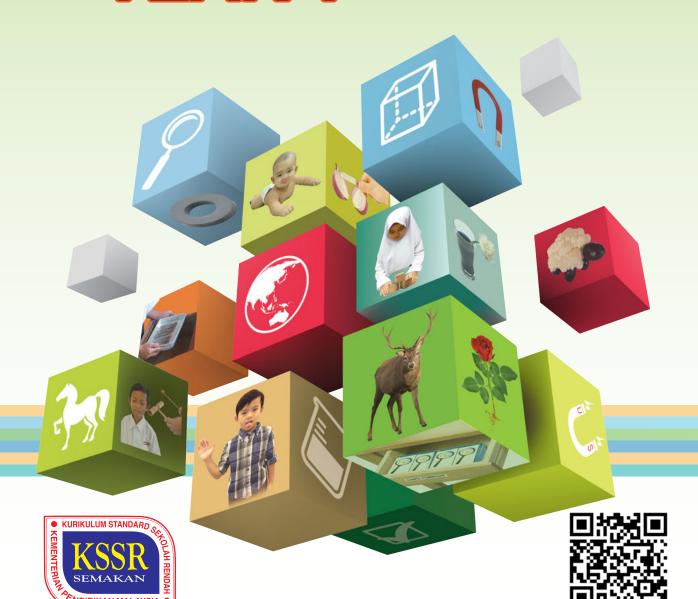


# SCIENCE YEAR 1





#### **RUKUN NEGARA**

### Bahawasanya Negara Kita Malaysia

mendukung cita-cita hendak:

Mencapai perpaduan yang lebih erat dalam kalangan seluruh masyarakatnya;

Memelihara satu cara hidup demokrasi;

Mencipta satu masyarakat yang adil di mana kemakmuran negara akan dapat dinikmati bersama secara adil dan saksama;

Menjamin satu cara yang liberal terhadap tradisi-tradisi kebudayaannya yang kaya dan pelbagai corak;

Membina satu masyarakat progresif yang akan menggunakan sains dan teknologi moden.

MAKA KAMI, rakyat Malaysia,
berikrar akan menumpukan
seluruh tenaga dan usaha kami untuk mencapai cita-cita tersebut
berdasarkan prinsip-prinsip yang berikut:

KEPERCAYAAN KEPADA TUHAN
KESETIAAN KEPADA RAJA DAN NEGARA
KELUHURAN PERLEMBAGAAN
KEDAULATAN UNDANG-UNDANG
KESOPANAN DAN KESUSILAAN

(Sumber: Jabatan Penerangan, Kementerian Komunikasi dan Multimedia Malaysia)

DUAL LANGUAGE PROGRAMME

# CIENCE EAR 1

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- All parties involved in the process of publishing this book

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## INTRODUCTION

The content of this *Science Year I* Textbook is written based on the Science Year I Standard Curriculum and Assessment Document for Primary School. The production of this book is aimed at fulfilling the new policy under the Malaysia Education Blueprint 2013-2025 that integrates knowledge, skills and values, including 21<sup>S†</sup> Century Skills and Higher Order Thinking Skills (HOTS) explicitly. This curriculum is also aimed at providing education comparable to international standards.

This textbook contains ten units comprising of six themes, that are Inquiry in Science, Life Science, Physical Science, Material Science, Earth and Space, and Technology and Sustainability of Life. The content of this book is designed to stimulate, arouse and sustain the pupils' interest in learning either in the classroom or independently. Every unit in this book includes a stimulus page, a description of the learning contents, activities, conclusion, evaluation and short notes. An answer page is provided at the end of the book to facilitate teaching and learning.

To ensure that the goals and objectives of the Primary School Science Standard Curriculum are achieved, the contents of this book emphasise aspects of HOTS focus on inquiry and project-based learning approaches. In addition, existing elements of learning across the curriculum are added with elements of creativity, innovation, entrepreneurship, Information and Communication Technology (ICT) and Creative, Critical and Innovative Thinking Skills. Apart from that, values, positive attributes and good working culture are incorporated in this textbook.

The teaching and learning strategies in the Content Standards and Learning Standards for Science prioritise thoughtful learning. The acquisition and mastery of skills and pupils' knowledge are emphasised to the optimum. The presentation of contents in this book is supported with science recreation activities and presentation styles appropriate to the learning content to develop the pupils' interest.

Finally, it is hoped that this textbook is able to provide ideas to enhance the process of teaching and learning effectively.

Alias bin Puteh Jong Tze Kian Mohd Ramadhan bin Anwar

> Science Year 1

## ICON DESCRIPTIONS



Activities that assist the pupils to master the assigned learning standard either individually or in groups.



Questions of Higher Order Thinking Skills that are posed to the pupils in the textbook.



#### **Science Recreation**

Activities that assist the pupils to master the assigned learning standard. These interesting activities are also aimed to create enjoyment for the pupils during their learning process.



Indicates the number of learning standard as cited in the Curriculum Standard and Assessment Document.



Provides guidance and supplementary information that can assist the teachers during teaching and learning activities.



### Creating

Activities that assist the pupils to master the assigned learning standard either individually or in groups through innovation and creativity.



#### Let's Revise

Exercises that need to be done in order for pupils to master the assigned learning standard.



#### **Let's Answer**

Questions given in order to evaluate the pupils' understanding in each unit.



#### Recall

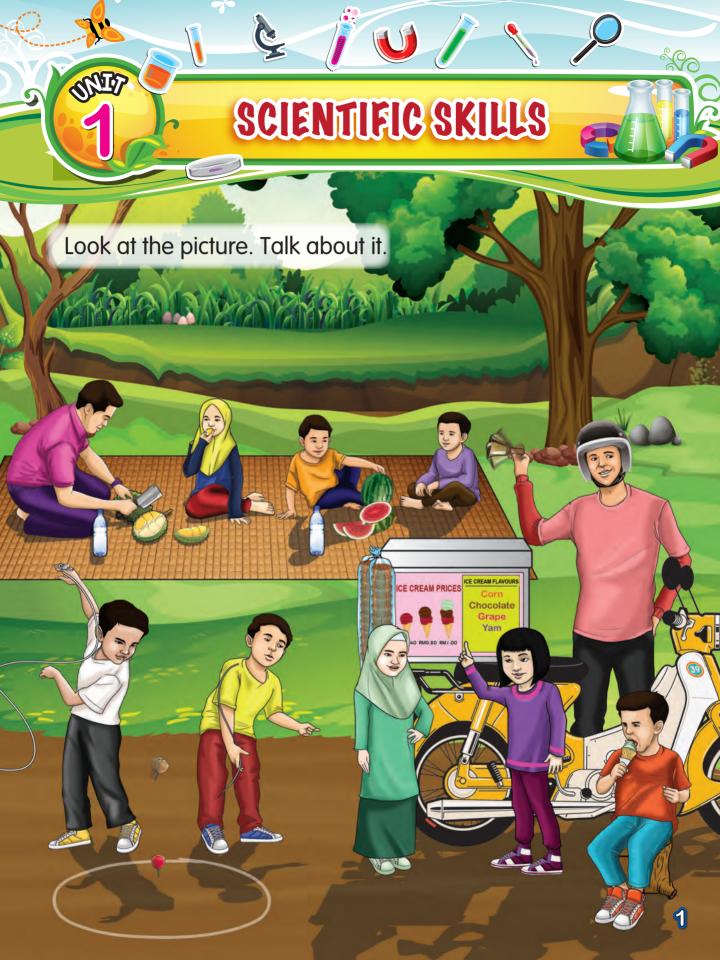
Short notes based on the text content at the end of each unit



Pupils are reminded to be careful and prioritise safety aspects when conducting activities.



Indicates the page number of the Activity Book that corresponds to the topic.





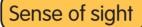
## **Science Process Skills**

## **Observing**

We observe using our senses.

What are the senses used to observe?







Sense of smell





Sense of hearing

1.1.1

Sense of touch

#### Teacher's Info

- Apply the brainstorming method to get the pupils' responses.
- Discuss every response from the pupils on observing skills.

Activity Book Pages: 1-3

1-3



### Let's Test Observing Musical Instruments

#### APPARATUS AND MATERIALS



## INDIVIDUAL ACTIVITY

#### **Steps**

1 Ask your friend to close his eyes.



## CAUTION!

Ensure that the pupil does not play the musical instrument close to the ear during the activity.

- 2 Choose one musical instrument and play it.
- 3 Ask your friend to open his eyes and choose the musical instrument that you have played.
- 4 Record your observation in a table as shown below.

Musical instrument played	Musical instrument chosen	Right (√)/Wrong (X)	
Α		Ø	
В	<b>P</b>		

## QUESTIONS

- 1. Can you guess all the musical instruments played?
- 2. What is the sense that helps you to guess the sound of the musical instrument?

#### -Teacher's Info

1.1.1

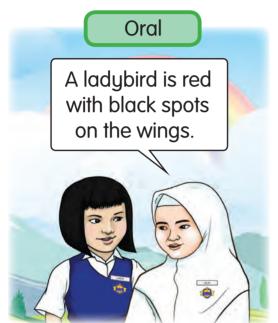
• Other musical instruments can also be used in the above activity.



## **Communicating**

Communicating is the way we deliver information to other people.

Let us look at the way Alia communicates with her friend about a ladybird.

















## Constructing a Sheep Model



### APPARATUS AND MATERIALS







CAUTION!



cauliflower

grapes

toothpicks

a picture of a sheep



#### GROUP ACTIVITY

#### **Steps**

- 1 Observe the picture of a sheep.
- 2 Construct a model of a sheep using the materials above.



a cauliflower.



**(b)** Stick grapes to make the head and legs.

3 Talk about the model you have constructed.



#### **HOTS**

Compare the sheep model to the sheep in the picture.



What other communication methods can you use?

20000



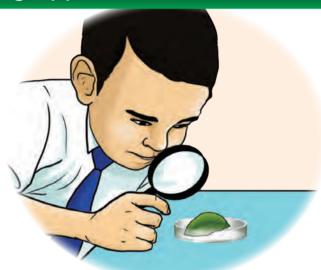






Manipulative skill is a psychomotor skill used during science investigation.

## Using apparatus and science materials



## **Handling specimen**

## **Sketching**



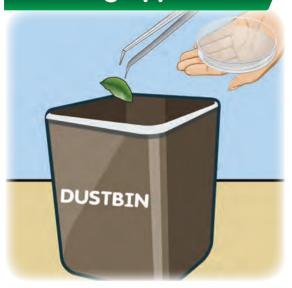




- Specimen is a material or an object to be tested.
- Psychomotor is a skill related to body movement and mental activity.

**Activity Book** Pages: 7-10 00000

## Cleaning apparatus





## Storing apparatus







### Let's Test What a Nice Onion!



## APPARATUS AND MATERIALS











#### **Steps**



- 1 Cut the onion into two.
- 3 Sketch the pattern of the onion.
- 4 Clean up and store the apparatus used.



Why should the apparatus be cleaned and stored?

#### Teacher's Info

• Monitor the pupils while they cut the onion.





Observe the onion with a magnifying glass.







- 1. Observe the cat. Complete the sentences below.
  - A cat has four \_\_\_\_\_\_.
  - **b** The cat's fine hair is \_\_\_\_\_\_.
  - The cat's claws are \_\_\_\_\_\_.
- 2. What are the senses that can be used to observe?
- 3. State two ways we can communicate.
- 4. Choose the correct way of storing magnifying glass.





#### Teacher's Info

 The soft, fine hair found on many non-human mammals is typically called fur.







- Science Process Skills
  - observing communicating
  - Observing using the senses
    - sight taste
    - hearing smell
    - touch
  - Communicating
    - oral writing
    - sketch
- Manipulative skills
  - using and handling science apparatus and materials correctly
  - handling specimens correctly and carefully
  - sketching specimens, materials and science apparatus correctly
  - cleaning science apparatus correctly
  - storing science apparatus and materials correctly and safely

## **Science Recreation**

### **Field Study**

- I. Take one leaf.
- 2. Observe the leaf using a magnifying glass.
- 3. Sketch the shape of the leaf.
- 4. Take a leaf of a different shape and repeat steps I to 3.









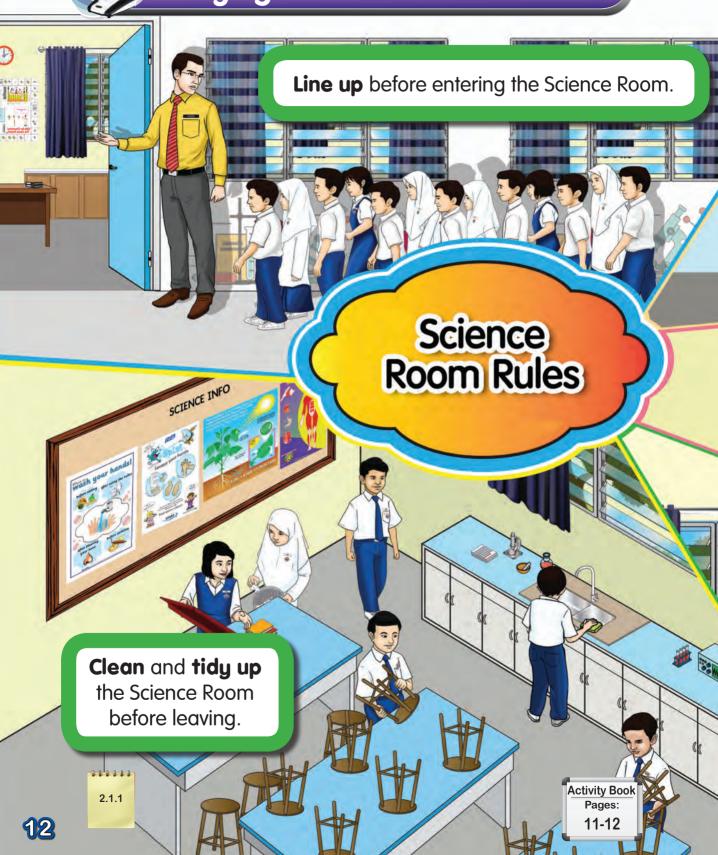




What are the pupils doing?



## **Obeying the Science Room Rules**





### Understanding the Science Room Rules

Observe the situations below.

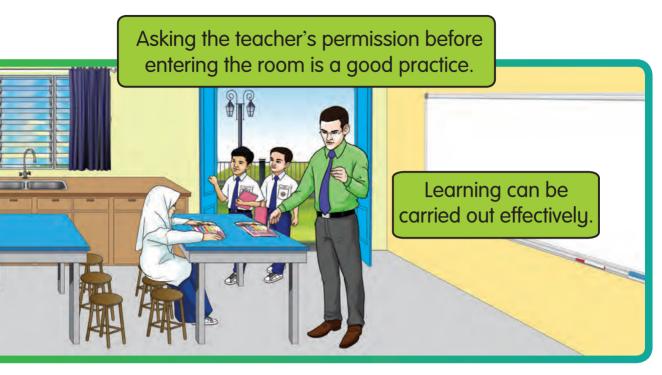
















State the importance of obeying the Science Room Rules.









#### **Let's Revise**

- 1. State the Science Room Rules that you have learnt.
- 2. Which behaviour is not suitable in the pictures below?







3. What would happen if we throw rubbish into the sink?



## Recall

We need to obey the Science Room Rules which are:

- lining up before entering the Science Room
- asking the teacher's permission before entering the Science Room
- cleaning and tidying up the Science Room before leaving
- no playing and running in the Science Room
- no eating and drinking in the Science Room



#### **Science Recreation**

#### **Science Room Rules Dice**

Make a dice that contains the Science Room Rules using a cube box as shown:

- points for obeying the rules are 1, 2 or 3
- point for disobeying the rules is 0

Play this game with your friends.





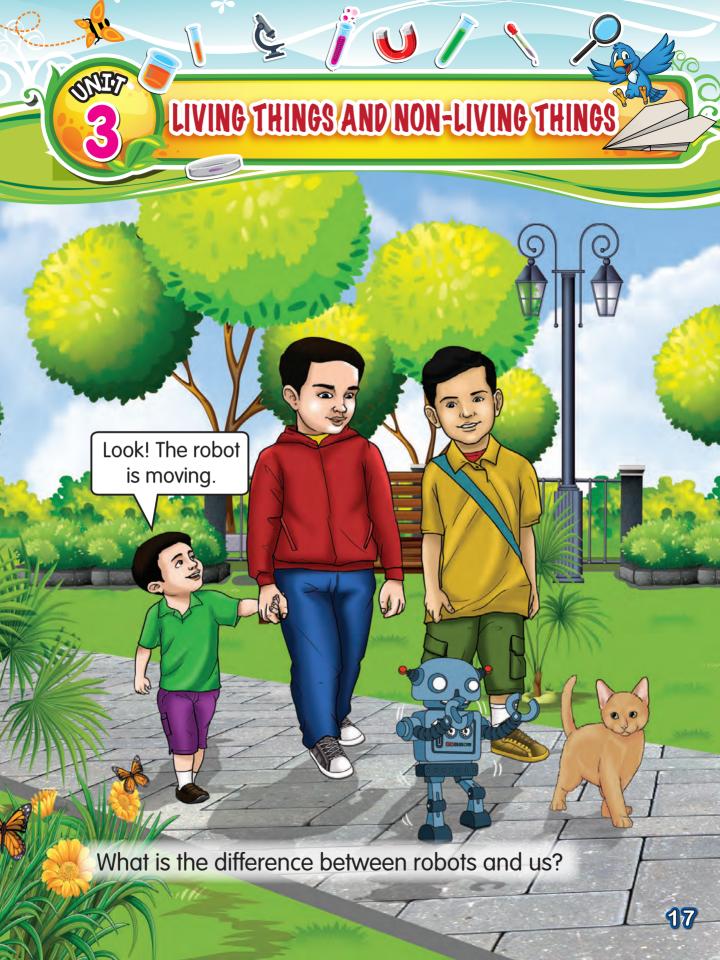














Humans, trees and birds are examples of living things. Toys, cars and rocks are examples of non-living things.







### Similar and different

What are the similarities between living things and non-living things? What are the differences?



Birds and aeroplanes can move.

What are the **differences** between a bird and an aeroplane?

Birds breathe, need water and food, reproduce and grow, while aeroplanes do not.

Birds are **living things**.
Aeroplanes are **non-living things**.













#### **Compare and Contrast Bubble Map**



## APPARATUS AND MATERIALS

 glue • marker pen • manila card • pictures of a balloon and a frog



#### **Steps**

- 1 Blow a balloon and release it into the air.
- 2 Identify the similarities and differences between a balloon and a frog.
- 3 Record your observation in a table as shown below.

	Breathe	Need water and food	Move	Reproduce	Grow / Expands
Frog	✓	✓	✓	✓	✓
Balloon			✓		✓

4 Produce a double bubble map as follows.



## ? OUESTIONS

- I. What are the similarities between a balloon and a frog?
- 2. What are the differences? Why?

All living things must have these characteristics: breathe, need water and food, move, reproduce and grow

\_Teacher:'s Info

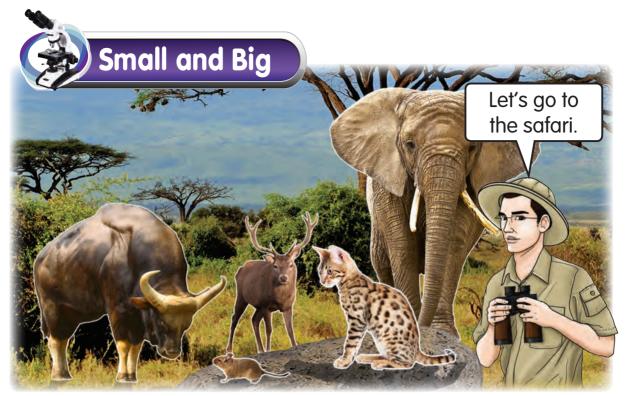
 Ask the pupils to use the base of a bottle and a bottle cap or other suitable objects to produce the bubble map.

• The teacher may use other living things and non-living things in this activity such as a rubber band and a rabbit or a fan and mimosa plant (touch-me-not).



1 2 1 2 2 2

3.1.1



There are various animals in the safari. Are their sizes similar? Let us arrange the animals from big to small.



Let's arrange these animals from small to big.



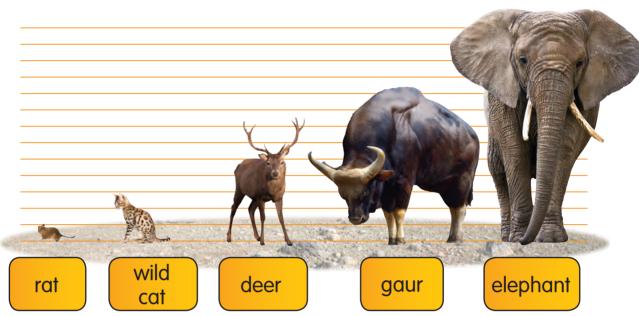


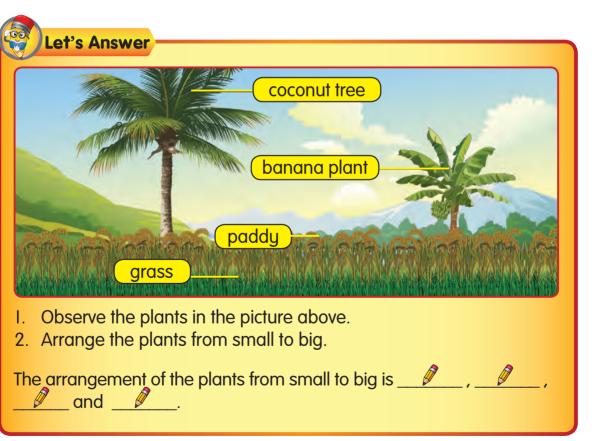






### The arrangement of animals from small to big is:





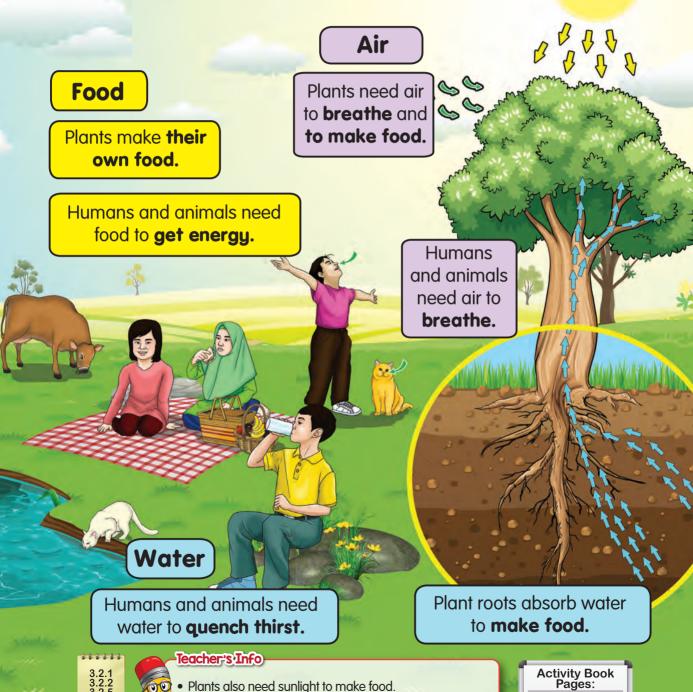






## **Basic Needs of Living Things**

Living things need **food**, **water** and **air**. Humans, animals and plants consume the basic needs in different ways.



17-18, 20, 22

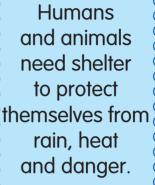
### Humans and animals need protection

Why do humans and animals need shelter?

To protect from rain and heat







To protect from danger



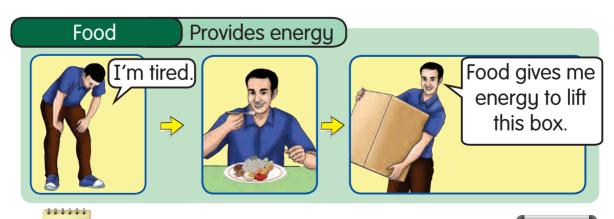




What would happen if humans and animals do not have shelter?

## The importance of basic needs

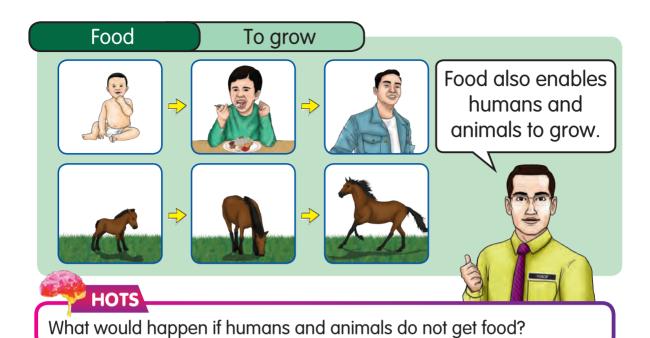
Why is food important to humans and animals?



3.2.3 3.2.4



Activity Book Pages: 19-22



Why are water, air and shelter important to humans and animals?















## **Let's Test** Seeds Germinate

# APPARATUS AND MATERIALS

- two plastic containers
- mung beans

- tissue paper
- dropper





#### **GROUP ACTIVITY**

#### **Steps**



1 Label the plastic containers and put tissue paper inside them.



Put drops of water into container A to wet the tissue paper.



- 3 Place the mung beans in containers A and B.
- 4 Observe the mung beans in both containers after 3 days.
- **5** Sketch the changes to the mung beans.

# QUESTIONS

- 1. Observe the changes. What are the characteristics of living things that can be observed?
- 2. What are the basic needs of mung beans?



### Let's Revise

- I. State all the characteristics of living things.
- 2. Arrange the animals from small to big. Tell the class.

goat

ant

rabbit

horse

3.2.1 3.2.5











3. Look at the pictures below. Name the basic needs of living things.







- 4. Why do humans and animals need food?
- 5. How do plants obtain food?
- 6. I protect humans and animals from danger and bad weather.

What am I?



# Recall

• Living things have basic needs which are food, water and air.

	Food	Water	Air
Humans and animals	Obtain energy	Quench thirst	Breathe
Plants	Make their own food	Make food	Breathe and make food

 Humans and animals also need shelter to protect themselves from bad weather and danger.



# **Science Recreation**

Produce attractive bookmarks that contain the characteristics of living things.



Reproduce

30















How does Puan Zara know that there is someone behind her?



You have learnt about senses. Do you know the parts of the body for the senses?



We can differentiate the characteristics of an object through our sense organs.

#### Recite the Poem



# Parts of the Body and Senses



colour, size and shape

sound

smell

sweet, bitter, salty, sour, tasteless

coarse,
smooth, soft,
<u>hard</u>

We use our eyes
To see many colours
Different sizes
As well as shapes

We use our ears
To listen to sounds
Some are soft
Loud ones to be avoided

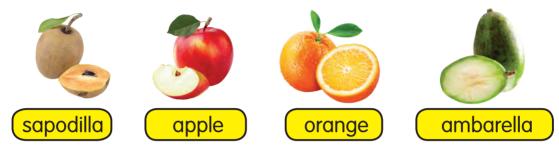
Our skin touches
Various things
Coarse, hard and soft
Smooth as well

Tongue for tasting Sweet, salty, sour For delicious eating Smell with the nose

Nose... nose... nose...



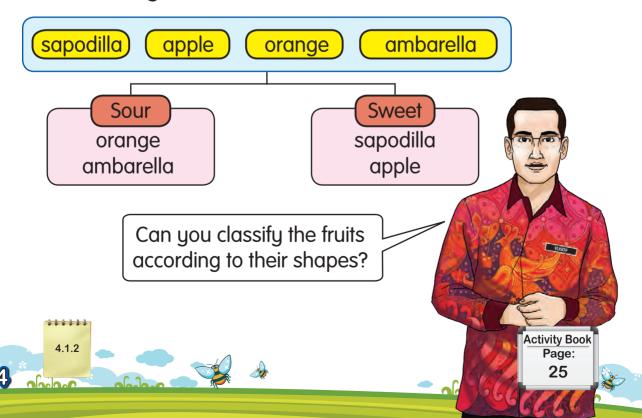
Hafiz and Alia are at the fruit stall. They buy several types of fruits.



They use the sense of taste and sight to identify the characteristics of the fruits.

Fruit	Sapodilla	Apple	Orange	Ambarella
Taste	Sweet	Sweet	Sour	Sour
Shape	Oval	Round	Round	Oval

Let us classify the fruits based on their taste.







## PPARATUS AND MATERIALS











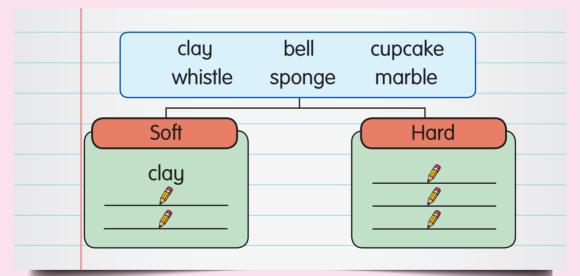




#### **GROUP ACTIVITY**

#### **Steps**

- 1 Identify the characteristics of the objects above.
- 2 Separate the objects into soft and hard groups.
- 3 Complete the classification chart as shown below.



# QUESTIONS

- 1. State the senses you have used to identify the characteristics of the objects.
- 2. What other characteristics can you use to classify the objects?

Teacher's Info

- Classification of objects can be done based on contrasting characteristics of the objects. For example, big and small or smelly and odourless.
- The teacher may use other objects and characteristics.

Activity Book Page: 25

4.1.2





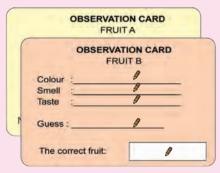


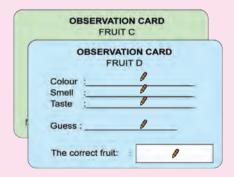


Four types of fruits cut into cubes.



#### **Steps**





- 1 Prepare observation cards.
- 2 Observe fruit A.
- 3 Record the colour, smell and taste. Guess the name of the fruit in the observation card.
- 4 Repeat steps 2 and 3 for fruits B, C and D.



Can you guess the fruits? Why?

Objects can be classified using one or more senses.

4.1.3



- Prepare fruit cubes and record the name of the fruits before starting the activity.
- The teacher may use other suitable fruits.

**Activity Book** Page: 26



There is a power failure. Linda is unable to see in the dark.



Nevertheless, she can still use her sense of touch to look for a torch.

> Why doesn't Linda use other senses to look for the torch?



How does Linda know that the object she touches is a torch?

On Coole









#### et's Test Identifying Objects







blindfold



a box containing several objects



#### **Steps**

- 1 Close your eyes using the blindfold.
- 2 Take an object from the box.
- **3** Make an observation on the object.
- 4 Guess and name the object.

# QUESTIONS

- 1. Which sense is not used in this activity?
- 2. Can you guess the objects correctly? Why?

When a sense is **not functioning properly**, you can still use the other **senses**.



Spectacles are used when the eyes are unable to see clearly.



A hearing aid can help the sense of hearing that does not function properly.

#### Teacher's Info

- Put several objects in the box such as a pen, ruler, key, pencil and soft toy before starting the activity.
- Avoid objects that involve the sense of taste.

Activity Book Page: 28

00000

33



1. Name the parts of the body involved with the following senses.



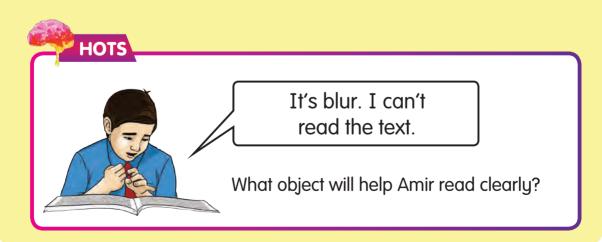




- 2. State the human senses.
- 3. Classify the following objects based on their smell. Complete your answers in a classification table.



4. What are the senses that can help you in the dark?











The parts of the human body that have senses.

Eye Sense of sight

Tongue Sense of taste Ear Sense of hearing

Nose Sense of smell

Skin Sense of touch

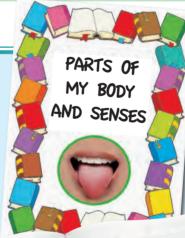
- Senses can be used to identify and classify objects.
- Spectacles are objects to help the sense of sight.

# Sal

# **Science Recreation**

## **Big Book**

- Find a photo of parts of the human body related to the senses.
- Label and state the use of parts of the body.
- 3. Make a big book.



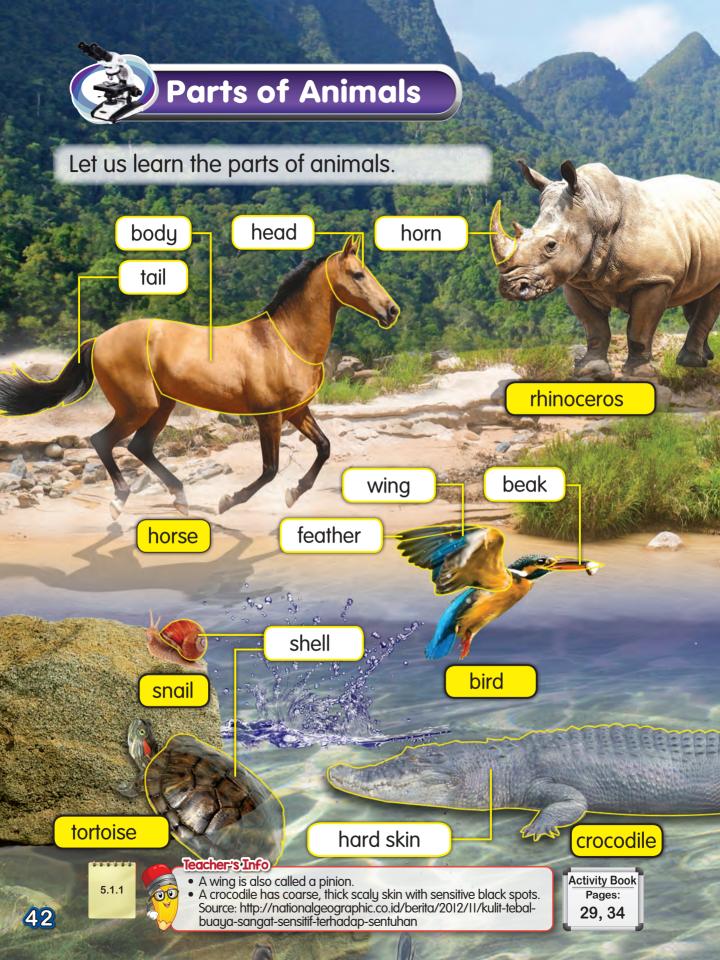
I can differentiate colour, size and shape.

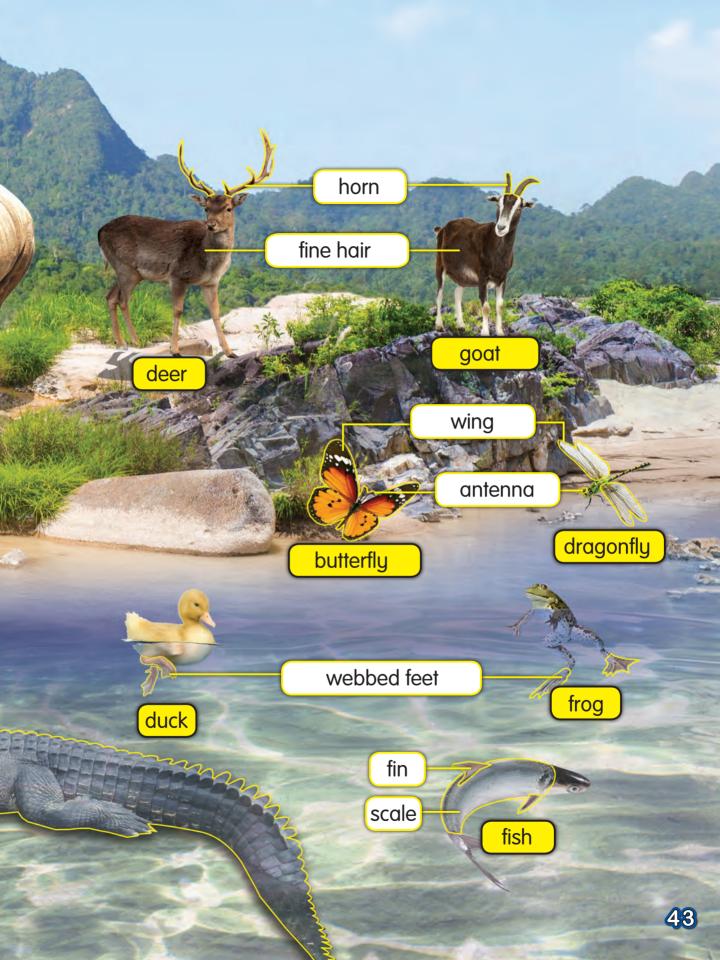
















#### **Know Parts of Animals**

## APPARATUS AND MATERIALS



6 red paper plates



6 blue paper plates



scissors



glue double-sided tape



pictures of animals



15 ice cream sticks



string



marker pen



white paper



#### **GROUP ACTIVITY**

#### **Steps**



1 Cut and paste the picture of a bird on a paper plate.



2 Paste a piece of paper and write a body part of the bird.





#### Teacher's Info

- Prepare pictures of animals before the activity.Guide the pupils to stick three ice cream sticks together using double-sided tape.

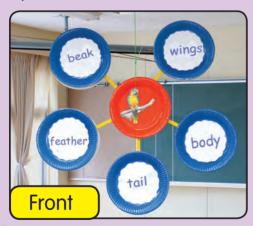




3 Glue the ice cream sticks at the back of the plate (bird picture).



5 Turn the plate model over. Repeat steps I to 4 with a picture of a deer. Paste it at the back of the plate.



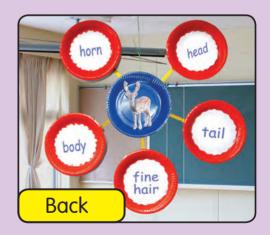
- Hang the mobile.
- **8** Explain your mobile to the class.



4 Paste the plates with the labels of parts of the bird's body onto the ice cream sticks.



6 Make a hole on the paper plate and tie it up using a string.





Compare the differences between the parts of body of a deer and a bird.



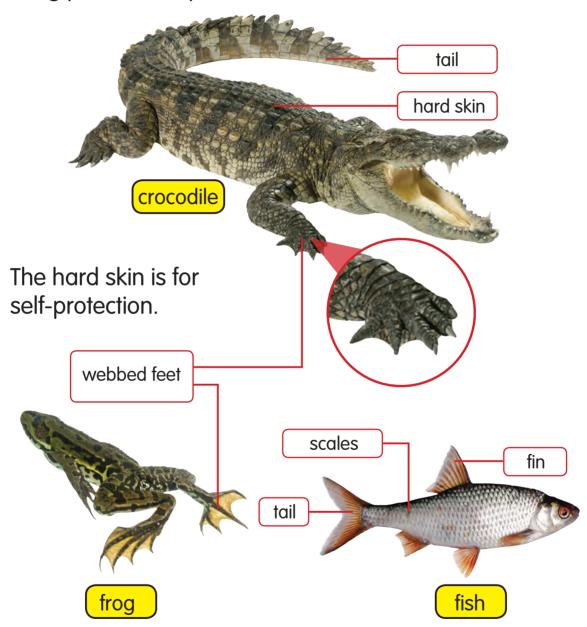
 A mobile is a decoration made from wire, etc. that is hung from the ceiling and that has small objects hanging from it which move when the air around them moves.





# The Importance of Parts of the Body

Every part of an animal has its function. Body parts are important to the animals.



The tail is for steering.

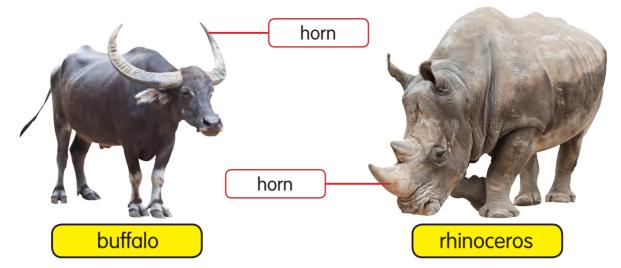
The fins and webbed feet are for swimming.



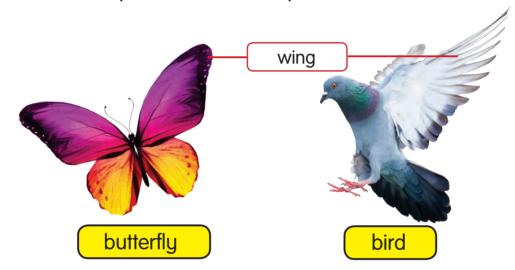




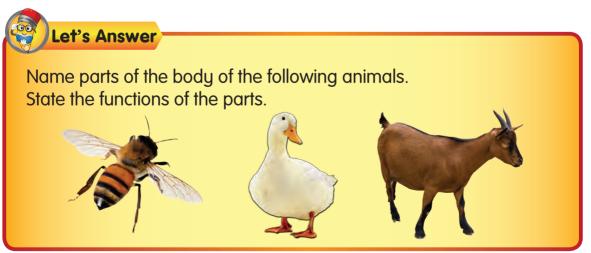




The horns help the animals to protect themselves.



The wings help the animals to fly.



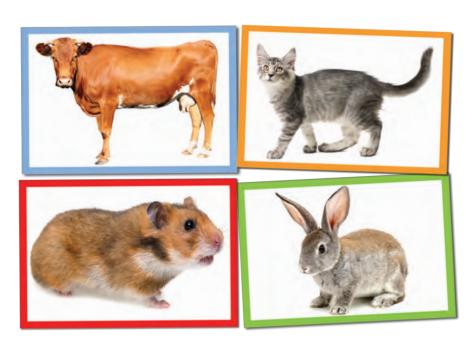








Hafiz collects several different pictures of animals from magazines.



Hafiz identifies that the cow, cat, hamster and rabbit have fine hair.

Can you explain about parts of the body of the animals above?

There are different animals with similar parts of the body.

Find other similarities in the animals above.



Pages:

32-33

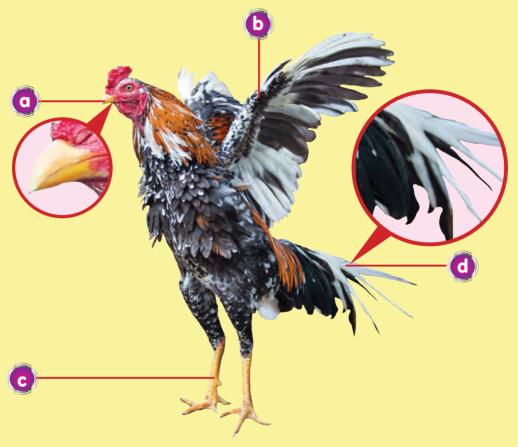




 To generalise is to make a common statement about a subject.



I. Name the parts of this animal.



2. State the importance of these parts to the animals.









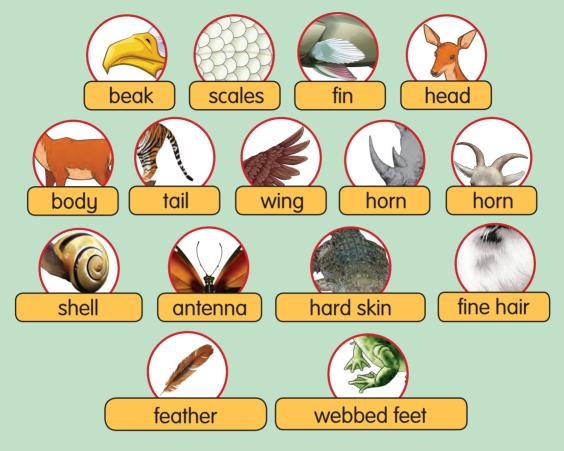






# Recall

Parts of animals:



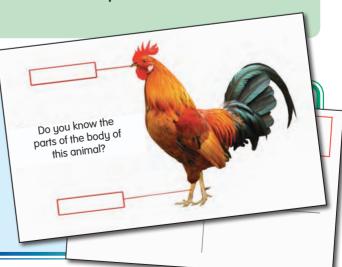
- Every part of the animals has its importance.
- There are different animals with similar parts.



# **Science Recreation**

#### **Postcard**

- I. Get a piece of hard paper and paste animal pictures on it.
- 2. Label the pictures.





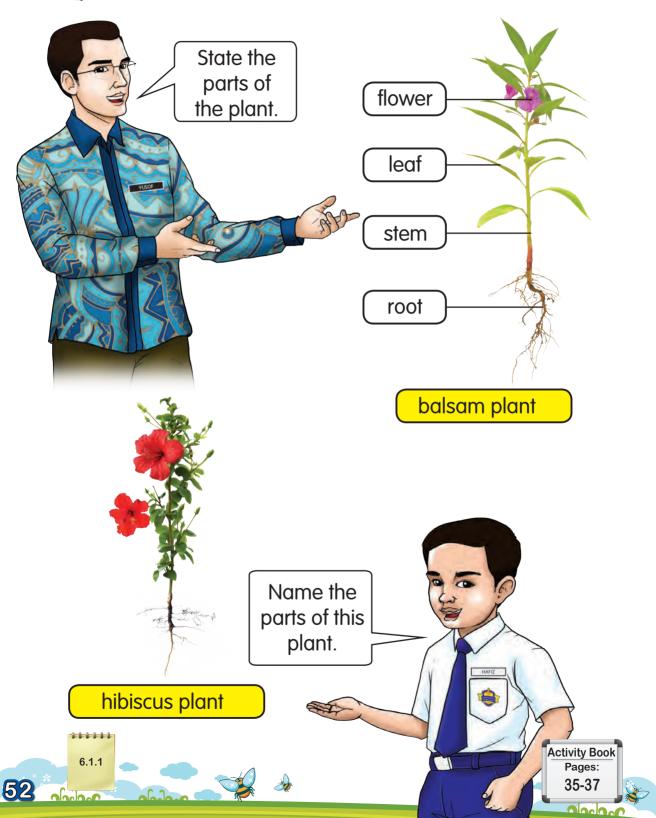








# **Know Parts of Plants**





# Characteristics of Different Parts of Plants

Every plant has parts with different characteristics.



#### **Flower**



This is a lotus plant.

It is a **flowering plant**.

Fern plant is a **non-flowering plant**.



# A durian tree has a **woody stem**.

Stem



A papaya plant has a **non-woody stem.** 

On Colo



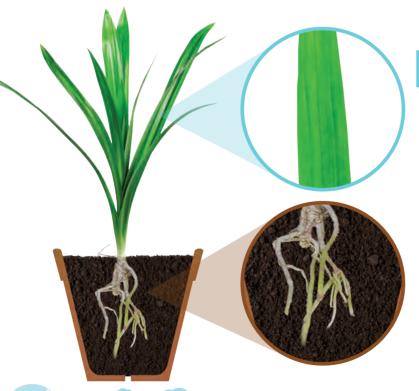


# Type of leaf vein

This is the leaf of a rose plant. This leaf has **netted veins.** 

# Type of root

A rose plant has **taproot**.



## Type of leaf vein

The leaf of a pandanus plant has **parallel veins.** 

# Type of root

A pandanus plant has **fibrous root**.





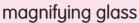


# Let's Test Compare and Contrast

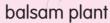














lemon grass plant



#### GROUP ACTIVITY

#### **Steps**

- 1 Choose two commonly found plants. For example, lemon grass plant and balsam plant.
- 2 Using a magnifying glass, observe the similarities and differences between the plants.
- 3 Record your observation in a table as shown below.

Similarity				
Plant part				
Difference				
Characteristics of plants				
Lemon grass plant	Balsam plant			



What are the parts found in almost all plants?

6.1.1

20000

#### Teacher's Info

The pupils can choose two plants that can be easily found ground them.



# The Importance of Parts of Plants



Why are the leaf, flower, stem and roots important to plants?

Hi, I'm a flower. I'm the reproductive structure of a plant. I **will change to**fruit and seed.





mangosteen seed

I'm the stem. I **transport food produced by the leaves** to all parts of the plant.

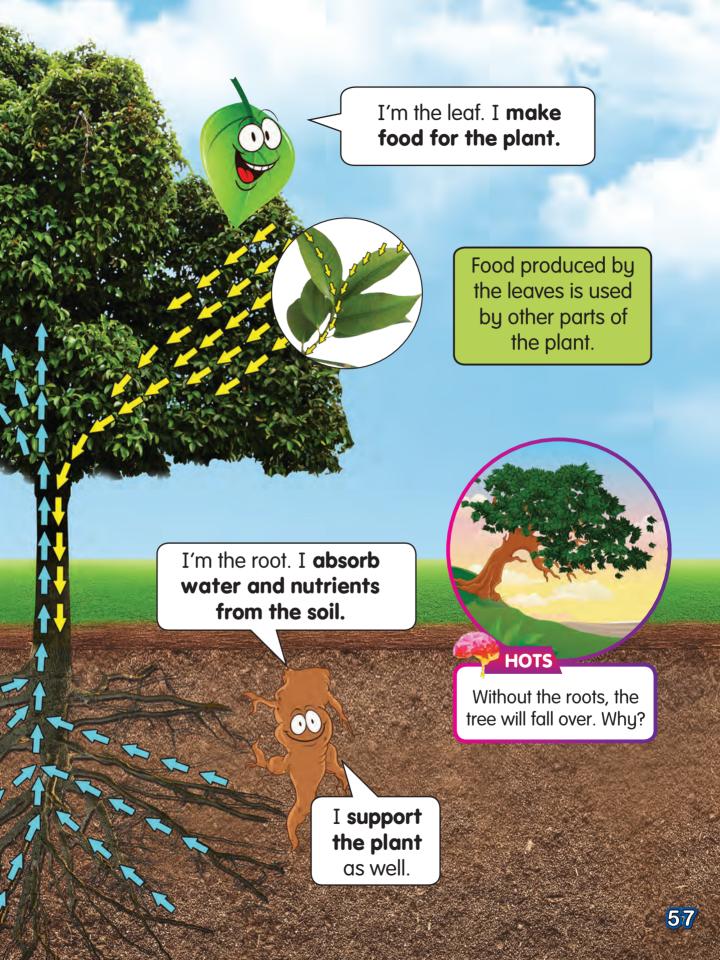


I transport water and nutrients from the roots to the leaves as well.

6.1.2

Activity Book Page:

38

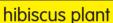


# Different Yet Similar

Observe and identify similar parts of the

following plants.







rose plant

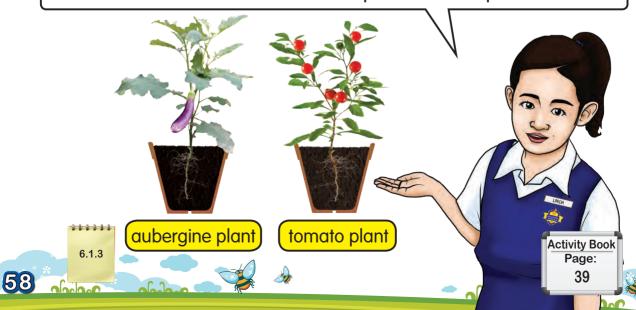
The hibiscus is a **flowering plant**. The rose is also a **flowering plant**. What are other similar parts of these plants?

The leaves of the rose plant and the hibiscus plant have netted veins.

The rose plant and the hibiscus plant have **woody stems**.

The rose plant and the hibiscus plant have **taproots**.

There are different plants that have similar parts. Identify the characteristics of the same parts in these plants.





# Let's Test Love Grass and Lalang

# APPARATUS AND MATERIALS

- adhesive tape lalang plant
- manila card love grass plant
- scissors (CAUTION!



#### GROUP ACTIVITY

#### **Steps**



1 Cut, paste and label the parts of lalang and love grass on a manila card.

Decorate and talk about your work in front of the class.

# QUESTION

What are the similar characteristics between love grass and lalang?



## **Let's Revise**

 State the similarities and differences between the following plants.





chrysanthemum plant

maize plant

6.1.3 6.1.4

The pupils can choose small plants available around them for this activity.



Teacher's Info



2. Talk about the importance of the following parts of plants to the class.

flower

leaf

stem

root



### Recall

- Parts of plants are the flower, leaf, stem and root.
- There are flowering plants or non-flowering plants.
- There are plants with netted leaf veins or parallel leaf veins.
- There are plants with woody stem or non-woody stem.
- There are plants with taproot or fibrous root.
- Flower changes to fruit and seed
- Leaf the part of plant used to make food
- Stem transports the food made by the leaves
  - transports water and nutrients from the root
- Root supports the plant
  - absorbs water and nutrients from the soil

# **Elm**

# **Science Recreation**

# Changing the colour of a white carnation

- Cut the stem of the carnation diagonally.
- Soak the stem in coloured water overnight.







Let us learn about magnets. A magnet is useful in our daily life.

62





What are other examples of the use of magnets around you?



 Magnets are also used on handbags, chessboards, darts and notice board buttons.





Magnets come in various shapes.

What are the shapes of magnets? Let's look at the magnets below.









bar magnet

cylinder magnet

horseshoe magnet







**U-shaped magnet** 

button magnet

ring magnet



Why are magnets formed in various shapes?





- Magnets are named based on their shapes.
- The poles of horseshoe magnets are closer compared to U-shaped magnets.





Some objects are attracted to magnets. Let us try the activity below.





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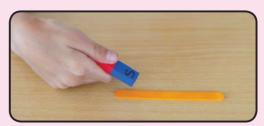


Provide other suitable objects.









- 1 Put an object on the table.
- 2 Put a magnet near the object.
- 3 Observe the magnet's reaction towards the object.
- 4 Record your observation in the table as shown below.
- **6** Repeat the above steps using other objects.

Ohioat	Magnet reaction (√)		
Object	Attract	Does not attract	
Ice cream stick	<b>9</b>	Ø	
Safety pin	Ø	Ø	
Marble	<b>P</b>	Ø	

6 Explain the possible reaction of the object towards the magnet.

# QUESTIONS

- 1. What are the objects attracted to the magnet?
- 2. What are the objects not attracted to the magnet?

The magnet can attract objects but not all objects can be attracted to the magnet.

# HOTS

In a game, paper clips are mixed with talcum powder in a plate. Think of a simple way to separate the paper clips from the talcum powder.









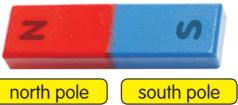




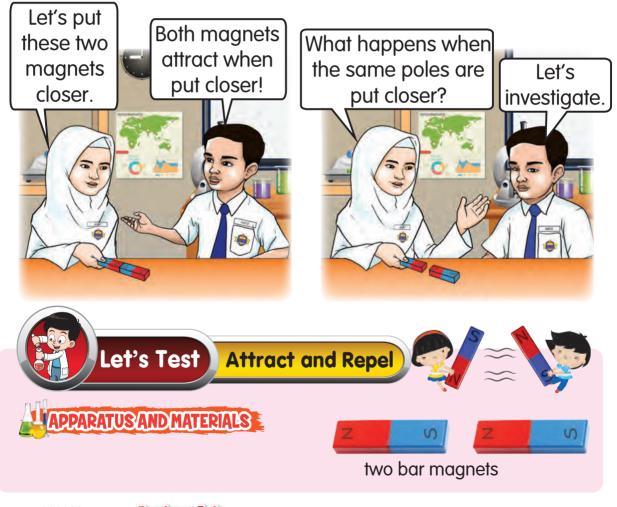


# **Attraction and Repulsion of Magnets**

When two magnets are put close together they can attract or repel. Every magnet has two opposite poles, the North and South poles.



Observe the situation below.





20000



### Teacher's Info

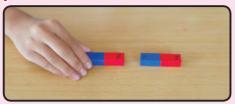
 Teachers may use magnets of other shapes for the investigation.



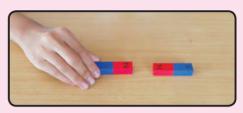
44-45, 47-48







- 1 Put two bar magnets close to each other as above.
- **3** Observe what happens.

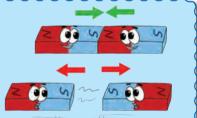


Repeat the step by reversing the pole of one magnet.

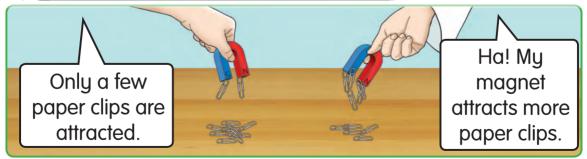
# QUESTIONS

- I. What happens when two same poles of magnets are brought closer together?
- 2. What happens when two opposite poles of magnets are brought closer together?

Magnets with opposite poles will attract when brought close together. Magnets with the same poles will repel when brought close together.



# Strengths of a Magnet



Does each magnet have different strength? Let us investigate.







## Let's Test My Magnet is Stronger





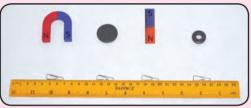
- U-shaped magnet
   button magnet
- bar magnet ring magnet
- ruler 4 paper clips



### **Steps**



1 Put the paper clips at the side of the ruler. Arrange them in one row.



Place the magnets at the same distance in front of the paper clips.



**3** Move the magnets closer to the paper clips. Stop moving the magnets once the paper clips are attracted.



Which magnet is the strongest? Why?



## **Let's Revise**

1. Name the shape of the following magnets.









2. Which of the following objects contain a magnet?







7.1.5

### Teacher's Info

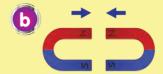
A stronger magnet can attract paper clips from a longer distance.
Other shapes of magnets can be used for further investigation.





- 3. State two objects that can be attracted to magnets.
- 4. What happens when these two magnets are put close together?





5. A stronger magnet can attract more paper clips. True or false?



## Recall

- Magnets are useful in our daily life.
- Magnet shapes:
  - bar cylinder U-shaped
  - horseshoe button ring
- A magnet can attract objects but not all objects are attracted to the magnet.
- Opposite poles of magnets will attract when brought closer together. Same poles of magnets will repel when brought closer together.
- Every magnet has different strength.

# - Jon

## **Science Recreation**

## **One Malaysia Pin**

- Produce an attractive pin using the 1Malaysia logo.
- Use two button magnets to produce the pin.



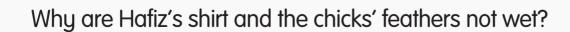














Some syrup spilled onto a glass table. Then, Alia wiped off the spill.



8.1.1 aladae



Dropper can be replaced by a drinking straw.





- 1 Put drops of coloured water onto the objects.
- Observe what happens to the coloured water.
- 3 Record your observation in a table as shown below.

Ohioot	Drops of water		
Object	Yes	No	
Coin	✓		
Handkerchief			

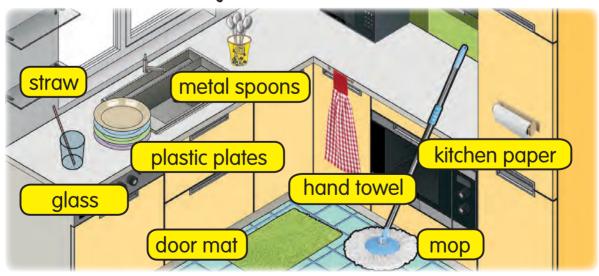
# QUESTIONS

- 1. Which objects still have the water droplets on them? Why?
- 2. Which objects have no water droplets on them? Why?

The glass table **does not absorb water**. The hand towel **absorbs water**. There are water absorbent objects and non-water absorbent objects.

## Let's classify objects

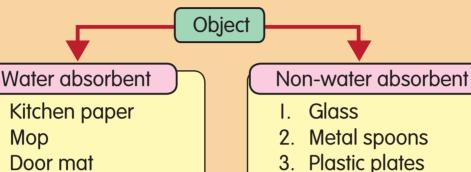
There are various objects in the kitchen area.



00000

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Alia has identified that kitchen paper is an object that can absorb water. A glass is an object that cannot absorb water. Let us help Alia to classify the objects into two groups.







2.

3.

4











1 Cut the newspaper, kitchen paper and cloth into strips of the same size.



• Glue the strips onto a stick.



3 Dip the ends of the strips into a beaker containing coloured water. Leave for I minute.



4 Observe the water level absorbed by the three objects.

# QUESTIONS

- 1. Which object absorbed water the most? Why?
- 2. Which object absorbed water the least? Why?
- 3. Arrange the objects according to their ability to absorb water, in an ascending order.
- I. The object that absorbed water the most is the kitchen paper.
- $\cay{2}$ . The object that absorbed water the least is the newspaper.

### Teacher's Info

- The ability to absorb water means the capacity to absorb water.
- Keep the thickness and size of the objects the same.
- Use food colouring for the water.





What is the importance of water absorbent objects? Observe the examples in this situation.





What is the importance of non-water absorbent objects? Discuss.



Objects that can absorb water and objects that cannot absorb water are important in our lives.



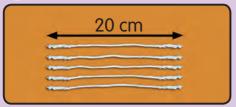
8.1.5 8.1.6



Assist the pupils to cut the string into the required length.







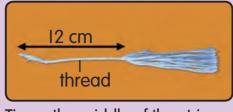
1 Cut the string into 5 pieces.

3 Pull off the back of a pen and

out from the nozzle.

remove its content. Insert one

end of the thread and take it



2 Tie up the middle of the strings using a piece of thread.



- Tie a string to the nozzle of the pen using a rubber band and cover it with the pen cover. Separate the strings.
- **5** Explain the mini mop you have made to the class.

# QUESTIONS

- 1. Why is string used to make the mini mop?
- 2. What other materials can be used to replace the string?



## Let's Revise

1. Classify the following objects according to their ability to absorb water.

kitchen paper

coin

paper bag

paper clip

2. Arrange the following objects based on their ability to absorb water in an ascending order.

newspaper

hand towel

manila card

### -Teacher's Info

- Use a pen that has run out of ink.
- Use a pen with the back end that can be dismantled.



3. State the importance of the following objects.











# Recall

There are water absorbent objects and there are non-water absorbent objects.

ABSORPTION

Water absorbent objects

handkerchief, tissue paper, newspaper, hand towel

Importance

Non-water absorbent objects

paper clip, rubber, plastic toy, drinking straw

**Importance** 





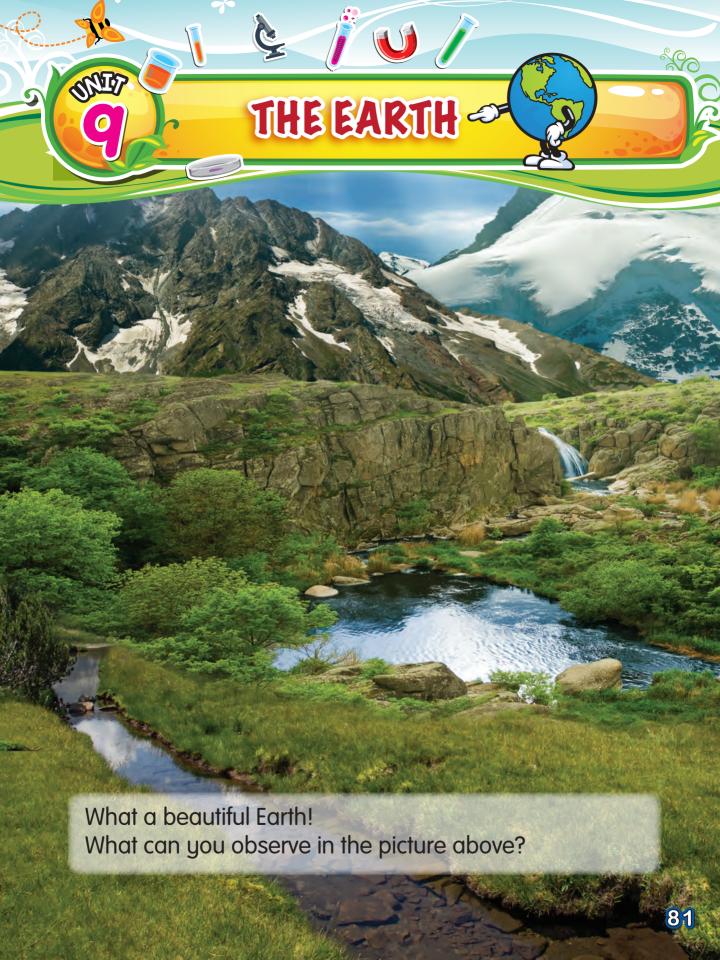


## **Science Recreation**

## **Absorb and Expand**

- Make a flower using paper.
- Fold the petals inward and put it on the water surface.
- Observe what happens.







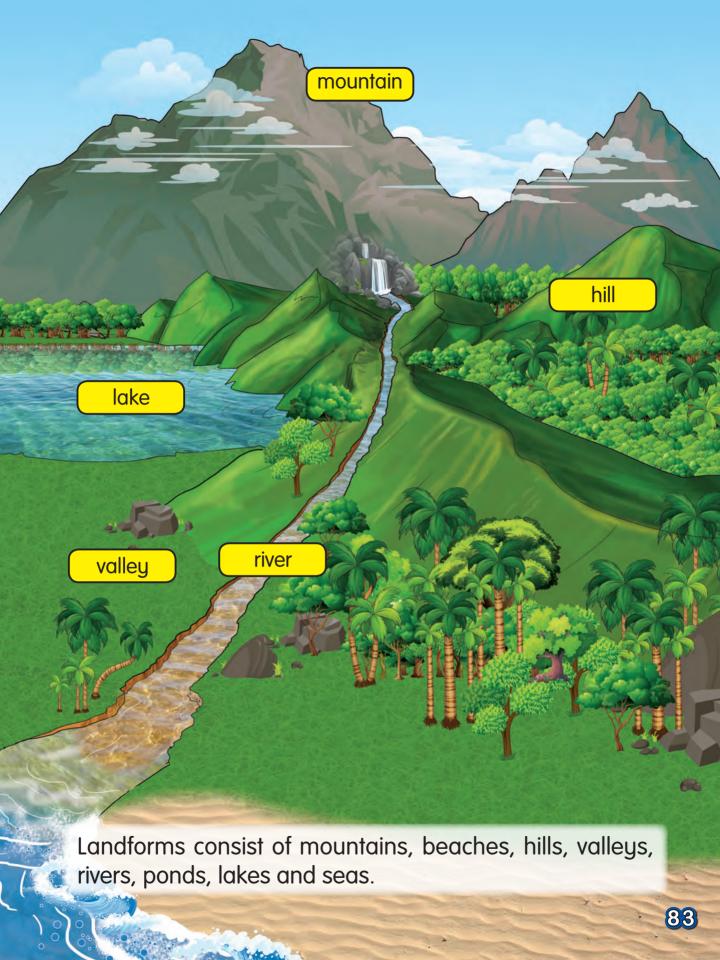
What landforms can you see in this picture?



9.1.1

• The valley is a low land at the sides of a river, foot of a mountain or base of a hill.

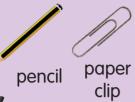
ctivity Book Pages: 57-58





## **Landforms Model**

## APPARATUS AND MATERIALS





plate



clay (blue, green, yellow and brown)



marker pen



GROUP ACTIVITY

### **Steps**



1 Sketch the position of landforms on a paper plate.



Construct the landforms using clay.



- **3** Make patterns of the landforms using a paper clip.
- RIVER HILL
  BEACH
  SEA
- 4 Label every landform.
- **5** Explain your landforms to the class.

# QUESTION

Explain the landforms found in your model.

### Teacher's Info

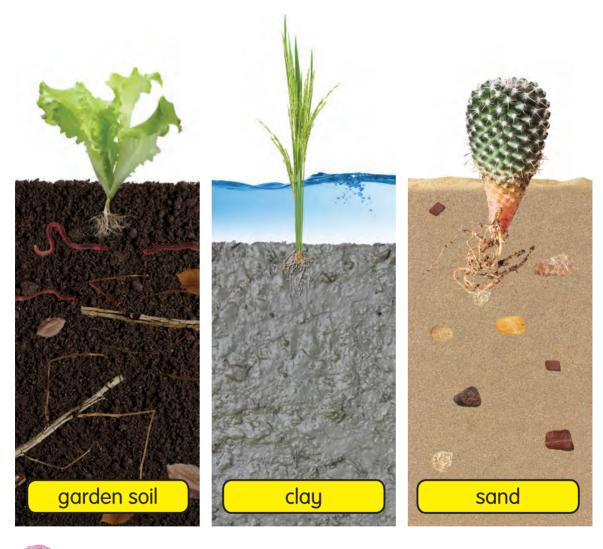




 The pupils can use other materials such as watercolour, stones, sand and small plants to decorate their landforms model.



There are several types of soil found on the surface of the Earth that are important for life. State the types of soil.





Where can these types of soil be commonly found?

9.2.1

ာက်ကိုက

### Teacher's Info

• The soil samples used can be obtained from a vegetable farm, paddy field and seaside areas.

Activity Book Pages: 59-62



Linda and Hafiz are investigating the contents of three types of soil.



Let us investigate the contents of garden soil and sand.







1 Line a table with paper.



**3** Observe the garden soil using a magnifying glass.



2 Put two spoonfuls of garden soil on the paper.



4 Separate the garden soil according to its content using a pair of forceps.

- **6** Repeat steps I to 4 for the sand.
- 6 Record your observation in a table as shown below.

	Soil content (✓)				
Type of soil	Twig	Dry leaf	Stone	Sand particle	Small animal
Garden soil	Ø	Ø	Ø	Ø	Ø
Sand	Ø	Ø	Ø	Ø	Ø

# QUESTION

What is the difference between the contents of the garden soil and the sand?

The garden soil contains sand particles, small stones, decaying plants and animals. The sand contains sand particles and small stones.

### Teacher's Info

- Encourage the pupils to use gloves during this activity.
- Remind the pupils to wash their hands.





## Let's Revise

1. What are the landforms shown in the following pictures?







- 2. State three types of soil found on the earth's surface.
- 3. This soil contains only very fine soil particles. What type of soil is this?



# Recall

- There are eight landforms:
  - mountain beach hill valley
  - river pond lake sea
- There are three types of soil:
  - garden soil clay sand
- Garden soil contains twigs, dry leaves, stones, sand particles and small animals.
- Clay contains very fine soil particles.
- Sand contains sand particles and small stones.



## **Science Recreation**

## **Simple Water Filter**

- Produce a simple water filter using small stones and sand as shown.
- Test the water filter using cloudy water.



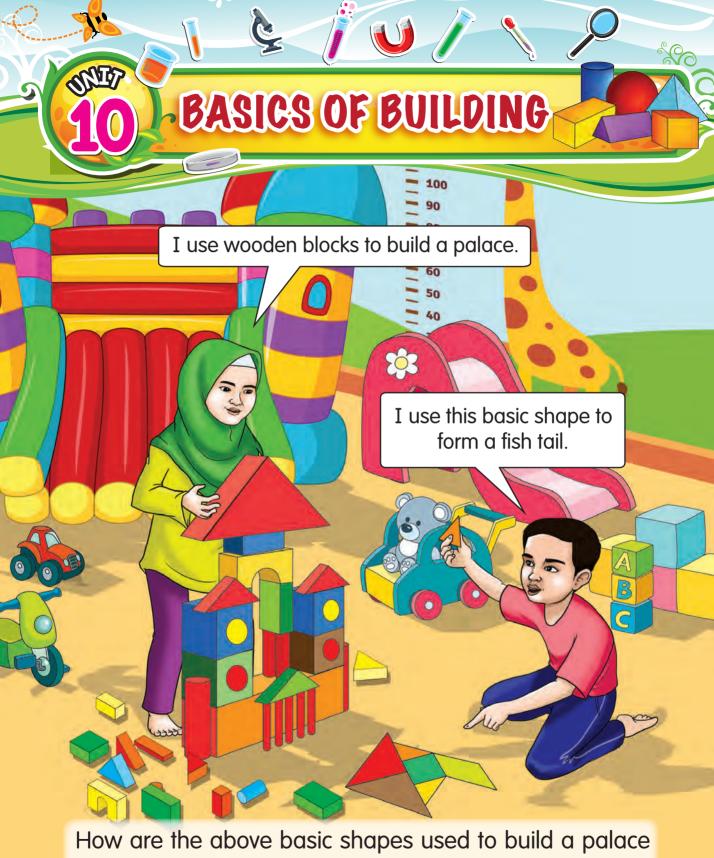








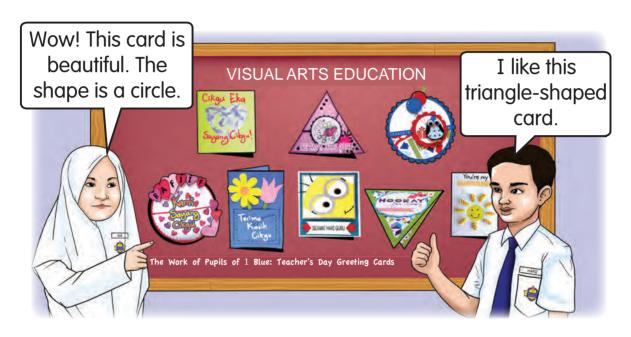




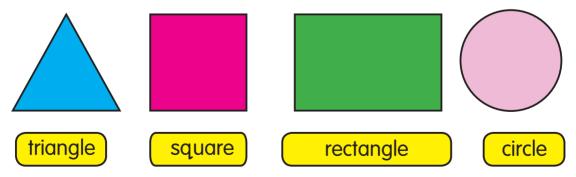
model and a fish model?



Observe the greeting cards made by the pupils of 1 Blue. How many basic shapes can you identify?



What are the names of these basic shapes?



Observe the objects around you. What are the basic shapes used?











## Separate the Shapes of Objects



60

## APPARATUS AND MATERIALS

- scissors CAUTION!
  - - marker pen
- white paper
- glue

pictures of objects



## **Steps**



 Divide the white paper into four sections.



- **3** Collect and cut pictures of objects.
- Paste the pictures of objects according to their shapes.
- **5** Compare your work with other groups.
- 6 Explain your work to the class.

# QUESTIONS

- 1. How many objects can you gather from each basic shape?
- 2. What are the differences in the objects you gathered in comparison to other groups?



Write the names of basic shapes.





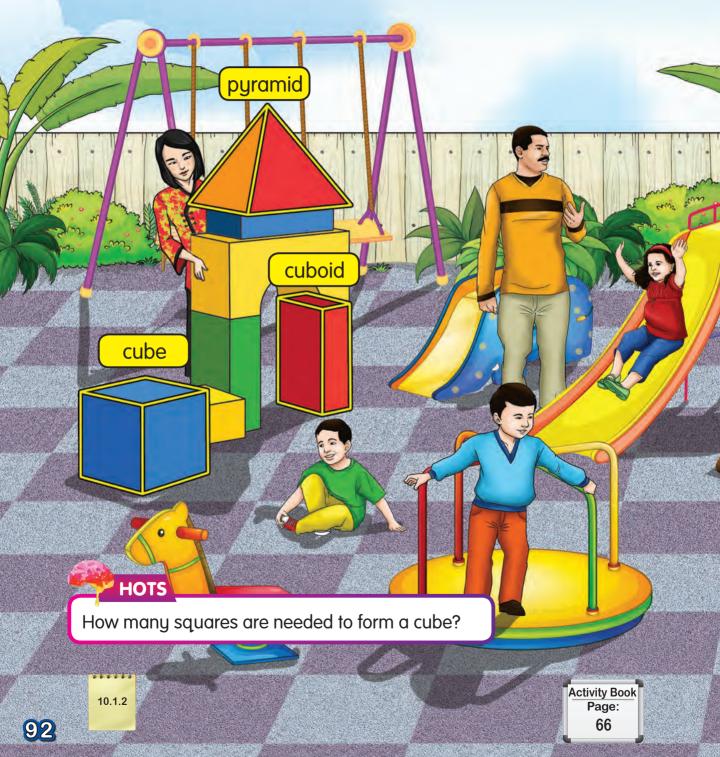
10.1.1

• Pictures of objects can be obtained from printed materials such as newspapers, magazines, flyers, etc.





Various basic shape blocks are used around us. What are the basic shape blocks found in the picture below?







## **Constructing a Robot**



## APPARATUS AND MATERIALS





pencil

white paper

clay



### **Steps**



1 Sketch your robot.



2 Shape the clay into basic shape blocks.



3 Join the basic shape blocks to form a robot.



Explain your work while constructing the robot in front of the class.

# QUESTIONS

- Name the basic shape blocks you used to construct your robot.
- 2. What are the basic shape blocks that are not used in constructing your robot?





### Teacher's Info

• Use Google search engine as a guide to look for various shapes of robots.





What is the importance of block shapes in life? Observe the examples of the situations below. Why are balls spherical in shape?



A spherical shaped ball rolls easily when kicked.



A cube shaped ball does not roll easily when kicked.

Observe the following two table clocks.



This clock stands well on the table.



This clock rolls. Why?

Why is a table clock more suitable in the shape of a cube?

Objects with basic shape blocks are made according to their use.

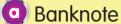




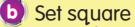




1. State the basic shape of each object below.









Orange



d Postage stamp







- 2. Observe the picture of the clock.
  - (a) How many basic shapes can you identify?
  - **b** State the basic shapes.



3. State the basic shape block for each object below.









4. Zaki wants to keep his old books in a box. Between the shapes of boxes P and Q, which is more suitable? Why?









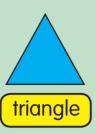


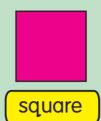
96

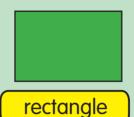


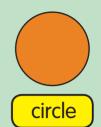


• There are four basic shapes:









There are seven basic shape blocks:

- cube - cuboid - pyramid - prism

- cone - cylinder - sphere

- New objects can be constructed using several basic shape blocks.
- Objects are made from basic shape blocks according to their use.







# **Science Recreation**

## **Desk Caddy**

 Produce a desk caddy with basic shape blocks using recycled boxes.







### **Unit 1: Scientific Skills**

#### Let's Revise (page 9)

- I. a) legs
  - b) soft
  - c) sharp
- 2. Sense of sight, sense of touch, sense of hearing, sense of smell and sense of taste.
- 3. Oral, sketch and write.
- 4. a

#### **Unit 2: Science Room Rules**

### Let's Answer (page 15)

Can avoid injury.

Let's Revise (page 16)

- I. i) Line up before entering the Science Room
- ii) Ask the teacher's permission before entering the Science
- iii) Do not play and run in the Science Room.
- iv) Do not eat and drink in the Science Room.
- v) Clean and tidy up the Science Room before leaving.
- 2 a and c
- 3. The sink would be blocked

### **Unit 3: Living Things and Non-Living Things**

#### Let's Answer (page 25)

Grass, paddy, banana plant, coconut tree.

### HOTS (page 27)

Humans and animals would be easily infected by diseases and threatened with dangers.

### HOTS (page 28)

Humans and animals would not be able to do work, would have certain diseases and growth problems. If there is no food at all, humans and animals would die.

#### HOTS (page 28)

If there is no air, we would die. If we do not get water, we would be thirsty. If water runs out for a certain period, we would die.

#### Let's Revise (page 29)

- 1. Breathe, reproduce, need water and food, move and grow.
- 2. Size of animals from small to big:



- 3. Food, water and air.
- 4. Humans and animals need food for energy and growth.
- Plants make their own food.
- 6. Shelter.

#### **Unit 4: Humans**

### HOTS (page 37)

The experience of seeing and touching a torch.

### Let's Revise (page 39)

- a) Tongue b) Skin c) Ear
- 2. Sight, hearing, touch, smell and taste.

object

Bad smell Fragrant shrimp paste perfume garbage rose

Sense of touch, sense of hearing, sense of smell. HOTS (page 39)

Spectacles

#### **Unit 5: Animals**

#### Let's Answer (page 47)

Bee - wings for flying

Duck - webbed feet for swimming

Goat – horns for self-protection from dangers

### Let's Revise (page 49)

I. a) beak	b) wing	c) leg d) feath	ie
2. a) swim	b) flu	c) protection	

### **Unit 6: Plants**

### HOTS (page 57)

The roots can hold the plants strongly by going deep into the ground. The tree will not fall.

#### Let's Revise (page 59)

١.	Characteristics of Parts of Plants			
	Similarity	Difference		
	Non-woody stem	Vein		
	• Non-woody siem	Leaf type		

2.	Part	Importance	Part	Importance
	Flower	Produces fruit and seed	Stem	Transports food produced by leaves to all parts of plant.
	Leaf	Produces food for the plant.	Root	Absorbs water and nutrients from soil and sends them to other parts of the plant.

### **Unit 7: Magnets**

### HOTS (page 64)

Magnets are formed into different shapes to suit various uses in our daily life.

#### HOTS (page 66)

We can separate the paper clips from the talcum powder using a magnet. The magnet can attract the paper clips but not the talcum powder.

### Let's Revise (page 69)

- I. a) ring b) horseshoe c) bar
- 2. a and c
- 3. paper clip and screw
- 4. a) attract b) repel
- 5 True

### **Unit 8: Absorption**



Object **Water Absorbent** Non-Water Absorbent kitchen paper paper clip paper bag

- 2. (manila card) (newspaper) (hand towel)
- 3. Tissue paper wiping water Rain coat – protect us against rain

Towel – druing our body Umbrella – protect us against rain

### Unit 9: The Earth

### HOTS (page 85)

Garden soil is found in the vegetable farm area, clay is found in the paddy fields and sand is found on the beach or desert.

### Let's Revise (page 88)

- I. a) river b) mountain c) beach
- 2. garden soil, clay and sand
- clau

### Unit 10: Basics of Building

### HOTS (page 92)

books

### Let's Answer (page 93)

Rubber - cuboid Marble - sphere Dice - cube Tower - pyramid Roof - prism

### Let's Revise (page 96)

- I. a) rectangle b) triangle c) circle d) rectanale e) circle f) rectangle
- b) circle, triangle and rectangle
- 3. A-pyramid B-cylinder C-cone D-cube E-sphere 4. Box P. Cuboid shape can provide more space to keep the

Dengan ini, **SAYA BERJANJI** akan menjaga buku ini dengan baik dan bertanggungjawab atas kehilangannya, serta mengembalikannya kepada pihak sekolah pada tarikh yang ditetapkan.

Skim Pinjaman Buku Teks				
	Sekolah			
Tahun	Darjah	Nama Penerima	Tarikh Terima	
Noi	mbor Perolehar	n:	_	
Tarikh Penerimaan:				
BUKU INI TIDAK BOLEH DIJUAL				



