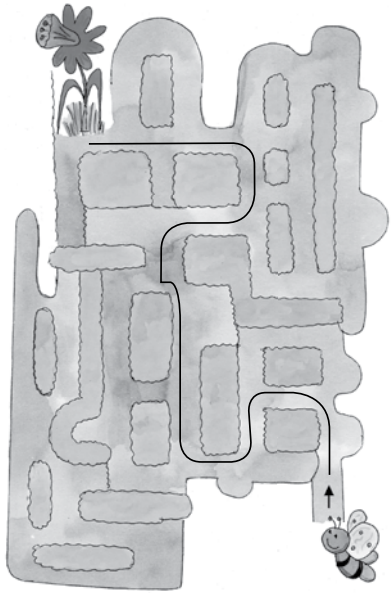
Page 31

- What comes next?



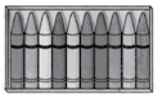
Page 32

- Help the bee find the flower.



Page 33

- How many:

crayons?  10

pieces of chocolate?  10

fingers?  10

Page 34

Zara's birthday!

- How many candles are on the cake? 10

Page 35

Count and draw

- There are 10 balloons for Zara's friends. Draw and colour the missing balloons.

 10

- There are 8 caps for Zara's friends. Draw and colour the missing caps.

 8

- How many gifts was Zara given?

 5

Page 39

○○○ and ○○

3 + 2 = 5

⁘ and ○○

6 + 2 = 8

○○ and ⁘

2 + 4 = 6

○○○ and ⁘

3 + 5 = 8

⁘ and ○○○

6 + 3 = 9

○ and ⁘

1 + 4 = 5

⁘ and ○○

7 + 2 = 9

○ and ⁘

1 + 5 = 6

Page 42

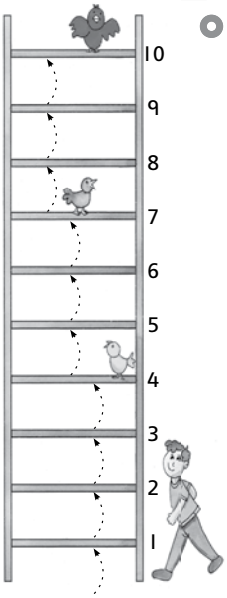
2 4 5 8

1 2 3 6 7

3 4 5 8 9

1 2 3 6 9

Page 43



Ahmer is on the ground.

He climbs the ladder to catch the yellow bird.
Count and write how many rungs he has to climb. **4**

He then catches the blue bird.
How many more rungs did he climb? **3**

Finally he catches the red bird.
How many more rungs did he climb? **3**

Page 45

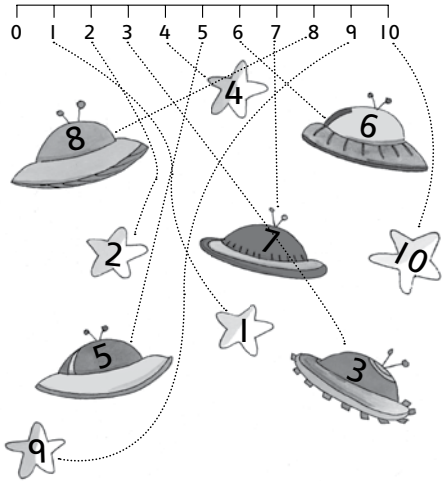
Look at the numbers in the boxes below and circle them on the number line.

0 ① 2 ③ 4 ⑤ 6 ⑦ 8 ⑨ 10

1		3		5
	7		9	

Page 46

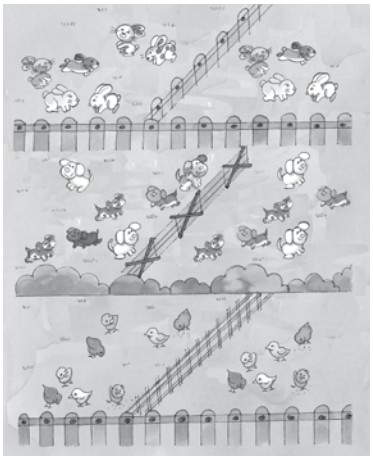
Join the number on each space ship and star with the same number on the number line.



Page 49

- Count and write the number of animals in each group. Tick (✔) the group with more animals, cross (✗) the group with fewer animals in each row.

✓ ✗

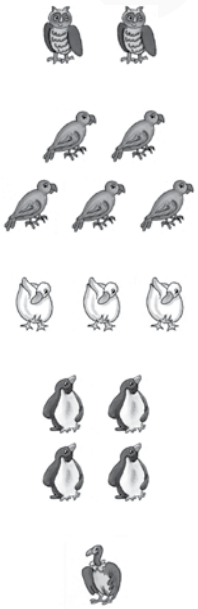


✓ ✗

✓ ✗

Page 50

- How many owls? 2
- How many parrots? 5
- How many more parrots than owls? 3
- How many ducks? 3
- How many penguins? 4
- How many more penguins than ducks? 1
- How many vultures? 1
- How many more parrots than vultures? 4



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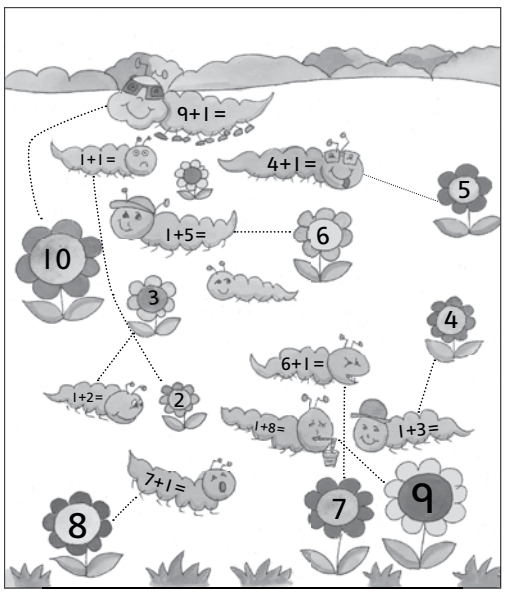
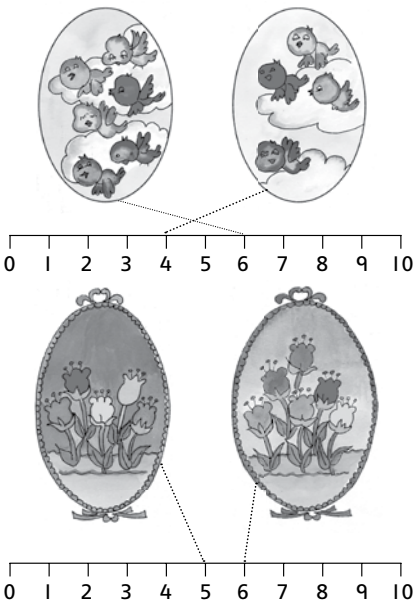
- Addition



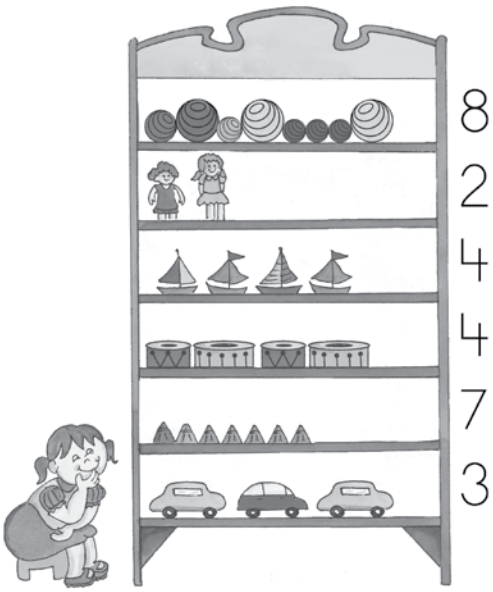
Page 57

- Count each set and match it with the correct number on the line.



Page 58

Draw more toys to make up the number written against each shelf



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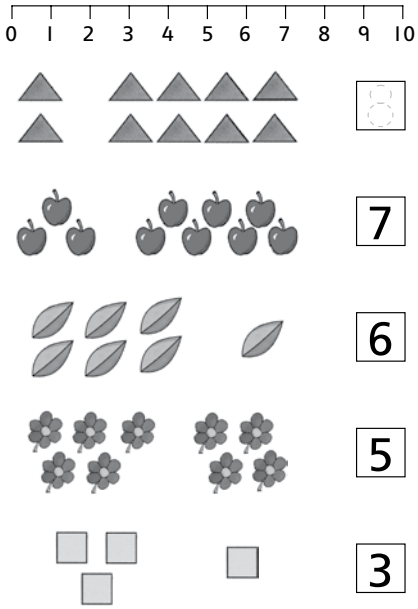
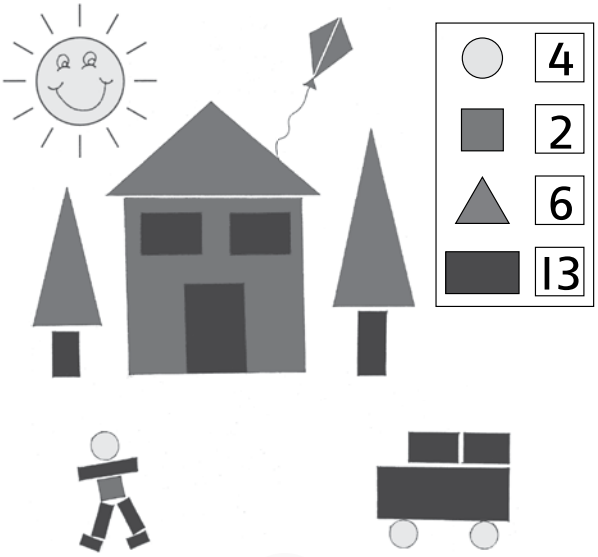
How many in the bigger set?



Page 60

Count how many: yellow circles, red squares, blue rectangles, and green triangles.



Page 61

More and fewer

How many birds? 8

How many worms? 6

There are more birds than worms. How many birds cannot have a worm? 2