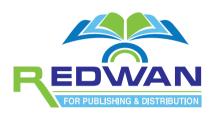
Science States





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Deposit No.: 3871 / 11 / 2008

Fifth Edition

2021

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Introduction

Everyday Science is made up of six levels, each designed to meet the delicate educational requirements of the target age group. The structure of the series harmoniously balances four scientific branches: biology, chemistry, physics, and Earth sciences. The series promotes the importance of careful observation and experiments to verify facts and arrive at conclusions based on scientific methods. Through the variety of activities it provides, the series illustrates to young learners the connection between the subject studied and the real world, something that's often overlooked in teaching science.

Everyday Science is all about encouraging students to think about the world in terms of how & why. It directs youngsters' curiosity in the way of learning, discovering and understanding common occurrences and different natural phenomena.



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Unit 1

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Living Things

To identify the characteristics and eating habits of living things.



Kinds of Animals

To classify animals according to their different kinds of coats, living habits and habitats.

Unit 2

Unit 3

Kinds of Plants

To identify the parts of a plant and to classify them according to shapes and sizes.





Roots

To classify plants according to the size and shape of their roots.

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Leaves

To identify parts of a leaf and to classify plants according to types of leaves.





Fruits and Seeds

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To demonstrate that force is required to move or stop the motion of heavy or light objects.



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The Moon

To identify the characteristics and phases of the Moon.

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The Earth

To identify the surface features of the Earth, the concepts of day and night and directions.





The Seasons

To identify the four seasons.

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Revision 65

Test Paper

To review course contents of the book.

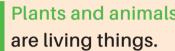


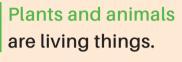
Unit 1

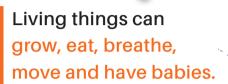
Living Things

Living Things

There are many living things on Earth.



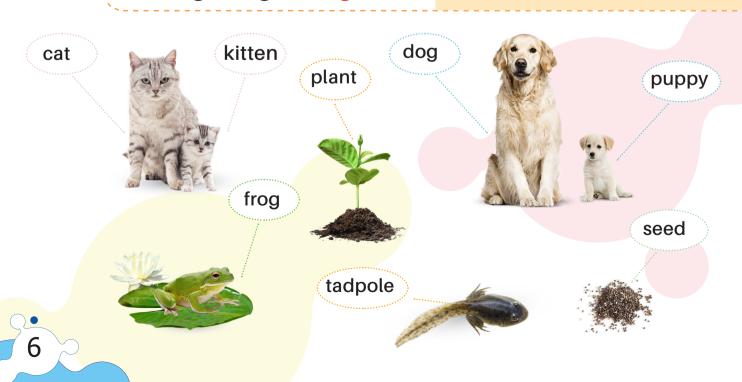








Living things can grow.



Living Things

Living things eat food.



Animals eat many kinds of food. Some animals eat only plants.

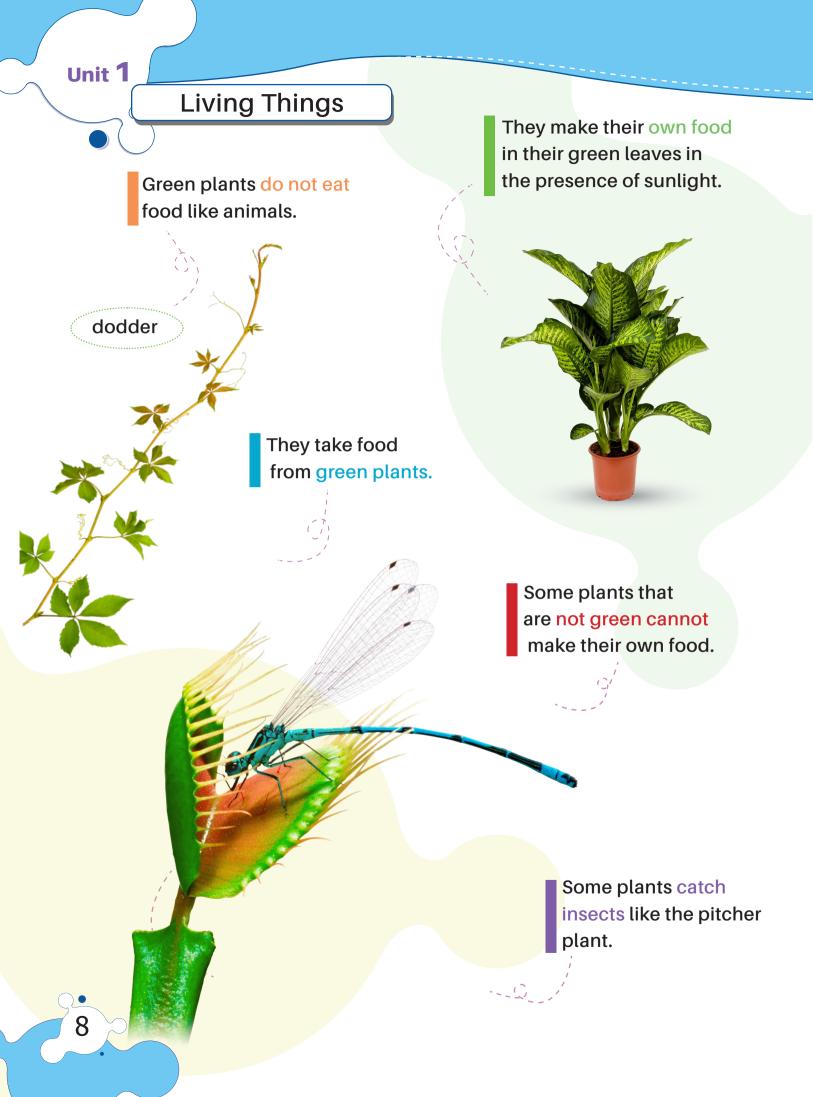


Some animals eat both plants and animals.





Some animals eat other animals.



Living Things

Living things breathe.

- · All living things need air to breathe.
- Living things cannot live without air.
- We take in air through our nose and mouth.
- A butterfly takes in air through small holes on the sides of its body.
- A fish takes in air from the water through its gills.
- A plant takes in air through small holes in its leaves.





Living things can move.







1. Name five things that living things can do.

(a) grow

(c) breathe

(d) move

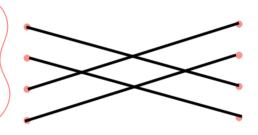
(b) eat

(e) have babies

2. Match the baby to its parent.

puppy caterpillar tadpole seed

Baby



frog
plant
dog
butterfly

3. How do the following living things take in air?

(a) A boy

by small holes on its body.

(b) A butterfly

by his nose and mouth.

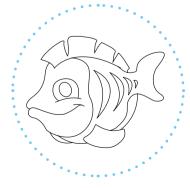
(c) A fish

by small holes in the leaves.

(d) A plant-

by its gills.

4. Colour the pictures.

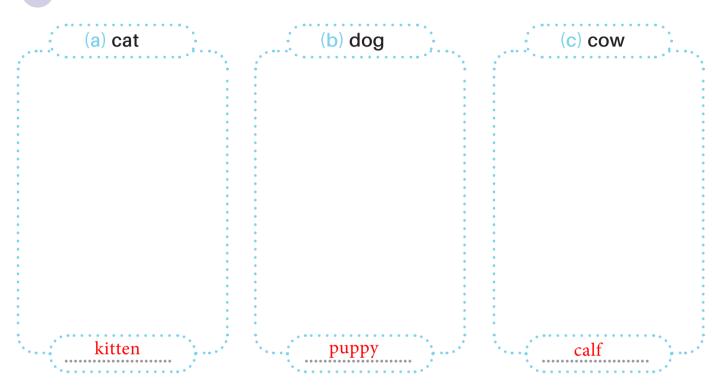




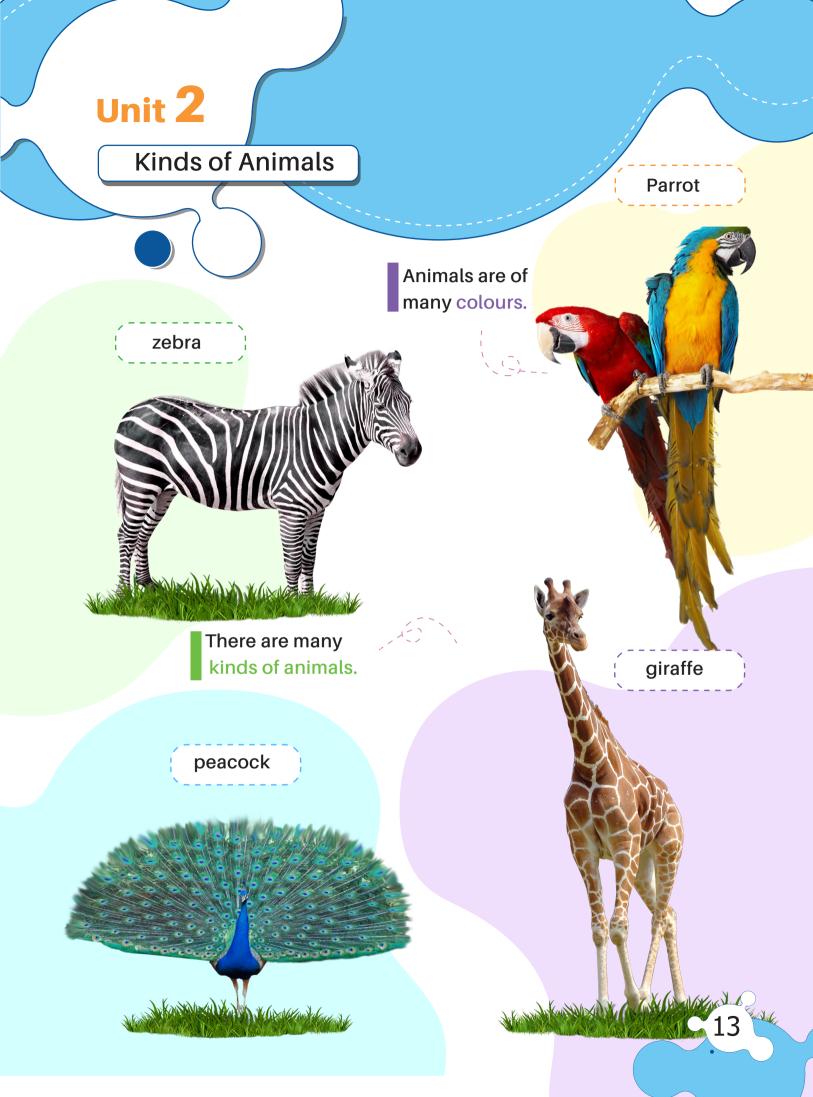


Living Things

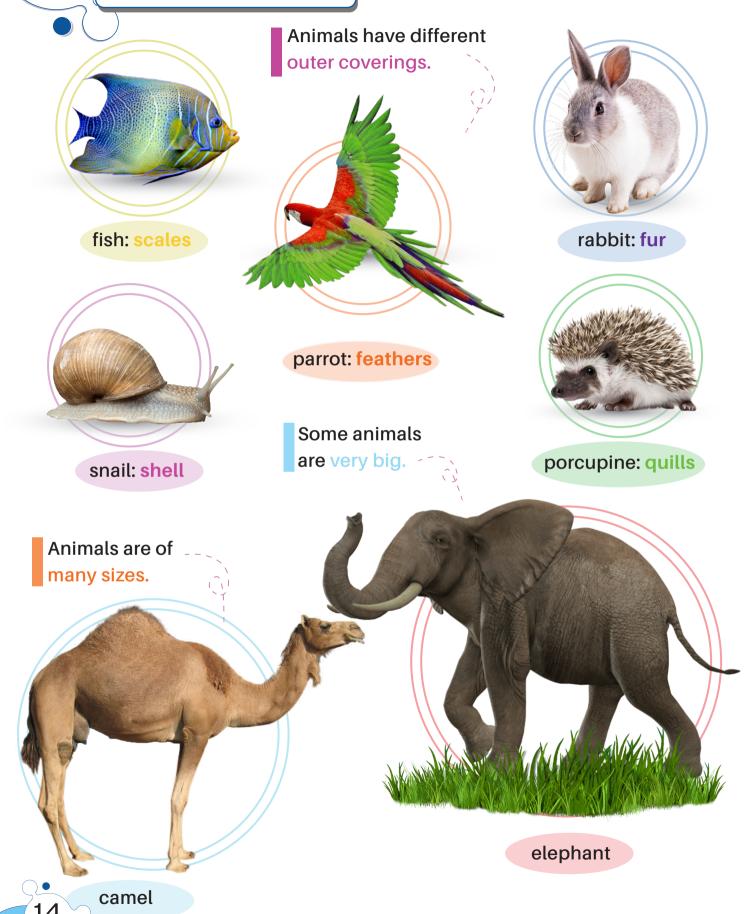


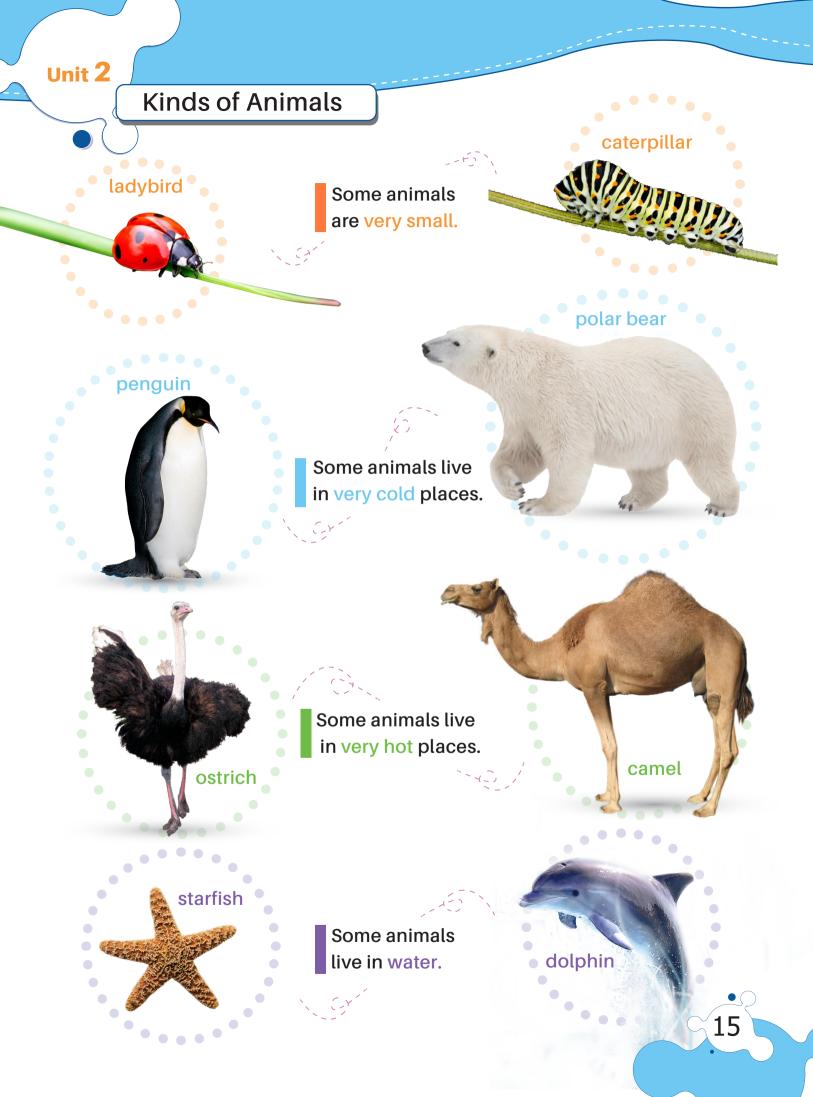


6. Draw how a seed grows into a new plant. Label your drawing.



Kinds of Animals





Kinds of Animals

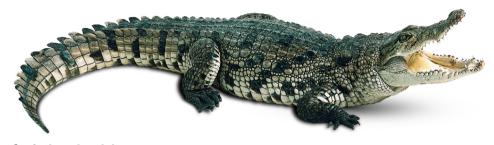
tortoise

Some animals live both in water and on land.

Some animals are special.



crocodile



A starfish looks like

a star.



A sea anemone looks like a flower.



A jellyfish looks like jelly.





A sea horse is a fish which looks like a horse.



Activities

1. Colour the picture.



2. Match the animals to the coats.

Animals

(a) A fish
(b) A rabbit
(c) A parrot

Coats

fur
scales
feathers

Kinds of Animals

3. Write the names of animals that are:

very small

- (c) spide.r
- (d) fl.<u>y</u>...

very big

- (a) elep. h.a..nt
- (b) gira .f. f..e

4. Fill in the table about where animals live.

Animal Very cold places Very hot places Land and water

(a) polar bear

(b) camel

(c) dolphin

5. Draw a picture of your favourite animal and also write down where it lives.

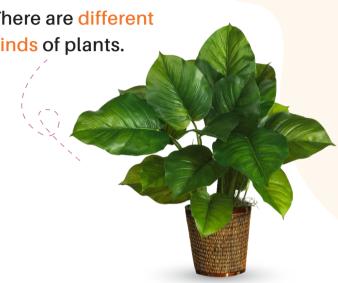
(d) frog

Unit 3

Kinds of plants

Most plants are green.







Parts of a plant

Leaves and flowers grow on the stem.

Green leaves make food for the plant.

The **stem** grows above the soil.

The stem takes water and salts from the roots to the leaves.



Flowers make fruits which have seeds inside them.

Roots grow in the soil.

They suck water and salts from the soil.

Kinds of plants

They need air, water and sunlight to make food.





- Some plants do not grow very tall.
- They are called shrubs.
- They have many branches.

- Some plants grow very tall.
- They are called trees.
- They have hard, woody stems.





Green plants can make their own food.

Kinds of plants

Some plants grow close to the ground. They are called **herbs**. They have soft, weak stems.





Some plants have no stems. They are called mosses.

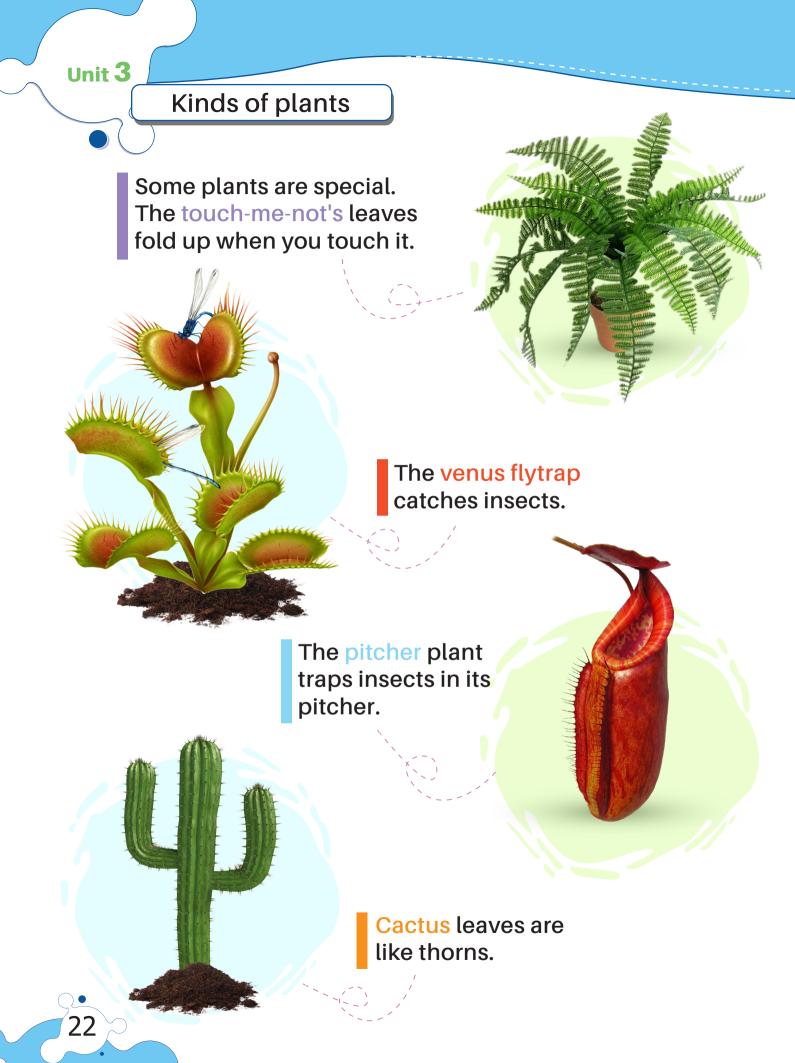
They grow in moist, shady places.





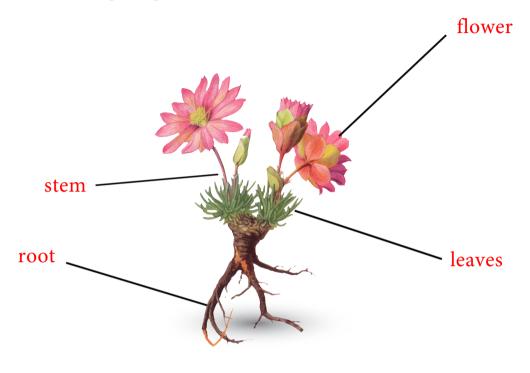
Trees, shrubs and herbs have tubes which take water from the roots to all parts of the plant.

They have other tubes which take food from the leaves to all parts of the plant.





1. Label the following diagram.



- 2. Answer the following questions.
 - (a) What is the colour of most plants?

 Most plants are green
 - (b) What do roots do?
 Roots suck water and salts from the soil
 - (c) What does the stem do?

 The stem takes water and salts from the roots to the leaves
 - (d) What do flowers do?
 Flowers make <u>fruits which have seeds inside them</u>
 - (e) What do leaves do?

 Leaves make food for the plant

Kinds of plants

- 3. Write Yes or No.
 - (a) Plants that grow very tall are called herbs.

No

(b) Trees have hard, woody stems.

Yes

(c) Mosses grow very tall.

No

4. Write the names of the following plants.

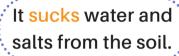


(a) pitcher



Unit 4

Roots



It fixes the plant in the soil.



It stores food for the plant.

A root grows in the soil.



Some roots are thick and strong. They grow deep in the soil. Some roots are thin and weak. They do not grow very deep in the soil.

Kinds of roots

Some roots have one big part which is thick.

This thick root is called a tap-root.



A tap-root has many small roots growing from it.

A tap-root stores a lot of food.

Roots

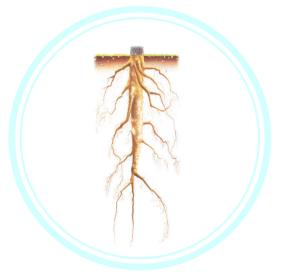
- Some roots have many branches of the same size.
- These roots are called fibrous roots.
 - They do not store much food.





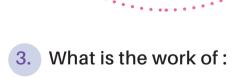
- · All roots have very fine hair on them.
- · These are called root hairs.
- Root hairs suck water and salts from the soil.

- The tip of the root has a root cap.
- The root cap protects the root tip.





- 1. Fill in the blanks.
 - (a) A root grows in the soil.
 - (b) A root storesfood..... for the plant.
 - (c) Some roots arethin and weak.
- 2. Draw two different types of roots.



- (a) The root hairs?

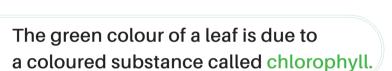
 The root hairs suck .water and salts from the soil
- (b) The root cap?

 The root cap protects the root tip

Unit 5

Leaves

All leaves grow on the stem of a plant. A leaf is the flat, green part of a plant.

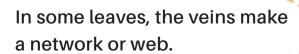




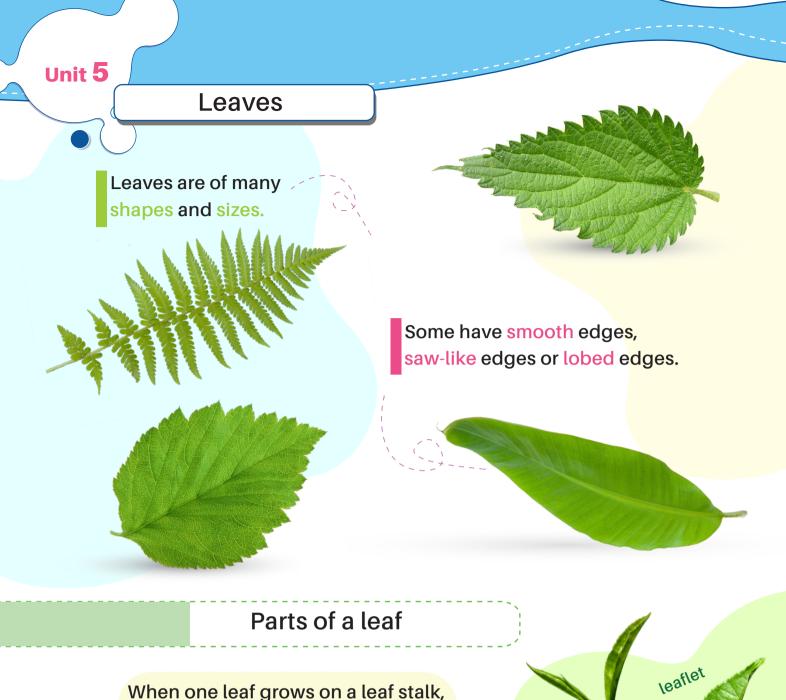
A leaf is joined to the stem by a leaf stalk.

A leaf blade is the flat, green part of the leaf.

The mid-rid and veins carry water and food.







When one leaf grows on a leaf stalk, the leaf is called a simple leaf.

When two or more small leaves grow on a leaf stalk, the leaf is called a compound leaf.



The small leaves of a compound leaf are called leaflets.

compound leaf



Leaves

Functions of leaves

Air goes into the leaf through small holes.

Sunlight comes from the Sun.

Green leaves make food for the plant.

A leaf makes food with the help of air, water, chlorophyll and sunlight.

.

Water comes into the

leaf through veins.

The food of a plant is glucose.

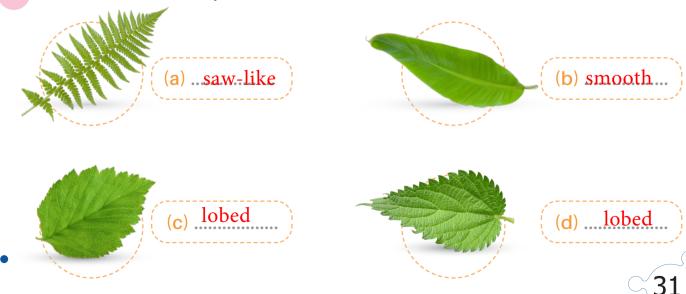
Glucose is sweet

like sugar.



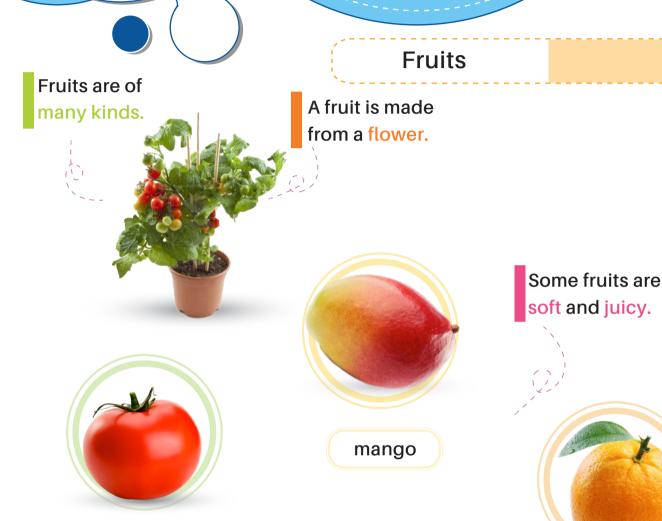
- 1. Answer the following questions.
 - (a) Where do leaves grow? on the stem of a plant
 - (b) What is a leaf? is joined to the stem by a leaf stalk
 - (c) What is the green colour of a leaf due to?a substance called a chlorophyll
- 2. Draw a leaf with mid-rib and veins in it.

3. Write down the shapes of the leaves.



Unit 6

Fruits and Seeds



Some fruits are dry and hard.

tomato



walnut



Seeds are made inside fruits.

orange

apple



Fruits and Seeds

Parts of a seed



- A seed has a hard seed coat.
- The seed coat protects the seed.
- A seed has a tiny hole.
- · Air and water go into the seed through this hole.
- · The seed has a mark on it.
- This is the point where the seed is joined to the fruit.
- The seed has seed leaves and a baby plant inside it.
- The seed leaves have food in them.





Fruits and Seeds

When the baby plant inside the seed grows into a new plant, it takes food from the seed leaves.

Growth of a seed



Science and Life

Never stick your bare hand into a fish tank — most fish can't hurt you. But a few types of fish can and do sting. The water also contains germs that could cause a skin infection.



Poisonous mushroom

Although most of the toxic species - like death caps and the red are found in forests rather than backyards, there are many poisonous species. Do not touch them.



Unit 7

Work and Machines

Work

Some things move fast. Others move slowly.

We can move things by pushing or pulling them.

We do work when we push or pull something.





Things move.

A thing cannot move unless we push or pull it. If we want to start or stop moving something, we need to push or pull it.



- · Some things are light. Others are heavy.
- If we have to push or pull heavy thing, we have to use more force.
- We have to use less force when we push or pull a light thing.



Work and Machines

Machines

Machines help us to do many things. They help us to do work.

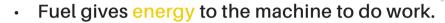


Some machines are small. They make our work easy.



Work and Machines

- Big machines need food to do work. The food of a machine is called fuel.
- A car needs petrol.
- A steam-engine needs coal.



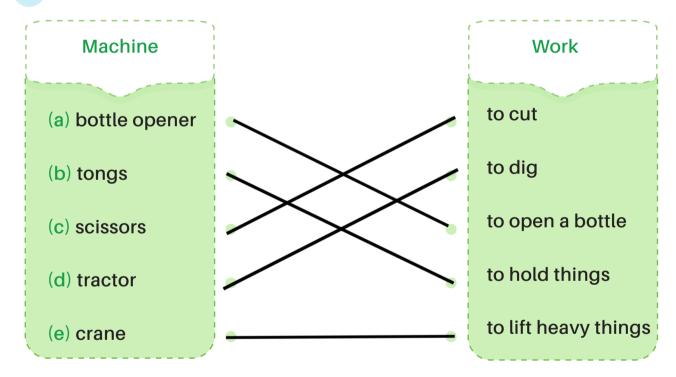
- The fuel of our body is food.
- Food gives us energy to work and play.







- 1. Fill in the blanks.
 - (a) When we push and pull things we do ...work
 - (b) Our .energy... help us to do work.
 - (c) A ...crane is a big machine which picks up heavy loads.
- 2. Match the machine with its work.



- 3. What is the food of a machine called?

 fuel
- 4. What does a steam engine need as fuel?

Unit 8

Light



- When light falls on something we can see it.
- · Light comes from various sources.
- · Most of the light on the Earth comes from the Sun.
- · We get light by burning a candle.
- We also get light from a bulb and a torch.

There is more light near the source.

There is less light away from the source.





When something gives out light by itself, it is called a luminous thing. A red-hot piece of coal, a star, a fire and a torch are luminous things.





Light

- Something which cannot give out light by itself is called a non-luminous thing.
- A book, table, house and door are non-luminous things.





- We can see non-luminous things because light from luminous things falls on them.
- We cannot see non-luminous things in the dark.
- The Moon is a non-luminous body.
- We can see the Moon because sunlight falls on it.

- · Some things let light pass through them.
- If we can see through something clearly, we say that it is transparent.
- Glass air and water are transparent.



Light

- If we can see through something but not clearly, we say it is translucent.
- Frosted glass and tracing paper are translucent.





- If we cannot see through something at all, we say it is opaque.
- A door is opaque.

Shadows

- A beam of light travels in a straight line.
- If something comes in the path of light, it makes a dark patch. This dark patch is called a shadow.



- The shadow of an object is of the same shape as the object.
- If the object is near the light, its shadow is big.
- If the object is far from the light, its shadow is small.









Activities

- 1. Answer the following question.
 - (a) Where does light on the Earth come from?

 Light on the Earth comes from the Sun
 - (b) What is a luminous thing?

 A luminous thing is when something gives out light by itself
 - (c) What is a non-luminous thing?

 Anon-luminous thing is something which cannot give out light by itself
 - (d) Can we see things in the dark?

 We cannot see non-luminous things in the dark
 - (e) How can we see the Moon?

 We can see the Moon because sunlight falls on it
- 2. Fill in the table about things through which light can or cannot pass.

Object	Transparent	Translucent	Opaque
(a) air		×	×
(b) tracing paper	X		X
(c) water		X	X
(d) book	X	X	
(e) frosted glass		X	X
(f) ball	X	X	

Unit 9 Heat

- Fire gives us heat.
- · We can feel the heat coming from a fire on our face and hands.
- Heat makes us feel warm.
- · We feel warm when we are close to the source of heat.
- · We do not feel so warm when we are away from the source of heat.



 We do not feel the heat if there is some object between us and the source of heat. We sit under a tree to protect ourselves from the heat of





Heat

- · Heat can pass through some solids such as metals.
- Metals through which heat can pass are called good conductors of heat.
 Cooking utensils are made of metal.



- Heat cannot pass through some solids such as wood, plastic and rubber.
- Solids through which heat cannot pass are called bad conductors of heat.
- Handles of cooking utensils are made of bad conductors of heat so that we do not burn our hands when cooking.

Activities

- 1. Fill in the blanks.
 - (a) Fire gives us .heat
 - (b) Heat is a kind of energy ...
 - (c) Heat can do work
 - (d) Heat energy comes from .burning.. wood, paper and fuels.
 - (e) Metals through which heat can pass are. calledgood.... conductors of heat.

- 2. Write some ways in which we use heat.
 - (a) Heat makes us feel warm.
 - (b) Handles of cooking utensils are made of bad conductors of heat so that we don't burn our hands when cooking.
 - (c) Heat can do work.
 - (d) Fire gives us heat.
 - (e) Heat is produced by rubbing our hands.

Unit 10

The Sun and the Stars

Stars

- There are many stars in the sky.
- · Stars shine at night.
- They are very big, but they look small because they are very far away.
- Stars are very hot.
- · They are so hot that they give off light.
- They are big balls of burning gases.

The Sun



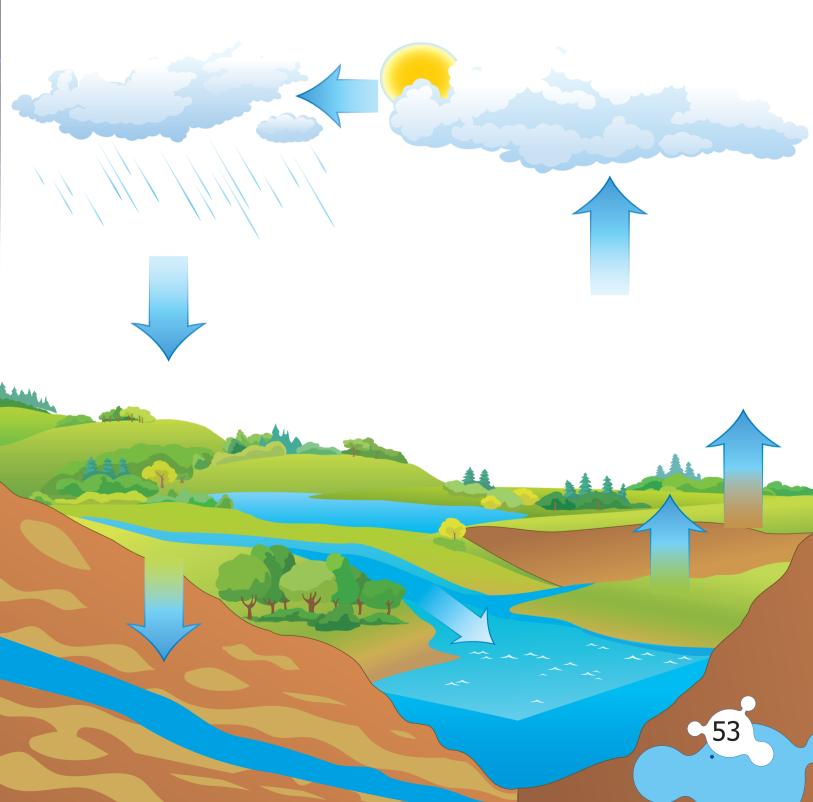
- The Sun gives us heat and light.
- Plants use sunlight to make their food.
- Sunlight helps our skin to make vitamin D.

- The Sun is a star.
- It is a very small star.
- Many stars are bigger than the Sun.
 The Sun looks big because it is nearer to us.
- It is 150 million kilometres away from the Earth.





- · The Earth would be very dark and cold without the Sun.
- Nothing would be able to live on the Earth.



Activities Answer the following questions. (a) When do stars shine? Stars shine at night (b) Are stars big or small? Stars are big (c) Why do stars look small? Stars look small because they are very far away (d) What is the Sun? The Sun is a star (e) How big is the Sun? The Sun is very small star Write Yes or No. (a) Plants use sunlight to make food. Yes

(b) Sunlight helps our skin to make vitamin C.

No

(c) Sunlight helps to make wind and rain.

Yes

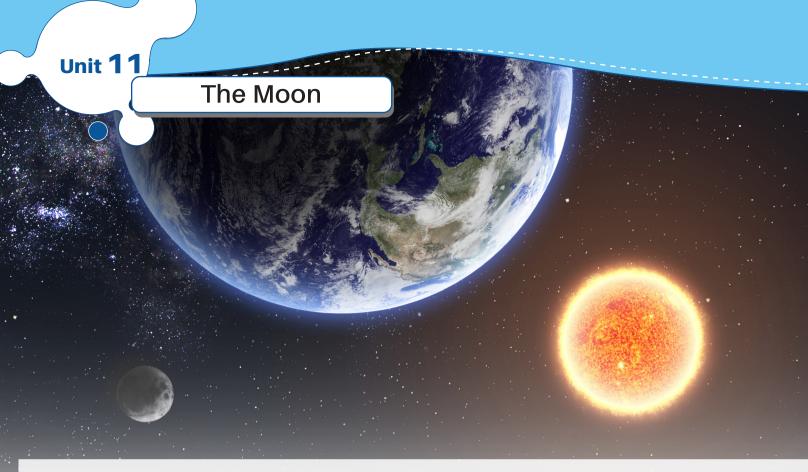
(d) The Earth would be very hot without the Sun.

No

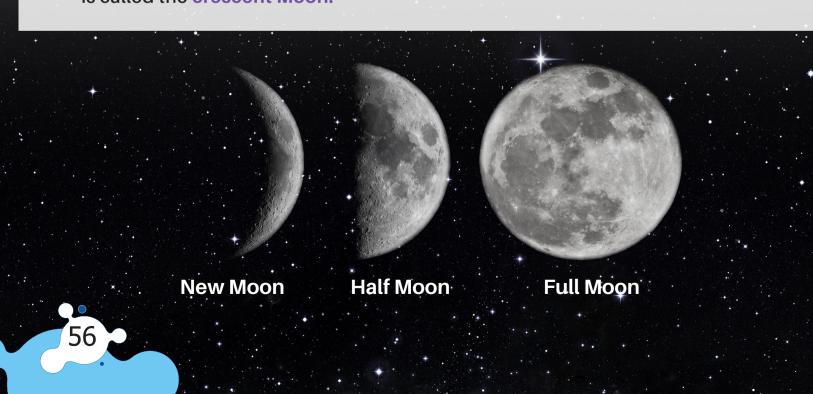
(e) Nothing would be able to live on the Earth without the Sun.

Yes





- The Moon has no air or water.
- There are no living things on the Moon.
- The Moon does not have its own heat and light. It gets light from the Sun.
- · We can see the Moon best at night. The Moon seems to change shape.
- · Sometimes it looks round like a ball. This is called the full Moon.
- Sometimes we see only half of the Moon. This is called the half Moon.
- Sometimes we see only a small part of the Moon. It looks like a banana. This
 is called the crescent Moon.



Activities

- 1. Answer the following questions.
 - (a) How far away is the Moon from the Earth?

 The Moon is .400000 kilometers away from Earth
 - (b) How many days does the Moon take to go once round the Earth?

 The Moon takes about 28 days
 - (c) What are the deep holes on the Moon called?

 The deep holes are called <u>craters</u>
 - (d) Does the Moon have air and water?

 The Moon has no air or water
 - (e) Does the Moon have its own heat and light?

 The Moon does not have its own heat and light
- 2. Write the names of the three shapes of the Moon.
 - (a) Full Moon
 - (b) Half Moon
 - (c) Crescent Moon

Unit 12

The Earth

The Earth is like a ball. It gets heat and light from the Sun. It is neither too hot, nor too cold. It has tall trees and many other plants. It also has insects, birds and many other animals.



There is a layer of air around the Earth.

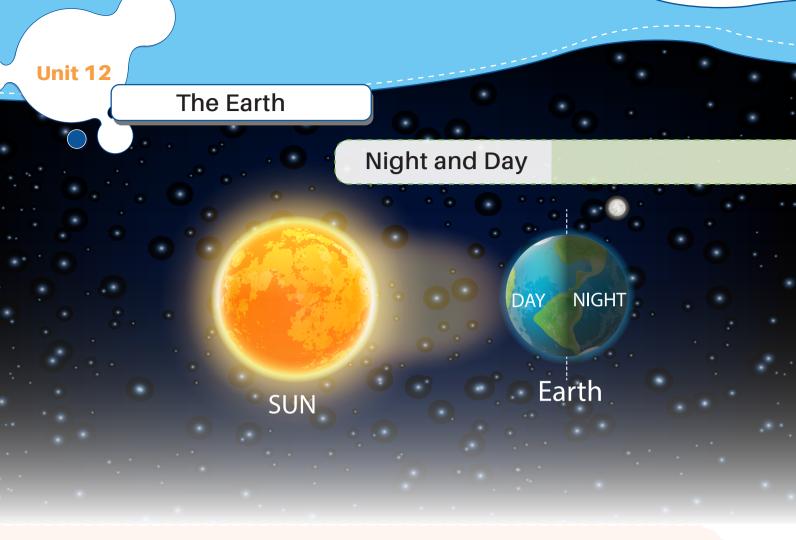
Air helps plants and animals to breathe

Three-fourths of the Earth is covered with water.

There are many oceans, seas, lakes and rivers on the Earth.

One-fourth of the Earth is made of land. The land has many high mountains and flat plains.





The Sun sends light to the Earth in the daytime. We cannot see the Sun at night. The Earth is turning on a point called the axis. The Earth turns round once in 24 hours.

The turning of the Earth on its axis makes day and night.

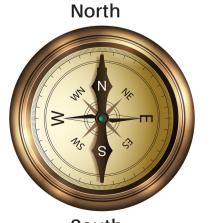
When the Sun is shining on one side of the Earth, the other side is in darkness.

When it is day on one side of the Earth, it is night on the other side. The side which has day becomes warm. The side which has night becomes cool.

West

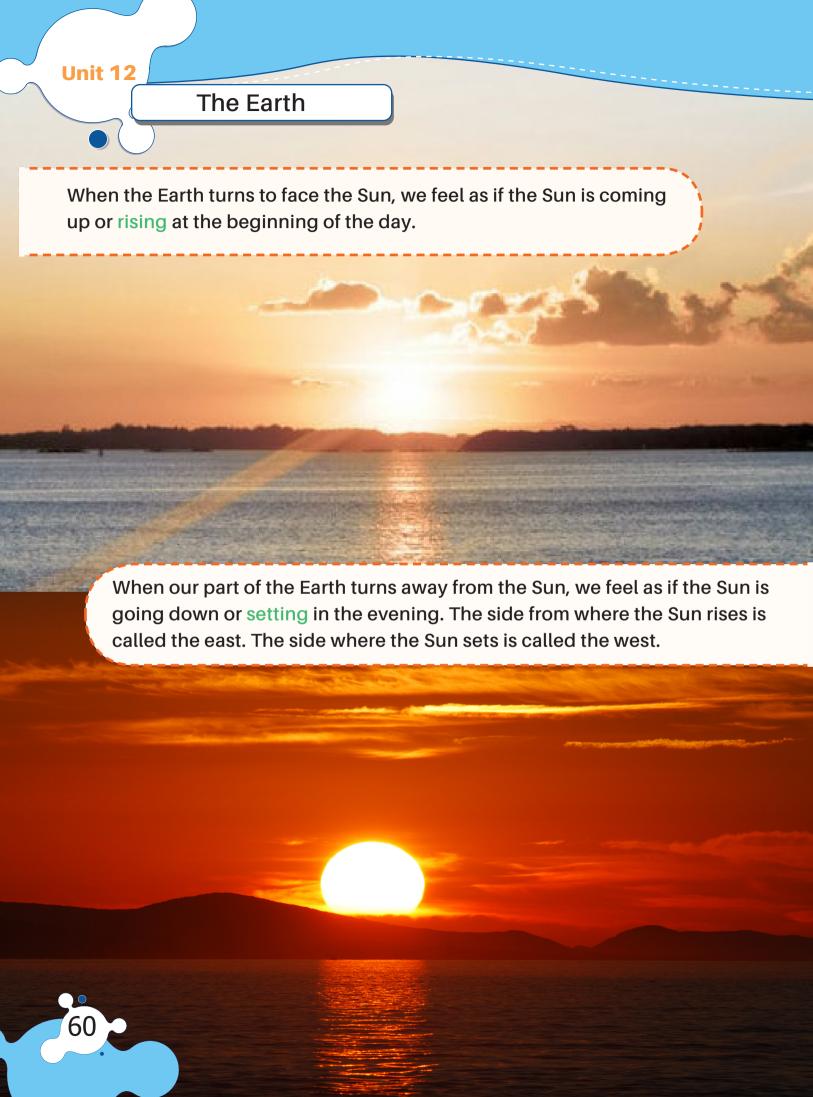
There are four sides or directions:

- north
- south
- east
- west



East

South



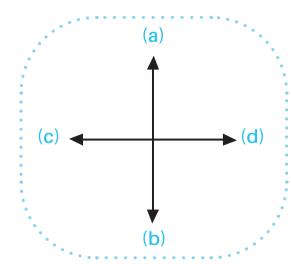
The Earth

If you stand with your right hand pointing east and your left hand pointing west, then north will be in front of you and south will be behind you.



Activities

- 1. Fill in the blanks.
- (a) The Earth is like a ball
- (b) The Earth has many ...animals .. andplants ... living on it.
- (c) Three-fourths of the Earth is covered with water.
- (d) The Earth is turning on a point called the .axis.
- (f) There arefour..... directions.
- 2. Name the four directions.
 - (a) North
 - (b) South



- (c) West
- (d) East

Unit 13

The Seasons

There are four seasons in a year. They are called winter, spring, summer and autumn.



In spring, it is not cold. Trees grow new leaves during this season.



In autumn, it is not warm. It gets cooler and leaves fall off the trees.



In winter, it is cold. In some places, it snows in winter. People wear woollen clothes in winter to keep warm.



In summer, it gets warm. People wear light clothes to keep themselves cool.

Activities

- 1. Answer the following questions.
 - (a) How many seasons are there in a year? Four
 - (b) What are the various seasons called? winter spring autumn summer
 - (c) What happens to the leaves in autumn? fall off the trees
- 2. Fill in the blanks.
 - (a) People wear ... woollen .. clothes in winter.
 - (b) Trees grow new .leaves...... during spring.
 - (c) People wear light clothes to keep themselves .grow........
- 3. Draw a picture of your favourite season.

Science and Life

Never touch the surface of grills, stovetops, and ovens; they remain hot long after they're turned off.

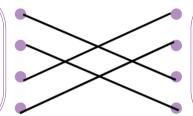


You should never play with fireworks. Things like rockets and sparklers are just too dangerous. If you play with sparklers, make sure to keep them outside and away from the face, clothing, and hair.





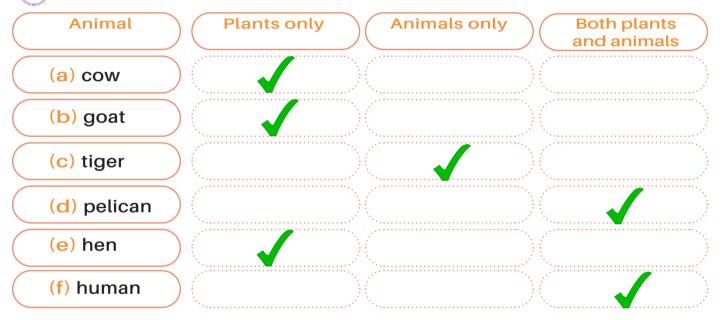
- (a) A frog
- (b) A bird
- (c) We
- (d) A dolphin



walk with our legs. swims in water with flippers. hops on land.

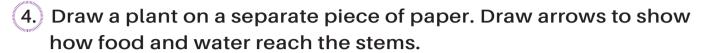
flies in the air with its wings.

2.) Fill in the table with what each animal eats.



3.) Fill in the table about where animals live.

Animal Very place	y hot aces Wa	iler) (nd and vater
(a) ostrich			
(b) sea horse			
(c) crocodile			



- 5. Write Yes or No.
 - (a) Herbs have soft, weak stems.
 - (b) Shrubs have no stems.



- 6. Fill in the blanks.
 - (a) A root sucks <u>water</u> and <u>salts</u> from the soil.
 - (b) Some roots are ...thick..... and strong.
- 7. Draw.

(a) A simple leaf

(b) A compound leaf

8. Write the names of three dry and hard fruits.

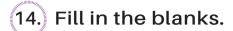
(a) walnut

(b) apple

(c) almond

- 9. Fill in the blanks.
 - (a) Abottle.openeris a small machine with which we open a bottle.
 - (b) The food of a machine is called .fuel
 - (c) The fuel of our body is <u>food</u>.......
 - (d) Heavy things needmore.... force to be moved.
 - (e) Light things needless force to be moved.
- 10.) Choose the best answer.
 - (a) A beam of light is (curved straight)
 - (b) The dark patch made by an object is called a (spot shadow)
 - (c) The shadow of an object is of the (same) different) shape as the object.
- 11. Answer the following questions.
 - (a) How do we keep warm? We wear clothes to keep warm
 - (b) How do birds keep warm? They have feathers on their bodies
 - (c) What is a "good conductor" of heat? Metal
 - (d) On a hot day, why do we sit under tree?to protect ourselves from the heat of the Sun
- 12.) Answer the following questions.
 - (a) How does sunlight help our skin? to make vitamin D
 - (b) Are the stars hot or cold? hot
 - (c) How far is the Sun from the Earth? 150 million kilometers away from Earth
 - (d) How do plants use sunlight? to make their own food

13. Draw the various phases of the Moon.



- (a) The Earth gets heat and light from the
- (b) One-fourth of the Earth is made of water.....
- (c) When it is day on one side of the Earth, it isnight..... on the other side.
- (d) The Earth has a layer ofair around it.

Glossary



Autumn: the season after summer when it is cooler.

Chlorophyll: the green pigment found in almost all types of plants.





Energy: the ability to do work.

Force: what is done to move a subject.





Fuel: something that gives off heat when it burns.

Heat: to become warm.





Leaves: parts of the plant that use sunlight and air to make food.

Light: a form of energy made of waves that move up and down.





Ocean: a large body of salty water.

Opaque: not able to let light pass through.



Glossary





Push: to move something away from you.

Simple Machine: a tool that makes the force of your push or pull stronger.



Shadow: the dark area that results when light is blocked.

Season: a time of year: Autumn, Spring, winter, or summer.



Spring: the season after winter when many plants grow.

Summer: the hottest season.



Sun: star that heats the earth.





Translucent: able to let some but not all light pass through.

Winter: the coldest season.

