Environmental Science

Part - 1

Class III

Government of Kerala
Department of General Education

Prepared by

State Council of Educational Research and Training (SCERT), Kerala

2024

ST-435-1-EVS-(E)-3-Vol-1

The National Anthem

Jana-gana-mana adhinayaka, jaya he
Bharatha-bhagya-vidhata.
Punjab-Sindh-Gujarat-Maratha
Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga
Uchchala-Jaladhi-taranga
Tava subha name jage,
Tava subha asisa mage,
Gahe tava jaya gatha.
Jana-gana-mangala-dayaka jaya he
Bharatha-bhagya-vidhata.
Jaya he, jaya he, jaya he,
Jaya jaya jaya, jaya he!

PLEDGE

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give respect to my parents, teachers and all elders and treat everyone with courtesy.

I pledge my devotion to my country and my people. In their well-being and prosperity alone lies my happiness.

Environmental Science

Class III

Prepared by

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Typeset and design by : SCERT
First Edition - 2024
Printed at : KBPS, Kakkanad, Kochi-30
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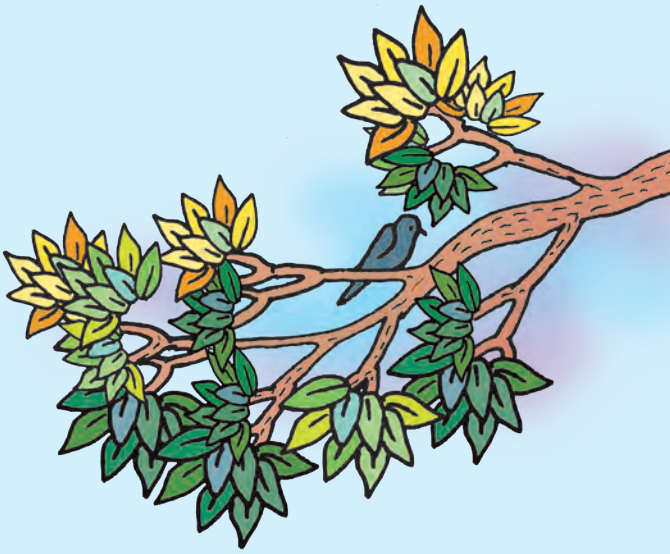

Friends,

This textbook contains fundamental information and a variety of activities for observing deeply and studying the environment in which we live. When you observe in this way, you can understand the features of creatures and things, and the connections among them. The book also provides the opportunity to understand the basic factors that influence human life as a social animal. This book includes many activities that you can do along with your friends. The Environmental Science textbook offers occasions for constructing knowledge through joyful activities including observation, queries, discussions, debates, simple experiments and projects. We hope that the information given in the textbook will prompt you to seek out further knowledge. Learn and enjoy.

Wishes,

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Contents

Certain icons are used in this textbook for convenience


For further reading (Evaluation not required)


ICT possibilities for making concepts clear


Let us assess


Extended activities

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a [1]**[SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC]** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the [2][unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949 do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

---

1. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)
2. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Unity of the Nation" (w.e.f. 3.1.1977)

1

Green Earth

Go touch and come, little bird..

Fly away fly away fly little bird...
Go touch the green tree and come, little bird
Which tree did the bird touch?
What is its name?
Can you tell if it is big or small?

Fly away fly away fly little bird...
Go touch the flower and come, little bird
Which flower did the bird touch?
What is its name?
Can you tell the colour of the flower?

Fly away fly away fly little bird...
Go touch the leaf and come, little bird
Which leaf did the bird touch?
What is its name?
Can you tell the shape of the leaf?

Did you see the children who are singing and dancing?

Shall we play this game?

Which plants were you able to touch when you played?

Which other plants do you know?

Write them in your *Environmental Science Diary*.

Which parts?

Saira is drawing the picture of a plant. What are the other parts to add in the picture? Complete the picture and write the parts.

- Root
-
-

Let us classify

Do you think all the plants you see are similar?

What are the differences?

- Size
-
-
-

Which plants do you see in the picture?

What are the features of their stem?

What are the differences in their size?

How long will they live?

Mark your observations with a tick (✓) in the table.

Observe the plants in the School Biodiversity Garden and complete the table given.

Name of the plant	Stem			Size			How long will it live?		
	Soft	Hard	Very Hard	Small	Big	Very big	Months	Years	Many years
Spinach (Cheera)	✓			✓			✓		
Hibiscus(Chemparathi)		✓			✓			✓	
Mango tree			✓			✓			✓

What did you learn from the table?

I and my friends are herbs. Can you write down our features?

- Stem is soft.
- .....
- No deep roots.

Do you know us?
We grow very tall.
We are trees.
Please write down our features.

- Very hard stem.
- .....

Though we are small,
our stems are pretty hard...
We are called shrubs.
Write down our features.

- Hard stem.
- .....

Who else belongs to the group of spinach, hibiscus and mango tree?

Herb	Shrub	Tree
Spinach	Hibiscus	Mango tree

Draw and connect

Shrub

Herb

Tree

Vine plants

What are the features of these plants?
Let us write.

- Spreads like a creeper
- Cannot stand up alone.
-
-

Observe your surroundings.
Find and note down more examples for vine plants.

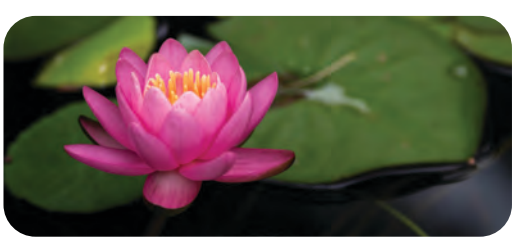
Vine plants are of two types:
Those that spread and grow along the ground,
and those that grow upwards by holding on to
or by spreading along a support.

Plants in water

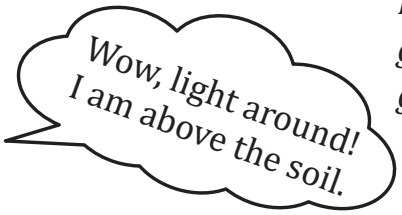
Plants that grow in water are water plants.
What are the features of these plants?

Let us write.

Find out more water plants and note them down.



Life inside the seed



Have you seen seeds germinating? Let us germinate a seed.

Fill a transparent glass with sand. Plant three or four pea seeds slightly under the sand close to the glass. Wet the sand. Keep it for a few days. Observe the seed germinating. What changes can you see?

Which part of the seed will germinate first?

How many days will it take for the first leaf to sprout?

Observe, discuss your findings with friends, and write them down in your *Environmental Science Diary.* Draw pictures too.

My Plant

Germinate a seed in your home. You should plant the seed where there is light. When the seed germinates and the plant grows, give it the manure needed. You will observe more leaves sprouting in the plant, the stem growing, flowers and fruits appearing. Prepare an activity report like the sample given, along with pictures.

My plant

Activity report

- The seed type :
- The date of planting :
- The date of germination :
- The date of the first sprout :
- The date of two leaves appearing :
- The changes in the plant in seven days
  - Height :
  - Thickness :
  - Number of leaves :
- The date of flowering :
- The date of fruit appearing :
- ..... :

Plants not only from seeds

Saira and her friends decided to plant Chethi, Hibiscus, Nishagandhi, Rose, Pumpkin, Mango tree, Jasmine and Kadaplavu for expanding the School Biodiversity Garden. Classify these plants according to which part of them is planted. Find out more plants in these categories.

- Seed :
- Root :
- Stem :
- Leaf :

Plant parts and their functions

Why does a plant have different parts?
Are all the parts important?

Place three test tubes in a stand. Fill the first test tube with water. Fill the second test tube with red colour water in the same amount. Keep the third test tube without water. Keep three clearweed plants (mashithandu) of the same size and undamaged roots in sunlight for 10 minutes, and then keep them in separate test tubes. Keep the test tubes in a place where they can get sunlight. Observe the changes happening to the plants and the water in the test tubes.

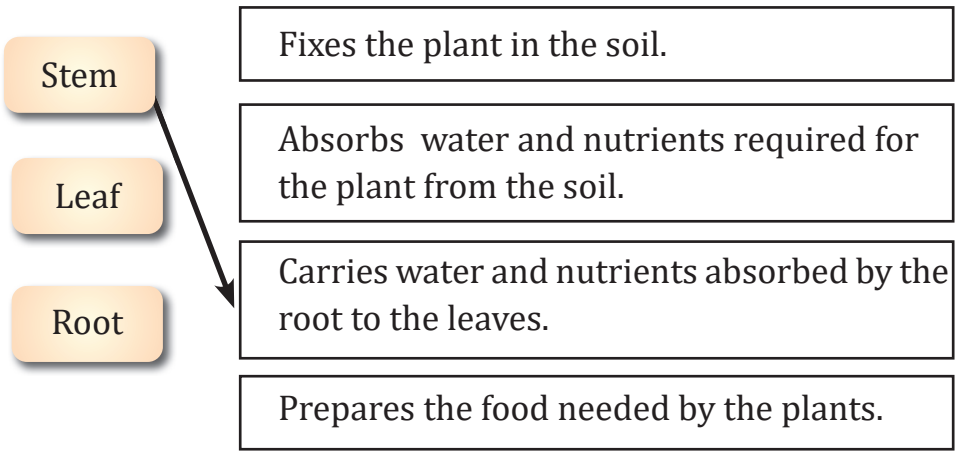
What changes can you see?
What happened to the plant in the test tube without water?
What is the reason?

How did the colour of the plant's stem in the second test tube change? What is the role of the root in this change?

Write your findings as an experiment note in your *Environmental Science Diary.* Don't forget to draw the pictures.

Plants prepare the food that they need, in their leaves. This is used for their growth. The remaining food is stored in different parts of the plant. Other organisms use it as their food.

Match the following



Varieties of leaves

Observe the plants in the School Biodiversity Garden and complete the table by listing the features of their leaves.

No.	Name of the plant	Shape of the leaf	Do leaves smell?	Colour of the leaves
1	Thumba	Long and tapering	Yes	Green

What differences did you find? Try to write them down.

- There is variety in colours.
-
-

Place the leaves underneath the paper and draw over it with crayon. Observe the patterns.

Leaf figures

See the figures of creatures made using different kinds of leaves. Can you make similar figures?

Variety in flowers

Why does this plant say not to pluck its flowers?
What are the benefits of flowers ? Who are benefited? List out.

- Bees get honey
-
-

Different kinds of flowers

Jasmine

Portulaca (Pathumani poovu)

Find out the names of flowers given in the pictures and write them in the space provided. How do they differ other than in smell, colour and shape? Observe more flowers and write about them in your *Environmental Science Diary.*

Non flowering plants too...




Have you seen the plants given in the pictures? Do they bloom? Do all the plants bloom? Search and find out.

The major parts of the plant are root, stem, and leaf. Flowers develop at a stage of the plant's growth. Flowers then become fruits. All plants do not bloom. All flowers do not become fruits also.

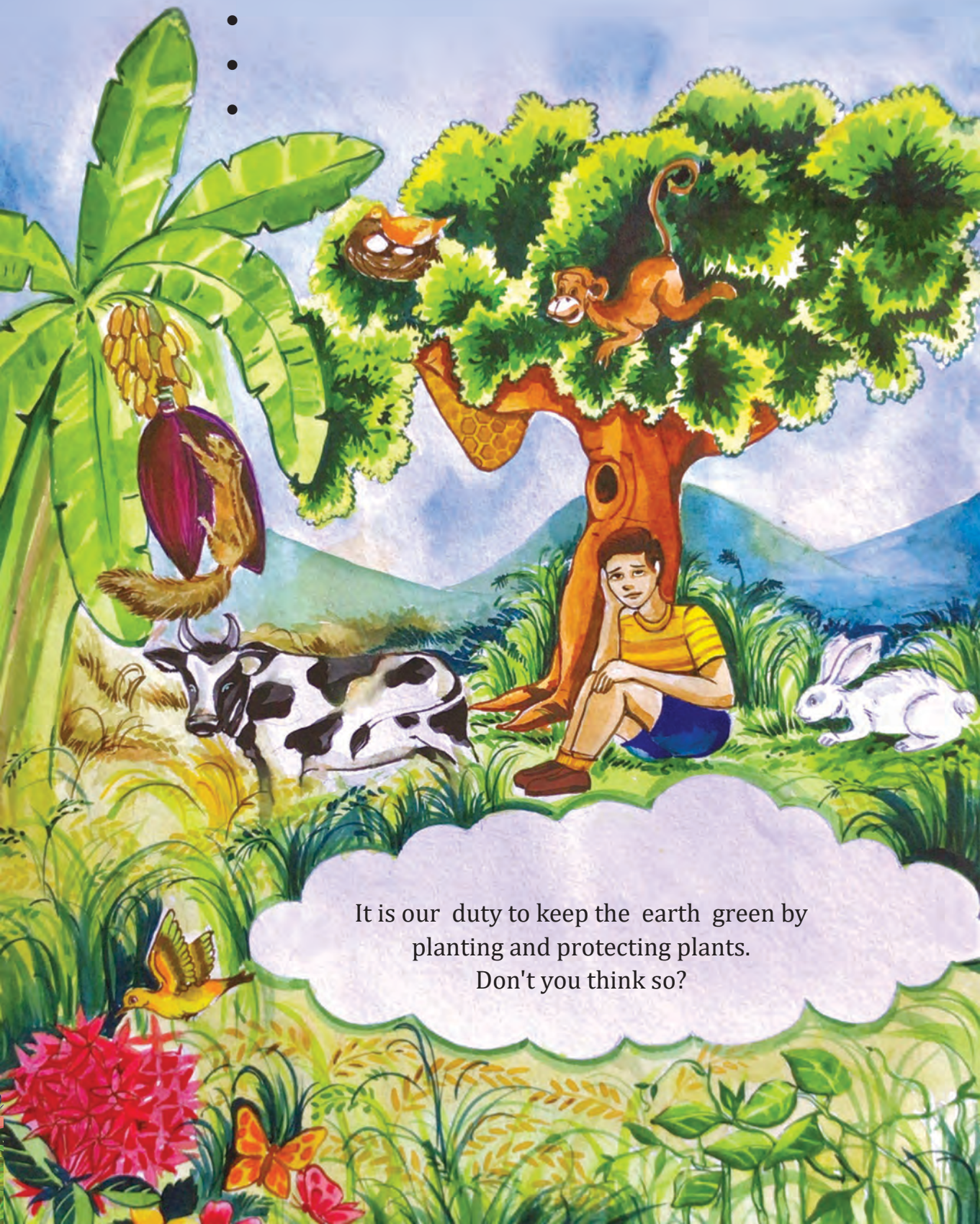
Have you seen plants growing in places without sufficient water? What are their features?

Neelakurinji

This is a rare plant that blooms once in twelve years. Once the flower blooms, it will stay without withering for upto three months. They are blue in colour. 'Nilgiri Hills' gets its name from the flower, Neelakurinji.

What are the benefits of plants?

- They give shade.
-
-
-

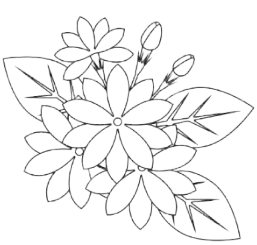


It is our duty to keep the earth green by planting and protecting plants.
Don't you think so?

Let us assess

1. Find out the names of the plants given below and write down the category in which they belong to. Identify more examples and note down their features.

2. Colour the flowers appropriately.



Why did you select this colour? Categorize the flowering plants that you know in the order given.

Plants with flowers in one colour	Plants with flowers in different colours

3. What about the growth of the sapling that you planted? Draw a picture and mark its parts. How does this plant benefit us and other organisms?

Extended activities

1. Find out any five plants in your surroundings and create their Green Card using the details given below.

   Name of the plant :

   Category (Herb/Shrub/Tree):

   The part used for planting :

   Features of the leaf :

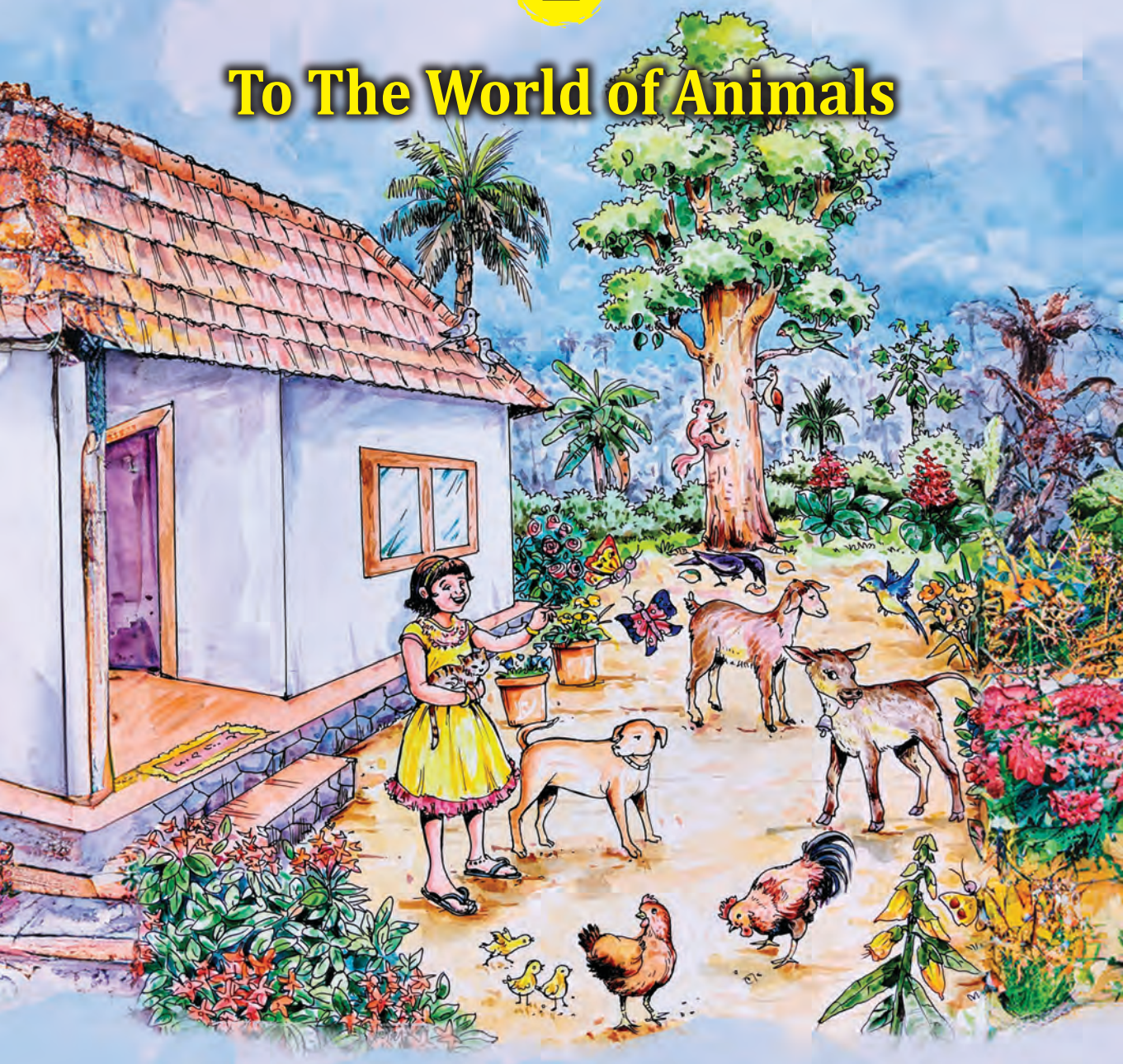
   Features of the flower :

   Features of the stem :

2. Haven't you seen plants like hibiscus, rose and others with flowers of different colours in our surroundings? They are different varieties of the same plant. Plant such kind of plants in your Biodiversity Garden.

2

To The World of Animals



"Wow! All of you have come early today! Very good.''
Seeing her friends Mithra came out of her house.
Children, you have seen the surroundings of Mithra's house.
Which creatures are there in the picture?
Among these which creatures do Mithra raise?
Which creatures do humans raise as pets?

Why do we raise animals?

- For food
- For security
-
-

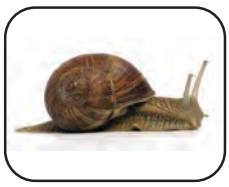
How do the given domestic animals benefit us?
Complete the table by adding the benefits of domestic animals.

Animal	Benefits
• Goat • Hen • • • •	

We raise animals for various purposes. Milk, egg and meat of some animals are used as food. We keep some other animals for pleasure.

Many many creatures

How many creatures could you identify from the pictures?
Write down their name.

Lizard




They live in our homes and surroundings.

Are there any domestic animals among these?

Find out more creatures in and around your home and write down their names in your *Environmental Science Diary.*

How many creatures did you find?

How many did your friends find?

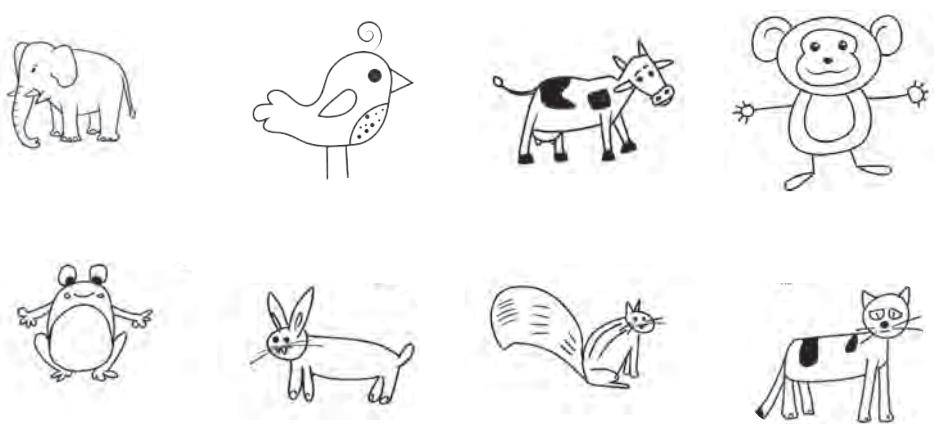
Tiny ones and giants

Mithra and friends are playing a game.They say the names of creatures.

“Who will find the most number of creatures?” It became a contest.

“Grasshopper, firefly, chameleon, beetle, cow..”

They did not forget to draw the pictures of the creatures.



Did you see the pictures of the creatures that Mithra drew.

Shall we play the same game?

Present the sound or movement of a few creatures without naming them. Let your friends identify the creature.

Create a table with the names of the creatures that you found. Draw and colour them.

Which is the smallest animal in your list?

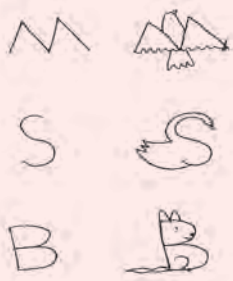
The largest?

Arrange and write the names of animals in your table based on their size.

Have you noticed the tiny creatures in your surroundings?

Haven't you seen many tiny creatures in your school surroundings? Which are they? Are they all of the same size? Let us observe them together. Please use the handlens for your observation.

Let's draw alphabet figures.



Try more pictures.

Where shall we observe?

- In the soil
- In plants
-
-
-

Write down the names of the tiny creatures that you found in your *Environmental Science Diary.*

Finger drawings

Look at the pictures. They are drawn by dipping fingers in ink and imprinting the same on paper. Draw more pictures like this.

Variety in features

Identify the animals by observing the body parts in the picture.




How do these animals differ?

- Colour
- Spots
-

Are there creatures which can be identified by observing their colour?

Which are the creatures that you can identify by looking at their horns?

How about spots?

Every creature is different in shape, size, colour, horns, nails, spots, stripes, etc.

Sea creatures

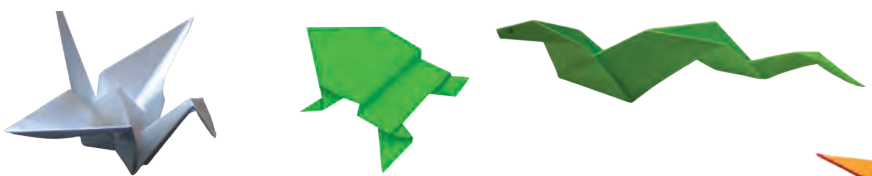
We know that there are many kinds of fishes in the sea. Sea is the habitat not only to fishes but also to many other creatures. There are more creatures in the sea than on land. Which sea animals do you know? Discuss with your friends and write them. See the pictures of some of the sea creatures.

Sea horse Sea hedgehog Sea cucumber Sea cow

Why did these creatures get such names?

Blue whale, the largest creature on earth lives in the sea. They are not from the family of fish. Blue whales give birth to their offsprings.

Many ways of movement



The figures of which creatures are found in the picture?
Make them by folding papers.
Use these figures to show how they move.
Do all creatures move in the same way?
Categorise creatures based on their movement.

Walking creatures	.....	Flying creatures	.....
•	• Snake	•	• Fish
•	•	•	•
•	•	•	•
•	•	•	•

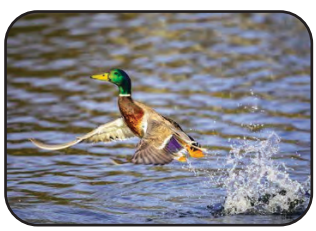
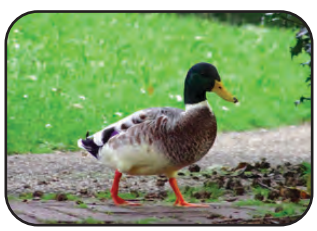
Is there any creature that moves in a different way?

Observe the movement of creatures like frogs, grasshoppers, etc.

Is there any connection between the body features and the movements of the creatures?

Creatures	Body features	Movement
	• Four legs that bend backwards	• Walk • Run
		
		
		

Observe the movement of a duck.

Are there creatures that move in more than one way? Find them out.

Write down about the movement of more creatures.

Discuss with friends and expand the above table.

Each creature has a movement based on the features of its body and the environment that it lives.

Diversity in food

Have you read the conversation between praying mantis and butterfly ? What did they say? Find out the food of a few other creatures and write them in the table given.

Creature	Food
Cow	
Crow	
Elephant	
Squirrel	
Hen	
Eagle	
Kingfisher	
Frog	

- Which among the creatures eat only the parts of the plant?

- Which creatures eat only meat?

- Which creatures eat both plants and meat?

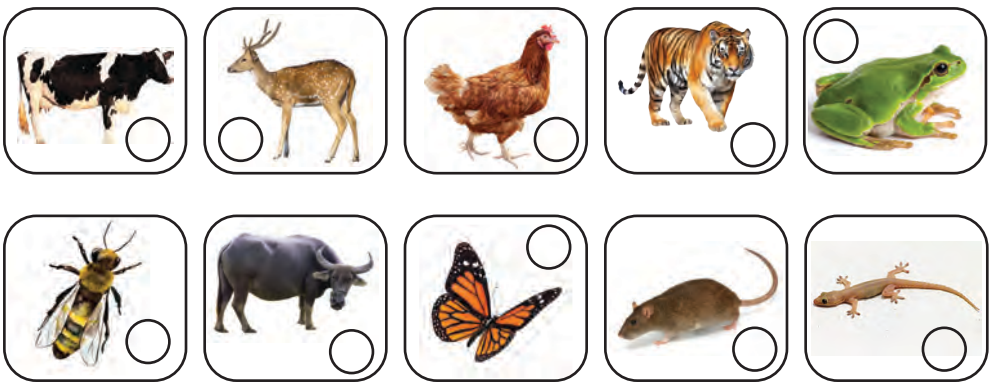
The creatures which eat only plant parts are called herbivores.
The creatures which eat only meat are called carnivores.
Omnivores are creatures that eat both plants and meat.

Colour the circles in the box according to the clues given

Carnivores

Omnivores

Herbivores



Complete the list by adding more names of animals.

Herbivores	Carnivores	Omnivores
• Cow	• Lion	• Crow
•	•	•
•	•	•
•	•	•
•	•	•
•	•	•
•	•	•

Is there any connection between the body features of creatures and their food habits? What is your opinion? Write.




Observe the pictures. Which body parts of the creatures help them to catch their prey and eat it? How?

- Duck -
- Eagle -
- Frog -
- Lion -

Carnivores use their sharp nails to attack their prey. They use their sharp, pointed teeth to bite and tear their prey.

Carnivore birds can peck and eat their prey with their strong and sharp beaks. Strong legs and their sharp bent claws help them in gathering food.

The structure of the teeth of herbivores is suited to chew plant parts.

Many forms, one life

Mithra was playing in the courtyard. There were some light yellow pearly objects in a plant. Mithra called her mother. Mother looked at the leaves.

“These are the eggs of a butterfly, dear.”

She waited eagerly to see the butterfly coming out of the egg.

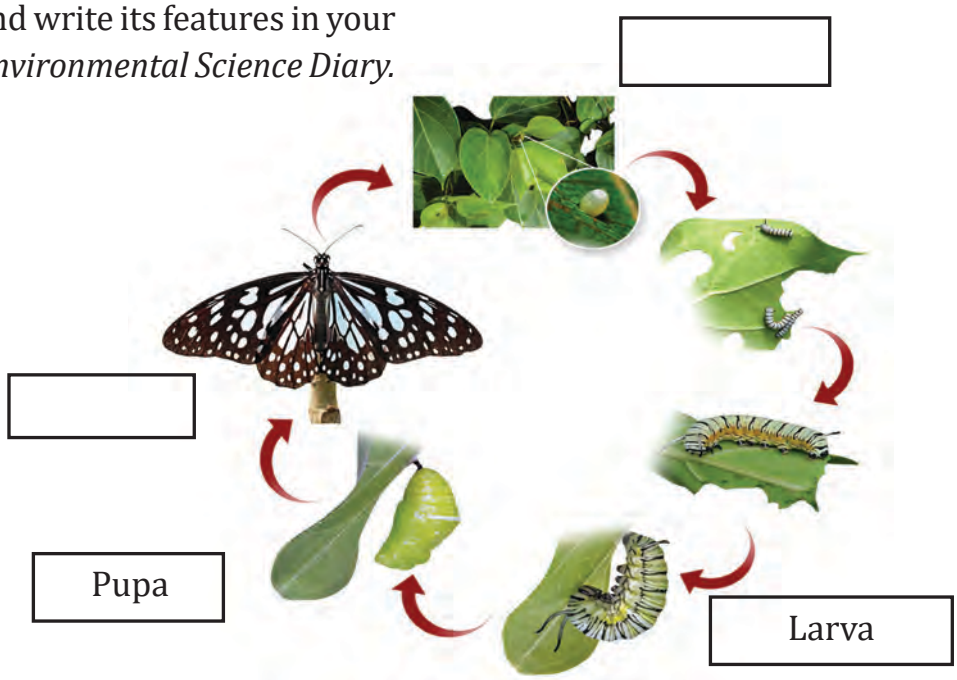
“What a surprise!” She saw only worms.

“Mom, are they really not the eggs of the butterflies?”

“These worms will become butterflies dear. It is called larva”

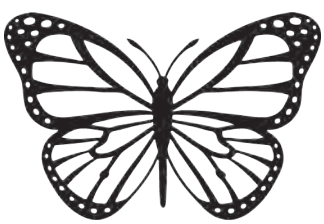
Mithra became curious. She took photos of the changes happening to the worm in the following days.

Observe the pictures. Find out the names of each stage and write its features in your *Environmental Science Diary.*



If you observe the bottom of the curry leaves and other plants, you can find butterfly eggs sticking there.

Colour the butterfly



Observe these butterflies. Aren't the designs on the wings the same? How about the butterfly that you coloured?

Do the wings of all butterflies look like this? Observe the butterflies in your surroundings. Present your findings to the class.

The largest butterfly in Keralam is Southern birdwing (Garuda Shalabham) and the smallest is Grass Jewel (Rathnaneeli). The official butterfly of Keralam is Malabar banded peacock (Buddha Mayoori).

The pictures of some butterflies found in our surroundings are given below.


Tawny coster


Common pierrot


Blue tiger


Crimson rose


Lemon pansy


Common mormon

Observe the butterflies in your surroundings. Find their names and write them.

Butterflies depend on plants in two ways; for laying eggs and for food. The Common mormon butterfly (Naarakakkali) usually lays eggs on the citrus plant (naarakam) and the orangeberry plant (paanal). Their larvae eat the leaves of these plants. When they become butterflies, they find nectar from the flowers of hibiscus, white orchid tree and morning breeze plants.

Grow plants like pagoda flower (krishnakireedam), rattleweed (kilukki), curry leaf plant, citrus, oleander (arali) that attract butterflies in your School's Biodiversity Garden. Observe what types of butterflies come to the garden.

How many varieties of creatures are around us!

Where do they live?

- Forest
- Pond
- River
-
-

What will happen if they become extinct?

The earth belongs to everyone, doesn't it?

What can we do to protect the surroundings where these creatures live?

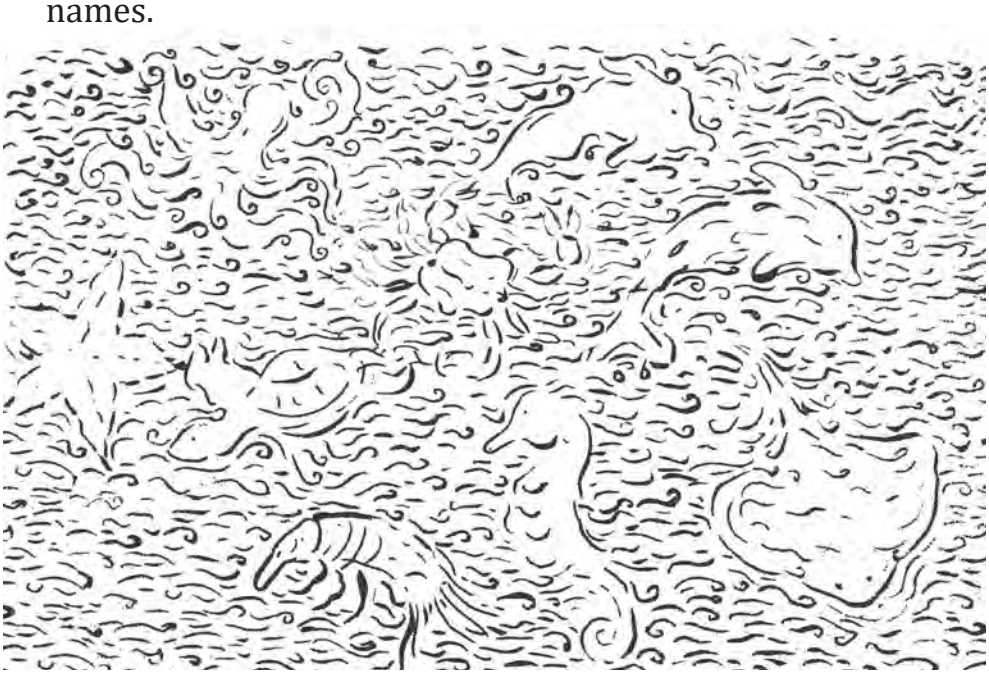
- Do not throw waste
-
-
-

Let us assess

1. Mithra observed the body features and food habits of the domestic animals like cat and goat, and wrote them in the table. Add more details in the table.

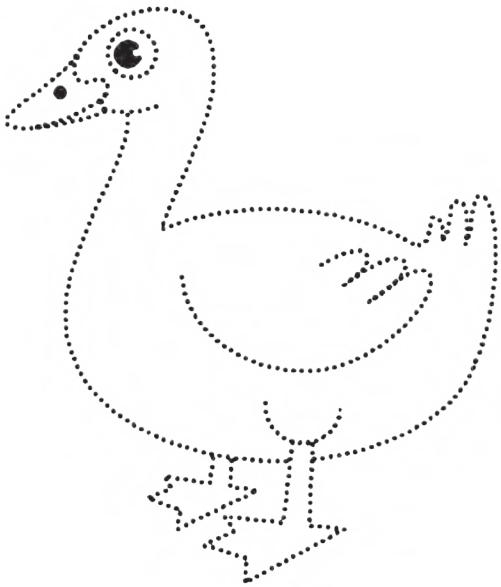
Cat	Goat
• Eats meat • Has sharp nails on feet • • • • •	• Eats plant parts • Does not have sharp nails on feet • • • • •

2. Find the sea creatures hidden in the picture given. Write their names.



3. In which category does the duck belong to according to its food habits?

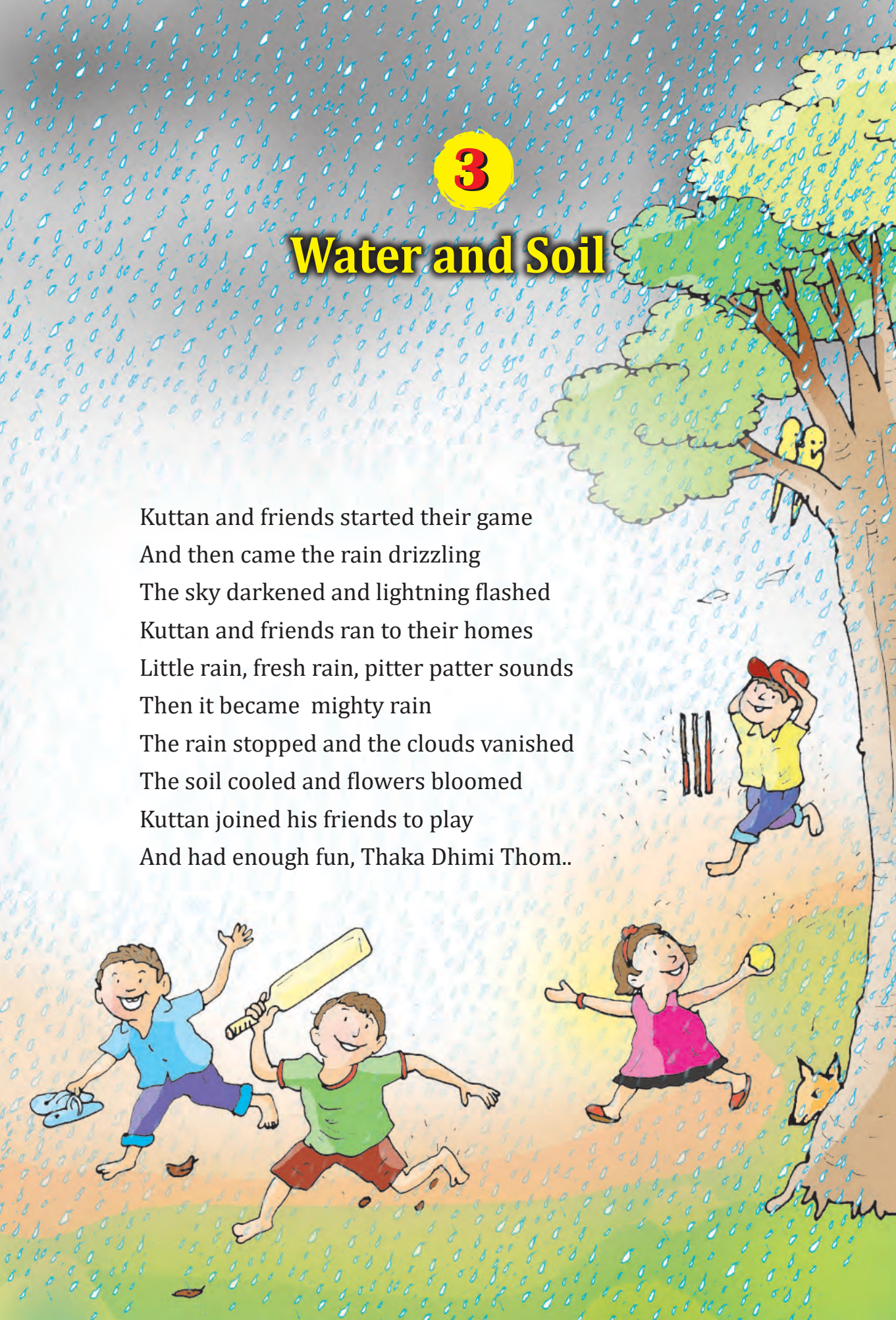
   If the duck was a carnivore like the eagle, what body features will it have? Draw and add them.



Extended activities

1. Are the butterflies around us of the same size and colour? Observe the butterflies in your surroundings and find the similarities and differences. Collect pictures and create a butterfly album.
2. Visit any one place like pond, field, forest or grassland near your school. Write the names of various creatures you identified. Prepare an observation note on any two of such creatures.

3
Water and Soil



Kuttan and friends started their game
And then came the rain drizzling
The sky darkened and lightning flashed
Kuttan and friends ran to their homes
Little rain, fresh rain, pitter patter sounds
Then it became mighty rain
The rain stopped and the clouds vanished
The soil cooled and flowers bloomed
Kuttan joined his friends to play
And had enough fun, Thaka Dhimi Thom..


Watching raindrops falling on my leaves and scattering is a fun indeed.
I did not get wet in the rain because I was in this hole of the tree. It's very cold out here ...
The soil is wet and drenched. I will now have new shoots coming.

What are the changes happen in our surroundings after the rain?

Write them in your *Environmental Science Diary.*

Does it rain all the time in your locality?

In which months do we get rain?

See the Newspaper Headlines about the rainfall in the month of June in Keralam.

Heavy rainfall in Kozhikode district

Severe decrease in rainfall in Thiruvananthapuram district

How do we find out the difference in the amount of rainfall?
Can we measure the rainfall?

We can see water in the empty vessels placed in the courtyard after the rainfall. The water in the vessel indicates the amount of the rainfall. Can we measure the water? Shall we make an instrument to measure rainfall?

Rain Gauge

The rain gauge is a simple instrument to measure rainfall.

How can we make this?

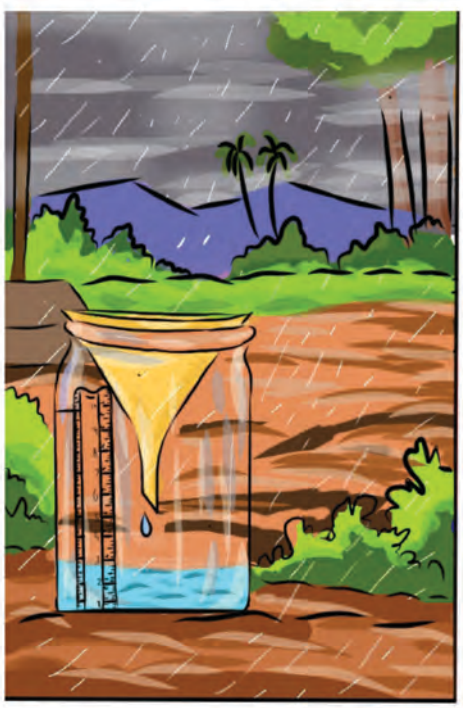
Materials needed

- Glass bottle
- Funnel
- Scale

How to make

Fix the scale to the glass bottle as shown in the picture. Place the funnel on top of the glass bottle. Fix the bottle in an open space outside. Note down the water level at fixed intervals.

Make a rain gauge with the help of your friends and measure the rainfall each day and complete the table below.



Date							
Rainfall received							

Remember to note down the amount of rainfall received each day on the class bulletin board.

Which day has the highest rainfall?

Which day has the lowest rainfall?

Is there a day that did not receive rain at all?

A rain gauge for me

Make a rain gauge at home.

Write the amount of rainfall received each day in your *Environmental Science Diary.* Present your findings.

Where does the rainwater go?

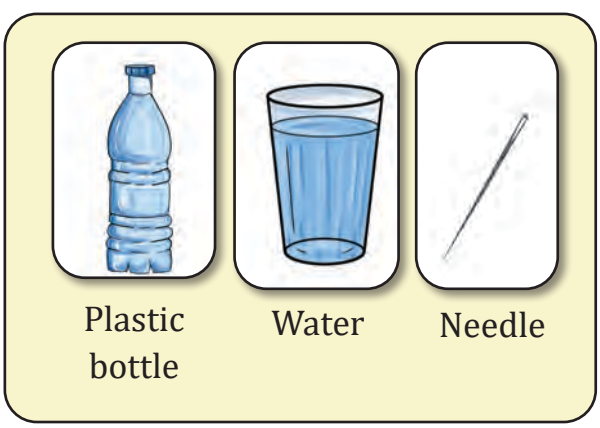
Where does the rainwater go after the rainfall?

Let us do an activity.

Picture 1

Fill dry soil in a plastic bottle.Make a hole at the bottom of it.

Picture 2



Use the objects in Picture 2 to get rain into the soil in the bottle of Picture 1.

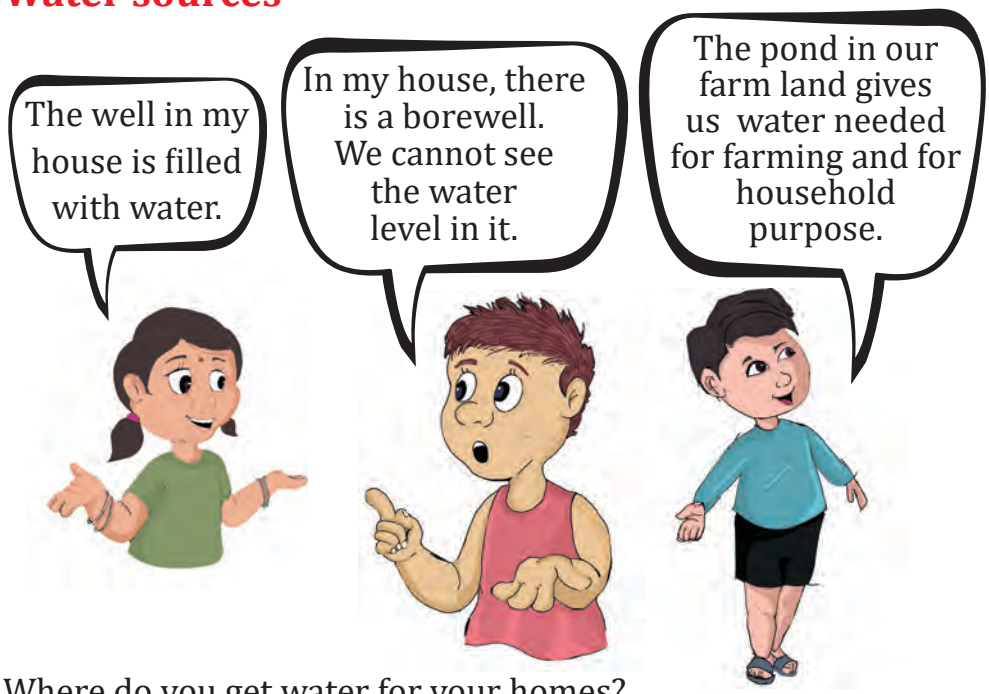
What happenes to the water when it touches the soil?

Present your findings.

Write them in your *Environmental Science Diary.*

Draw pictures too.

Water sources



Where do you get water for your homes? Write down.

Suranga and Keni

The method of building tunnels that are just enough for a person to walk through and to bring groundwater outside is called Suranga. This method has been used for ages to collect water in Kasaragod district and some parts of Karnataka.

The word Keni means well. Keni is constructed by inserting hollowed wood of large trees into the earth. Keni is only deep enough for taking water with vessels directly. It is still used by many tribal groups in Keralam.

Water for life

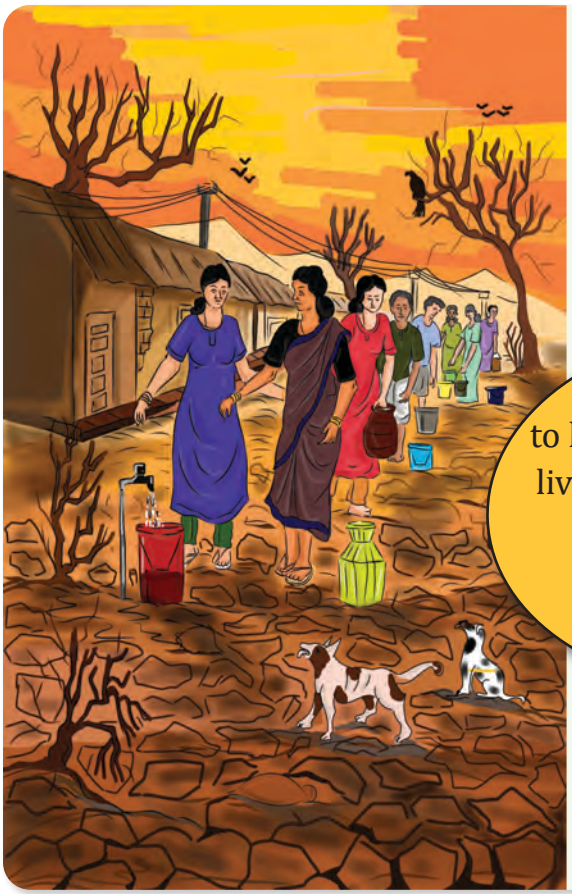
Observe the picture. These creatures use water in the pond for different purposes. What are they?

Complete the table.

Creature	The use of water
• Fish	•
• Elephant	•
•	•
•	•
•	•
•	•

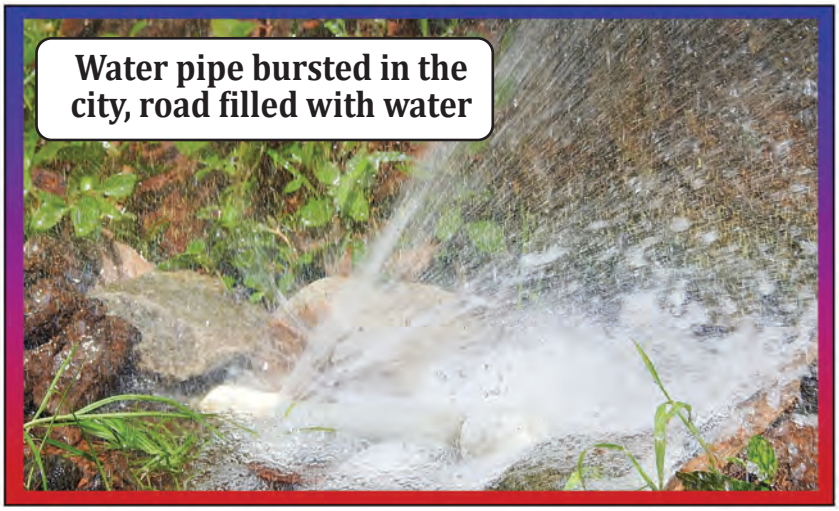
Present your findings.

What purposes do we use water for?



What will happen to human beings and other living things if they do not get enough water? Discuss and write.

Please don't waste..



You have seen news headlines like this, haven't you?

Write down a few situations in which water is wasted.

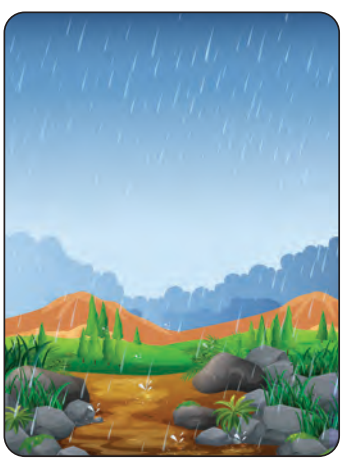
-
-
-

What can we do to stop wasting water?

- Don't leave taps open carelessly.
-
-
-
-
-

Water purification

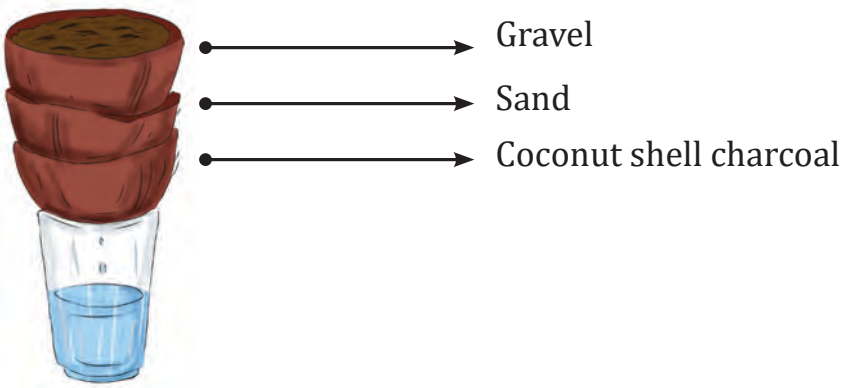
How does the muddy rain water go clean when it reaches the well?



A part of the rainwater seeps into the soil. It filters down through the soil. This becomes groundwater and reaches the well and other water sources. The water becomes clear when it filters down through the soil.

Turning muddy water into clear water

Take three coconut shells and make a hole each in them. Place cotton or cloth over the hole. Fill gravel, sand and coconut shell charcoal in each of the shells. Arrange it over a glass as shown in the picture. Now pour muddy water into coconut shell at the top.



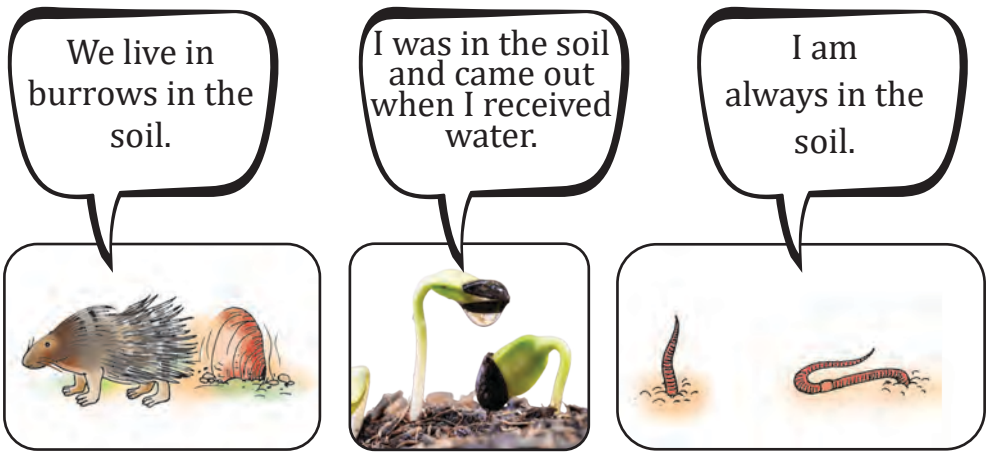
What did you find out?

Write in your *Environmental Science Diary.*

The same method is used to filter water in the rainwater tank.

Different types of water purifiers are used in institutions and homes. Seawater is purified and used as drinking water in some countries with severe pure water shortage. The water received in homes from public water supply system is collected from water sources and purified.

The importance of soil



What are the benefits that creatures and plants get from soil?

How about us?

- For farming
-
-
-

Let us create models

Have you seen the models created from clay? Let us try to make such models.

Organise an exhibition with the models that you created.

What are the features of the soil used to create shapes?

Examine the colour and the size of the grains.

Are the soils seen around us the same?

Let us examine.

Collect soil from your school courtyard, underneath a tree, biodiversity garden and playground.

Observe the soil and complete the table.

The place of collection	Colour of the soil	Other features

Do all the soil that you collected have the same colour?

Are there differences in the size of grains?

Write the findings in your *Environmental Science Diary.*

The story of the soil

Friends, you know me.. I am the soil. I am of different types. My nature is different in different places. There are lakhs of micro-organisms and many other compounds in me. I became like this through thousands of years of continuous biological and non-biological processes.

You have read the beginning of the story of the soil. Find out more information about the process through which the soil is formed. Discuss with your friends, complete the story of the soil and write it in your *Environmental Science Diary.*

Within the soil

Which are the creatures that live within the soil? Try to write it.

Observe the soil in your school surroundings using a hand lens.

Which creatures were you able to find?

Where do they get the food, water and the air that they need?

Let us do some experiments to find this out.

Air in the soil

Is there air in the soil?

How can we find out?

Take some dried clumps of soil. Take some water in a glass and put the soil clumps in it. What is happening? Write the findings in your *Environmental Science Diary.* Share the findings with your friends.

Water in the soil

Are there traces of water in the soil?

How can we find out?

Collect the soil from the Biodiversity Garden and place it inside a transparent bottle. Close the bottle and place it in sunlight. Examine it after ten minutes.

What changes did you find?

What is seen on the sides of the bottle?

How did it happen?

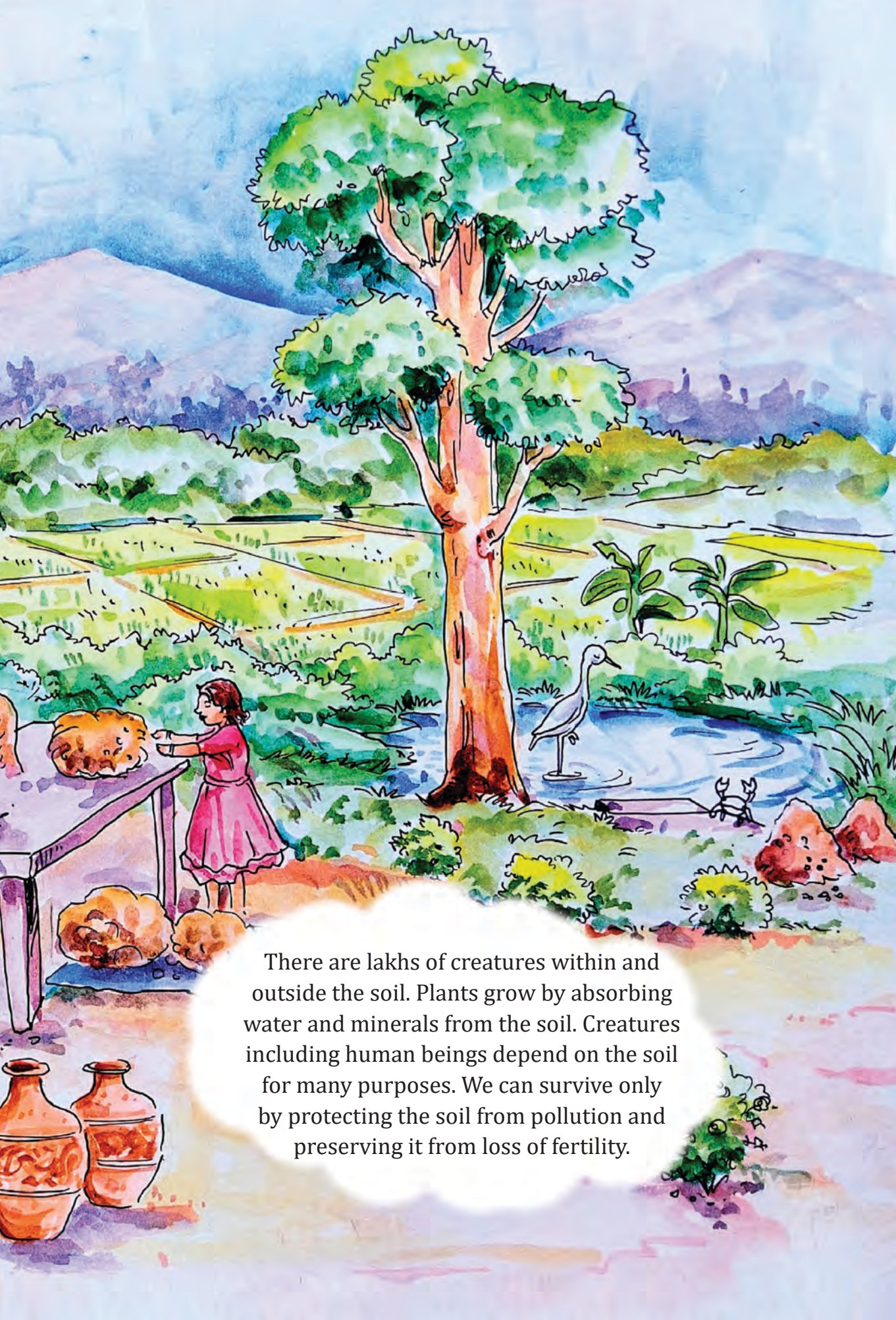
Prepare an observation note.

Biomass in the soil

Fill half of a glass with the soil from the Biodiversity Garden. Pour water into this and mix well. What can you see? Prepare an experiment note.

Biomass includes dried leaves, parts of stem, remains of creatures etc. Plants grow abundantly in soil rich with more biomass. Soil with biomass is the food of earthworms.

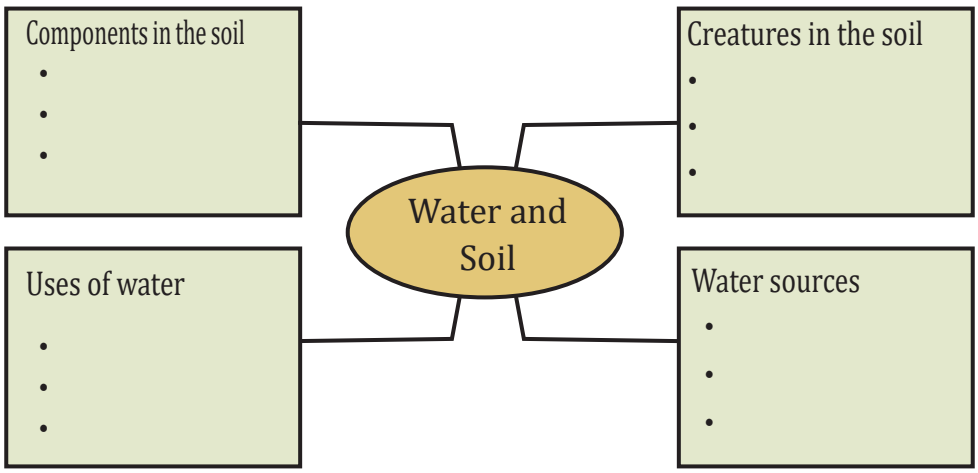
Where is the soil with more biomass in your home surroundings? Find out.



There are lakhs of creatures within and outside the soil. Plants grow by absorbing water and minerals from the soil. Creatures including human beings depend on the soil for many purposes. We can survive only by protecting the soil from pollution and preserving it from loss of fertility.

Let us assess

1. Complete the concept map.



2. Kuttan and his friends reached the river side to play. They threw the sweet wrappers into the water. A fish from the river told them:

Do you agree with this opinion? Why? What should we do to protect the water sources?

Extended activities

1. Collect some stones of different colours and crush them well. Draw pictures of flowers and other things on a chart paper and stick the powdered soil in the pictures using gum.
2. Organise an exhibition in your school using different types of soil collected.

4

The power of cleanliness

The doctor handled a class on personal hygiene for the students. It was organised by the school parliament. The children asked many doubts.

The doctor cleared all their doubts.

Let us read what Alan wrote in his notebook after participating in the class.

There are chances that our hands go dirty while we play or do other activities.

Germs will be destroyed when we wash our hands with soap.

Have you seen the pictures ?

On what occasions should we wash and clean our hands with soap?

- Before eating food
- After eating food
- After using the toilet
- After traveling
-
-

Clean hands

Friends, are your hands clean?

Shall we check?

Take a bucket of water. Take a glass of water from it and keep it on the table.

Take an empty bucket to collect water used for hand washing. Let the students wash their hands into the bucket.

After everyone has washed, take a glass of water from the hand washing bucket, and place it near the other glass of water already kept there. Compare the water in both glasses.

What is your finding?

How do you wash your hands now?

How should you wash your hands to make them clean?

Observe the various stages of hand washing illustrated in the picture.

1. Wet hands and apply the soap.

2. Rub palms together and clean them.

3. Clean back of your hands and between the fingers.

4. Rub the nails and the finger tips on the palm to clean them.

5. Clean the fingers and wrists by rubbing them in a circular way using the other hand.

6. Wash hands properly in pure water and wipe them with clean cloth.

You should trim and clean the nails to make your hand perfectly tidy. Otherwise, the dirt that piled up under the nails will reach your stomach with food.

Alan has written down the ideas that the doctor gave his fellow students. Let us read.

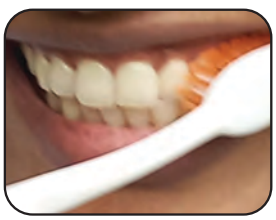
Do not wear dirty or wet clothes. Germs will grow in them. You will catch diseases like scabies and rash.

You should brush and clean your teeth in the morning and after dinner. The teeth will get damaged otherwise.

Why should we wear masks? Alan forgot to write the answer for this question. Can you help him?

Clean teeth

You know the importance of cleaning your teeth, don't you?
Do we brush our teeth properly?
Observe the pictures.



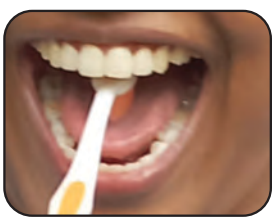
Hold the brush slanted.

Brush forward and backwards.

Brush the upper teeth from top to bottom and the lower teeth from bottom to top.

Brush the surface of the teeth used for chewing forward and backwards properly.

Brush the inner side of teeth.



Clean the tongue with the brush.

Present the effective method of cleaning teeth, in the class.

Clean body

Bathing is essential to clean our body. Can you present the way you bathe using actions?

What should we keep in mind when we take a bath?

- Take a bath daily
- Wash and clean body parts properly with soap

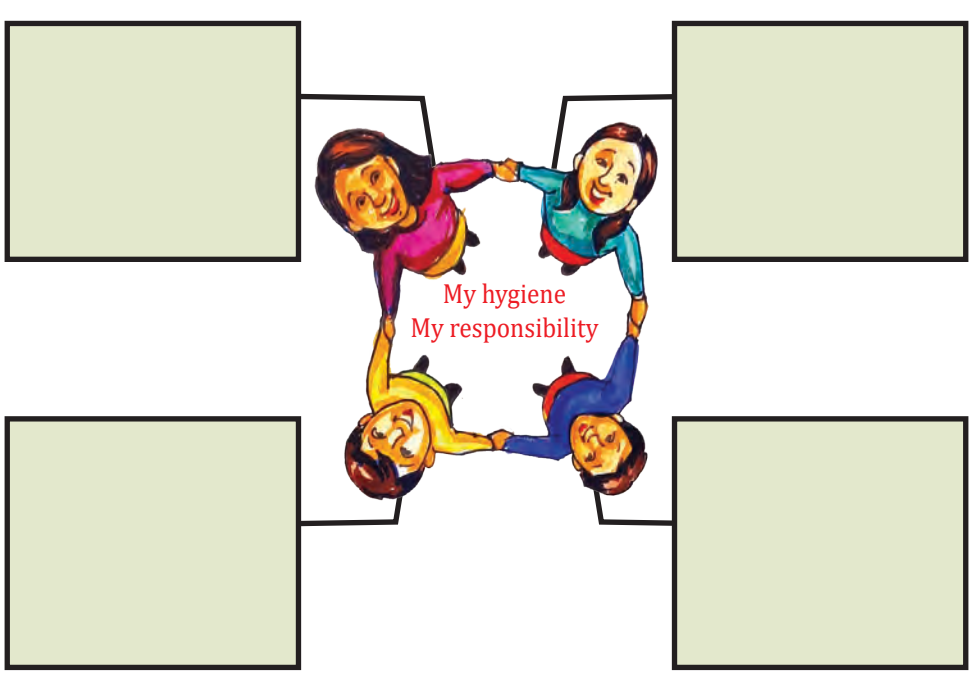
- Do not bathe in dirty water
- Use a dry and clean towel to dry your body.
- Do not use other's towel
- Wash and dry the towel after use

Have you understood the proper ways of washing hands, brushing teeth and bathing.

Please discuss what you have understood about personal hygiene with family members.

Lack of personal hygiene is the reason for many diseases. Dysentery, cold, scabies, rash, etc. are some of these diseases. We can keep many diseases away if we maintain hygiene.

The decisions I must take to maintain personal hygiene



Environmental Cleanliness

Now let us play a skit.

Characters:- House fly, Mosquito, Rat.

Scene One: House fly and mosquito meet.

Mosquito : Hello Mr. Fly, do you know me?

House Fly : Ha ha ha! Of course I know you.

You are the brave one who drinks the blood of humans, aren't you? I am happy to meet you brother, you spread many diseases.

Mosquito : Yes! Many diseases like chikungunya, dengue fever, malaria and elephantiasis are spread among humans because of me. It makes me very sad. But what can I do?

House Fly : Where do you live, brother?

Mosquito : In this city itself. There is a house with waste piled up near the sewage drain. There are places which filled with dirty water. We lay eggs there, multiply and take over the place.

Similarly, what would the house fly and the rat have to say to each other?

Complete their conversation and present it in the class.

Who are the characters in this skit?

What are the situations in which they multiply?

What are the problems that they create for humans?

Our house and surroundings should be clean if we want to live healthy. Mosquitoes, flies and rats multiply in places that are not clean. Many diseases spread due to these creatures.

With the aim of preventing communicable diseases, dry day activities were conducted in all the wards under the leadership of the Grama Panchayats. Cleaning activities were carried out with a view to eliminating the disease-carrying mosquitoes, as dengue fever was reported in some wards of the panchayat.

Have you read the Newspaper report? What are dry day activities? Read the information provided.

Dry Day

There are chances for abandoned containers, coconut shells, tyres, bottles, bottle caps and toys in our surroundings to store water. Mosquitoes may lay their eggs in these. They will hatch and reach full growth in eight days. Therefore, in every seven days, the water collected in such objects should be drained and the objects that

can collect water should be removed. This cleaning process is called dry day.

Diseases can spread through water

There is chance to catch diseases through the dirty water stored in our surroundings and the unclean water that we drink.

Dysentery, jaundice, cholera, typhoid, and other diseases are spread through water.

What precautions can we take to prevent these diseases?

- Use boiled and cooled water for drinking
-
-

Treatment through drinking fluids

The water content in our body is lost when we get dysentery. The water content should be restored in the body. Patients can be given the following.

- Salted rice water
- Lime juice with salt and sugar added
- Salted buttermilk
- Coconut water

The ORS obtained from the Public Health Centre should be mixed in boiled and cooled water and given frequently.

My school, clean school

What is special about this school?

Is our school clean and neat? Let us assess.

My school		Put ✓ ✗
School surroundings	Waste is not piled up	
	Waste water is not accumulated	
	No plastic waste	
	Bins for sorting and depositing waste	

Classroom	There are no cobwebs/ waste	
	Learning tools like charts and others are not dusty	
	There are bins for sorting and depositing waste	
Kitchen	The utensils are clean	
	Waste water is not accumulated	
	Food waste is not scattered around	
School urinal and toilet	Neat and clean	
	There is sufficient water	

What other aspects can be added in the table for observing other places in the school like the playground, places for hand washing and garden? Complete the table and present your findings. Which places in our school have the waste deposited most?

Prepare a sketch of the school, mark the places with more waste in red, less waste in yellow, and clean places in green.

What else can be done to make it cleaner?

Let us participate in the cleaning activities.

Let us sort waste

You have seen Bins for sorting and depositing waste in the school, haven't you?

Why can't we deposit all the waste together ?

There is waste that decomposes in soil and waste that does not. Waste that decomposes like food waste, vegetables, etc. are called organic waste and waste that does not decompose like plastic objects are called inorganic waste. Electronic waste, bulbs, expired medicines, etc. are hazardous waste.

Converting food waste into manure

What can we do with the food waste in our home and school?

Compost pit

Deposit organic waste such as fruits, vegetables, fish and food scraps in a pit and cover it with soil. It will be completely converted into manure in three to four months time.

What are the methods used to manage kitchen waste in your home and school? Write them down.

Do not throw away plastic. Do not burn it.

Why do we say that we can't throw away plastic objects?

-
-
-

What do you find in the picture?

What are the problems created by burning plastic?

Discuss in class.

Plastic has become an unavoidable material in our lives. But if it is thrown away into the surroundings or burned, it can cause many health problems. The use of single-use plastic bags and plastic bottles should be minimized. Plastic waste should not be thrown away into the surroundings, but should be sorted and handed over to the garbage collectors for recycling.

Let us assess

1. Sort the objects mentioned below and put them in the appropriate waste bin.

   PVC pipe, banana, pesticide bottles, vegetable waste, plastic bottles,bulbs, food waste, medicines and plastic covers.

2. Prepare an observation table to know whether your home and surroundings are clean. Write down the steps you can take to keep your home and surroundings clean, based on the information in the table.

Extended Activities

1. Make useful products such as decorative items, plants pots by using papers, match boxes, broken bangles, bottle cap, pen, plastic bottles, clothes, can, etc.
2. Design and conduct an experiment to know if food scraps or plastic items rot in the soil. Prepare an experimental note.

CONSTITUTION OF INDIA

Part IV A

FUNDAMENTAL DUTIES OF CITIZENS

ARTICLE 51 A

Fundamental Duties- It shall be the duty of every citizen of India:

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievements;

(k) who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between age of six and fourteen years.

CHILDREN'S RIGHTS

Dear Children,

Wouldn't you like to know about your rights? Awareness about your rights will inspire and motivate you to ensure your protection and participation, thereby making social justice a reality. You may know that a commission for child rights is functioning in our state called the ***Kerala State Commission for Protection of Child Rights.***

Let's see what your rights are:

- Right to freedom of speech and expression.
- Right to life and liberty.
- Right to maximum survival and development.
- Right to be respected and accepted regardless of caste, creed and colour.
- Right to protection and care against physical, mental and sexual abuse.
- Right to participation.
- Protection from child labour and hazardous work.
- Protection against child marriage.
- Right to know one's culture and live accordingly.
- Protection against neglect.
- Right to free and compulsory education.
- Right to learn, rest and leisure.
- Right to parental and societal care, and protection.

Major Responsibilities

- Protect school and public facilities.
- Observe punctuality in learning and activities of the school.
- Accept and respect school authorities, teachers, parents and fellow students.
- Readiness to accept and respect others regardless of caste, creed or colour.

Contact Address:

Kerala State Commission for Protection of Child Rights

'Sree Ganesh', T. C. 14/2036, Vanross Junction

Kerala University P. O., Thiruvananthapuram - 34, Phone : 0471 - 2326603

Email: childrights.cpcr@kerala.gov.in, rte.cpcr@kerala.gov.in

Website : www.kescpcr.kerala.gov.in

Child Helpline - 1098, Crime Stopper - 1090, Nirbhaya - 1800 425 1400

Kerala Police Helpline - 0471 - 3243000/44000/45000

Online ***R. T. E Monitoring : www.nireekshana.org.in***