



GOVERNMENT OF TAMIL NADU

## STANDARD TWO

TERM - III

VOLUME - 2

## MATHEMATICS ENVIRONMENTAL SCIENCE

A publication under Free Textbook Programme of Government of Tamil Nadu

Department of School Education

**Untouchability is Inhuman and a Crime**





## Government of Tamil Nadu

First Edition - 2019

(Published under New Syllabus in  
Trimester Pattern)

**NOT FOR SALE**

## Content Creation



State Council of Educational  
Research and Training

© SCERT 2019

## Printing & Publishing



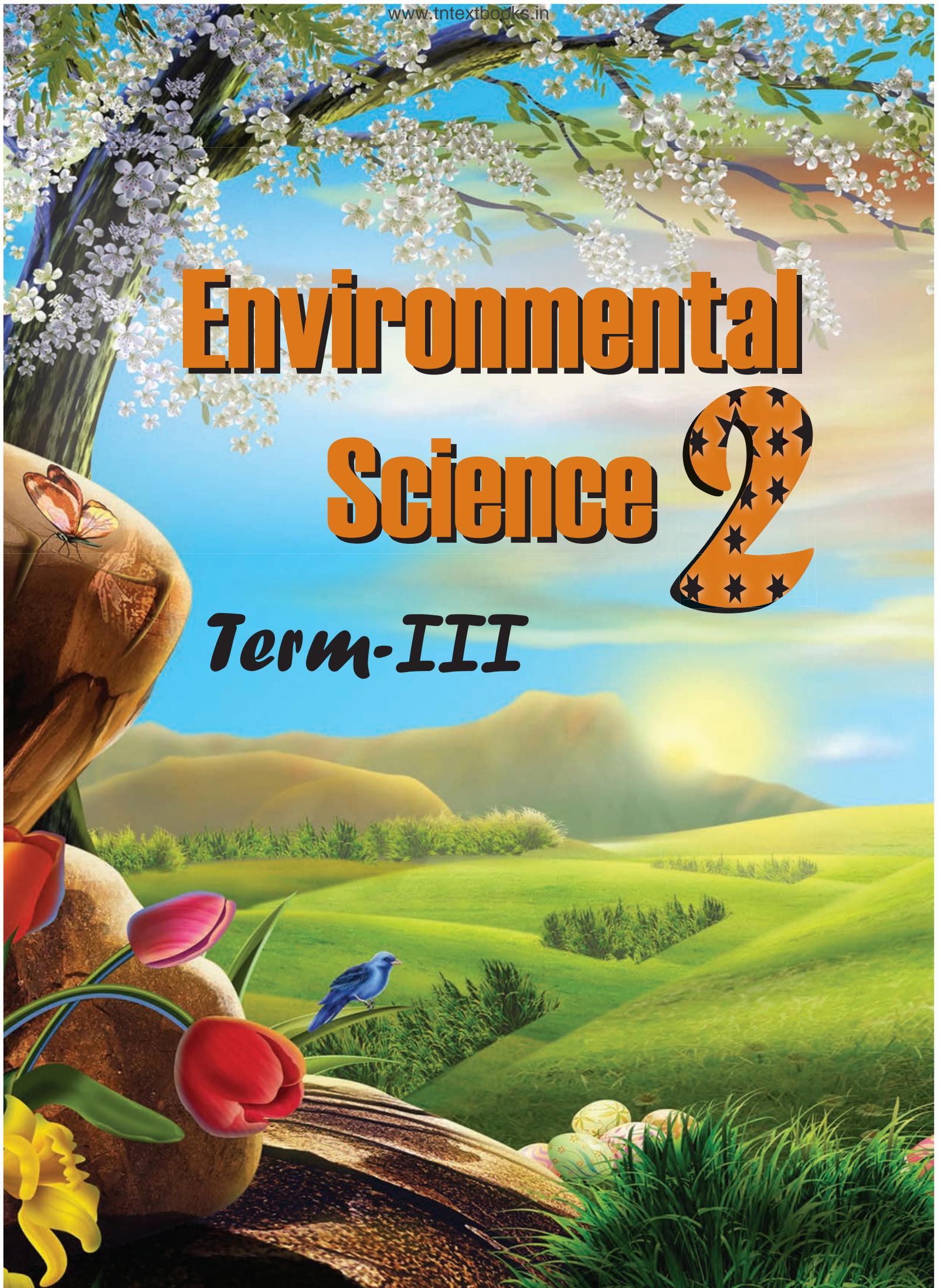
Tamil Nadu Textbook and Educational  
Services Corporation

[www.textbooksonline.tn.nic.in](http://www.textbooksonline.tn.nic.in)



# Environmental Science 2

Term-III





# Environmental Science

Class II (Term III)

## INDEX

Unit	Topic	Page No.	Month
1.	Materials Around Us	62	January
2.	My Beloved Motherland	73	January - February
3.	Shakthi's Journey	81	February - March
4.	Day and Night	92	March
5.	Wonders of Nature	100	March - April

Textbook



6VUWMG

Evaluation

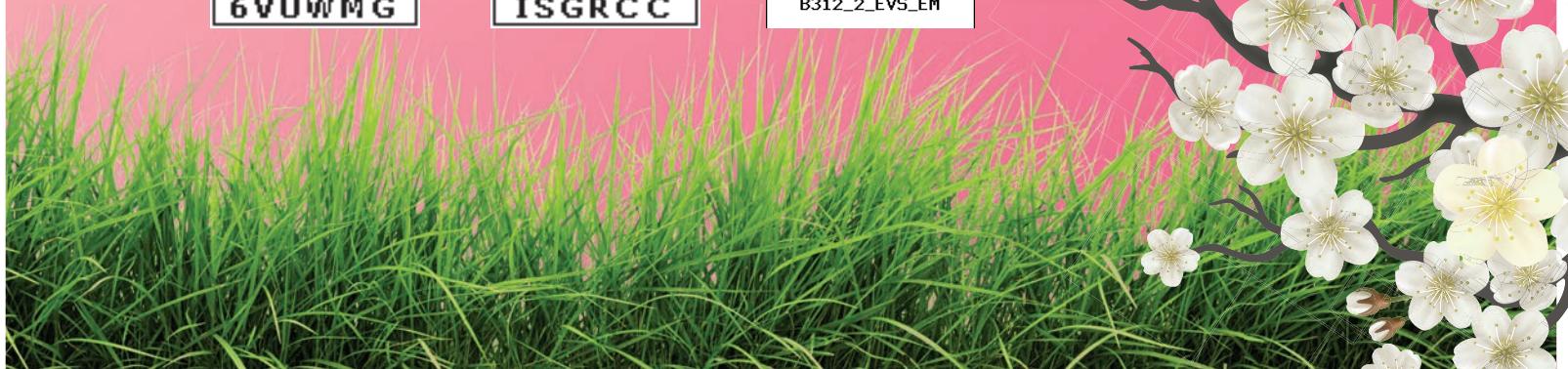


ISGRCC

Digi Link

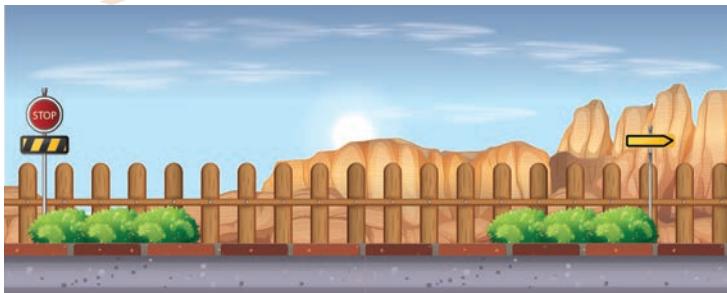


B312\_2\_EVS\_EM



Unit  
1

# Materials Around Us



You will learn about

- ❖ Natural sources, man-made materials and things
- ❖ Matter - definition and properties



We are  
oranges. We  
grow on  
orange trees.



I am a basket.  
I am made of  
wood. Wood is  
got from trees.

We use many kinds of materials in our life. Nature is the source of all of them (e.g., tree). From these **natural sources** man makes many **materials** (e.g., wooden planks) which are used to make many other things (e.g., wooden basket).

## Sources of Natural Materials

The sources of natural materials are plants, animals, rocks and soil.



Plants



Animals



Rocks and Soil

**From Plants...**

Logs



Cotton



Coconut Frond

**From Animals...**

Leather



Wool

**From Rocks and Soil...**

We get metal ores from rocks and soil



Think....

For today's need you are cutting me but for tomorrow's need plant more trees like me...





Write '**A**' for the animal, '**P**' for the plant and '**M**' for the metal sources of the given materials.



**Wood**



### Let Us Discuss

Why do we make windows and cupboards from wood?

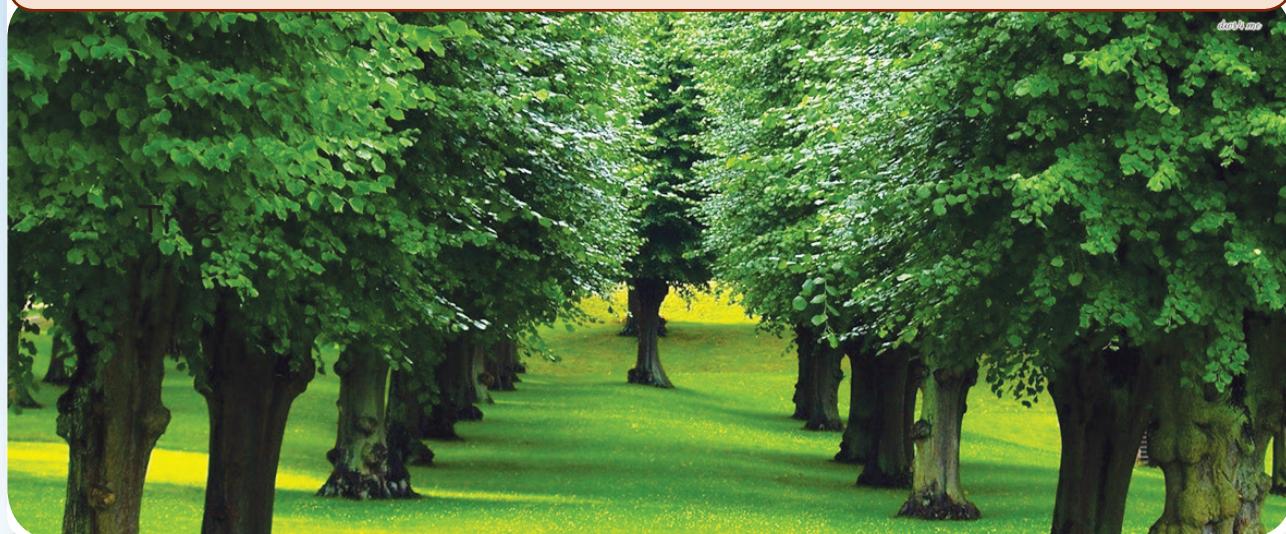
- ❖ Wood is a **strong material**. So furniture can be made from it.
- ❖ It is long lasting.
- ❖ It can be cut into pieces and can be given different shapes.
- ❖ Wooden pieces can be joined together to make many useful things.

Natural source

→ Man-made materials

→ Man-made things

**Natural source**



## Man-made materials



Using some tools, tree trunks are cut into **wooden logs** and **planks**.

## Man-made things



Toys



Shelf



Door



Cart



Chair



Swing



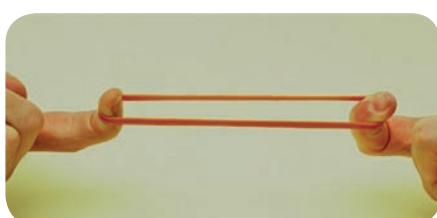
Paper is made from wood pulp.

## Rubber

Do you know from what material your eraser is made?



Rubber is made from the **sap** (a milky substance) of the rubber tree.



- ❖ Rubber is **elastic**; so **rubber bands** are made from it.
- ❖ It is also **waterproof**; so **hand gloves** are made from it.



- ❖ **Elastic** - Comes back to its original shape after being stretched
  - ❖ **Waterproof** - Does not allow water to enter inside

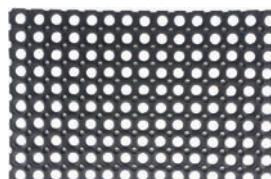
The following things are also made of rubber.



Slipper



Eraser



Mat



Tyre



Ball

Observe the pictures and fill in the blanks.



Shelf



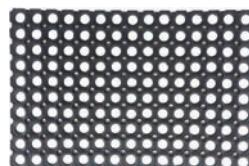
Rubber Band



Spoon



Cycle Tube



Mat



Chair

Write the names of the man-made things from wood.

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

Write the names of the man-made things from rubber.

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

## Fibre



Do you know how clothes and ropes are made?

Fibre is a material obtained from both plants and animals. Cotton and jute are the fibres got from plants. Wool and silk are fibres obtained from animals.

### Plant Fibres



Cotton



Jute

### Animal Fibres



Silk



Wool

Fibre from the coconut tree is called coir.  
Many things are made from it.



**DO YOU KNOW?**  
Silk thread is a strong material and is used in making parachutes.



The jute fibre is **long, shiny and strong**. Silk is the strongest natural fibre. We make many things like bags, mats and sarees from these fibres.

**Wool keeps us warm; so sweaters, caps and socks are knitted using it.**

**Leather is flexible; so belts, watch straps and bags are made from it.**

**From Jute**



**From Wool**



**From Silk**



**From Leather**



Put a tick (✓) for the correct pair and a cross (✗) for the wrong one.







**Clay**

Do you like playing with clay?



- ❖ Clay is a **natural material**. It is a type of soil. When it is mixed with water, it becomes soft.
- ❖ It hardens as it dries; so, pots and other things can be made from it.
- ❖ A potter uses his tool, the **potter's wheel**, to make clay pots and other things.

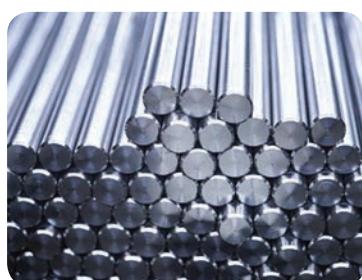
I give you cool water without using electricity.

**Metals**

Have you seen the different vessels in your kitchen?

**Metals** are materials got from **metal ores** - e.g., Gold, Silver, Iron and Copper.

- ❖ Since metals are **strong** and **hard**, vehicles, gates and cooking vessels can be made from it.
- ❖ Metals are **shiny**.
- ❖ When heated, metals **can be shaped** into any form - small paper clips or a huge aeroplane.



Aeroplane



Paper clips



Gold bangles



Steel vessels



Aluminium vessels



Copper vessels

## Matter

Anything natural or man-made that occupies space is called matter.

Matter has properties like taste, smell, size and shape.



Orange is a natural thing.  
It occupies space.



A wooden basket is a man-made thing. It occupies space too.

These yellow laddus occupy the space in the bowl.

They are small, round in shape and are sweet to taste.



Many materials are used in making an object. Choose and write the correct pair of materials found in the given objects.



1. Materials found in motor bikes are \_\_\_\_\_.

- a. metals and clay
- b. rubber and clay
- c. metals and rubber



2. \_\_\_\_\_ are found in these pots.

- a. Clay and rubber
- b. Metals and clay
- c. Metals and rubber



3. This belt is made of \_\_\_\_\_.

- a. fibre and rubber
- b. metals and clay
- c. metals and leather



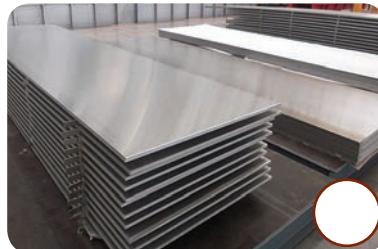
4. This chair is made of \_\_\_\_\_.

- a. metals and wood
- b. fibre and rubber
- c. metals and clay



**Evaluation**

- 1. Number the natural sources as '1'  
and the man-made materials as '2'.**



- 2. Write 'T' if True and 'F' if False.**

- a. Most metals are strong.
- b. Wood cannot be cut.
- c. Rubber is not elastic.
- d. Wool keeps us warm.





- 3. Write the names of the materials that the given objects are made of. (Leather, Rubber, Metal, Clay)**



\_\_\_\_\_ objects

\_\_\_\_\_ tube

\_\_\_\_\_ shoe

\_\_\_\_\_ chain

4. Complete the tabulation by using the given pictures and by adding one more object on your own.



Purse



Gloves

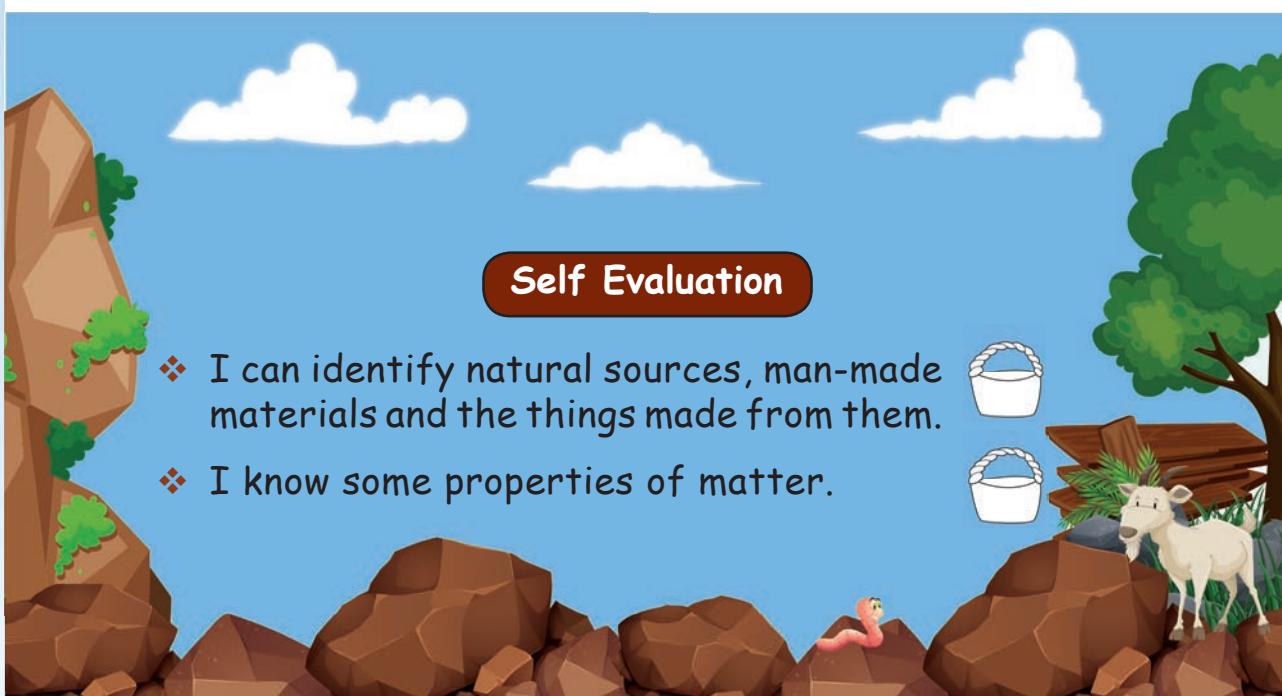


Key



Wooden box

S.No	Sources	Man-made things
a.	Wood	1. 2.
b.	Rubber	1. 2.
c.	Leather	1. 2.
d.	Metal	1. 2.



Unit  
2

# My Beloved Motherland



You will learn about

- ❖ National days
- ❖ National leaders
- ❖ National and State symbols
- ❖ Caring for public property



XDX55V

## National Days and National Leaders



August

15

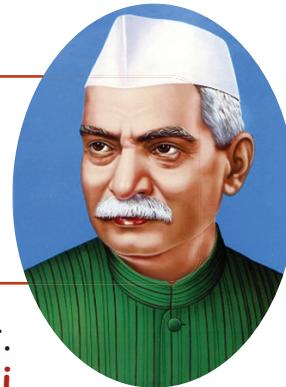


For many years our country - India, was ruled by another country called Britain. We became free from their rule on August 15<sup>th</sup>, 1947. India celebrates this day as '**Independence Day**' every year.

January

26

Our own laws (Constitution of India) came into force on 26<sup>th</sup> January 1950. It is celebrated as '**Republic Day**'. **Dr.Rajendra Prasad** was the first President of free India.



Many leaders worked hard to make India independent. Two important leaders among them were **Mahatma Gandhi** and **Jawaharlal Nehru**.

october  
2

**Mahatma Gandhi** is affectionately remembered by all of us as '**Bapu**' or the '**Father of our Nation**'. He followed the path of non-violence. He led a simple life and always spoke the truth. His birth day, 2<sup>nd</sup> October, is celebrated as '**Gandhi Jayanthi**'.

73





November

14

Pandit Jawaharlal Nehru was the first Prime Minister of India. He was very fond of children. He was lovingly known as 'Chacha Nehru'. His birth day, 14<sup>th</sup> November, is celebrated as 'Children's Day'.

Connect the pictures of the leaders to columns A and B.

A

First President of India

Father of our Nation

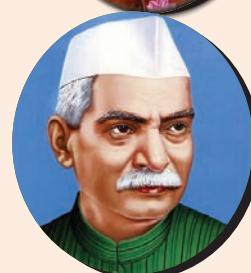
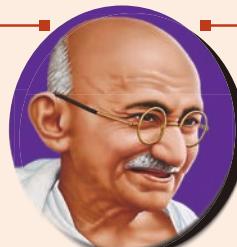
First Prime Minister of India

B

Dr. Rajendra Prasad

Mahatma Gandhi

Pandit Jawaharlal Nehru



### National Flag - The Tricolour



Our National Flag called the Tricolour is rectangular in shape. It has three equal bands of different colours.



Saffron  
White  
Green

Sacrifice  
Truth and Peace  
Prosperity





The navy blue wheel in the centre of the white band is called the *Ashoka Chakra*. It has 24 spokes which stand for progress and values.



We respect our  
National Flag

## National and State Emblems



National Emblem



Tamil Nadu State Emblem  
( Srivilliputhur Temple )



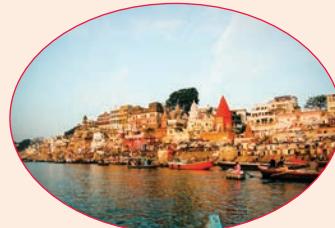
## National Symbols of India

### National Animal



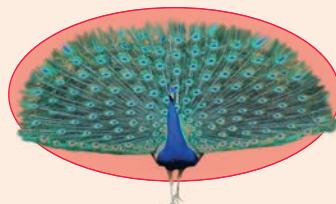
Bengal Tiger

### National River



Ganges

### National Bird



Peacock

### National Tree



Banyan Tree

### National Flower



Lotus

### National Fruit



Mango



The Dolphin of the Ganges river is the National Aquatic Animal of India.





## State Symbols of Tamil Nadu

### State Animal



Nilgiri Tahr

### State Flower



Gloriosa Lily

### State Bird



Emerald Dove

### State Tree



Palm Tree

### State Game



Kabaddi

### State Fruit

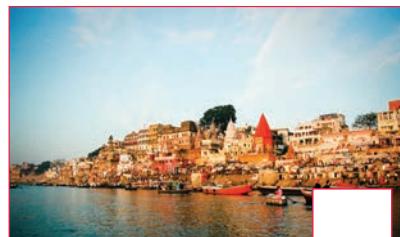


Jackfruit

Write 'N' for the National symbols and 'S' for the State symbols in the box given. Name the pictures.



( Nilgiri Tahr, Lotus, Banyan Tree, Mango, Ganges, Emerald Dove )





## Our Responsibility



Some places and things like public toilets, roads, street taps, parks, hospitals, schools and classrooms are used by all of us. It is our responsibility to keep them neat and clean.



Do not spit in public places.



Do not scribble on walls.



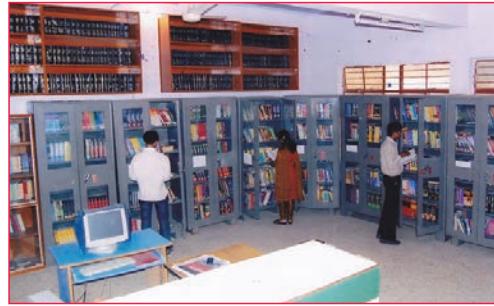
Do not throw waste in public places.



Form a queue.



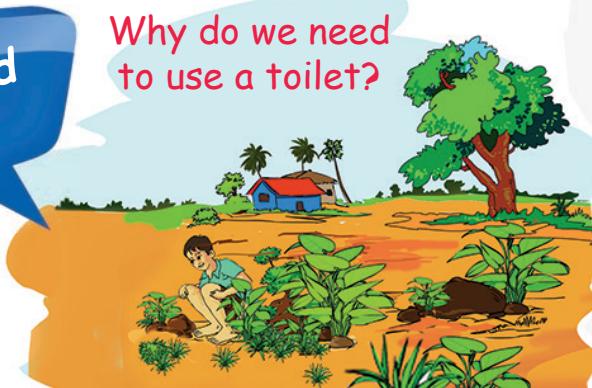
Use the public toilet. Do not use the road/open spaces.



Maintain silence in the public library. Do not tear or scribble in the books.

Think and Discuss

Why do we need to use a toilet?





Colour the circle **red** for the Don'ts and **green** for the Do's.



### Evaluation



1. Write the names of the National Days for the given dates.

( Independence Day, Gandhi Jayanthi,  
Children's Day, Republic Day )



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

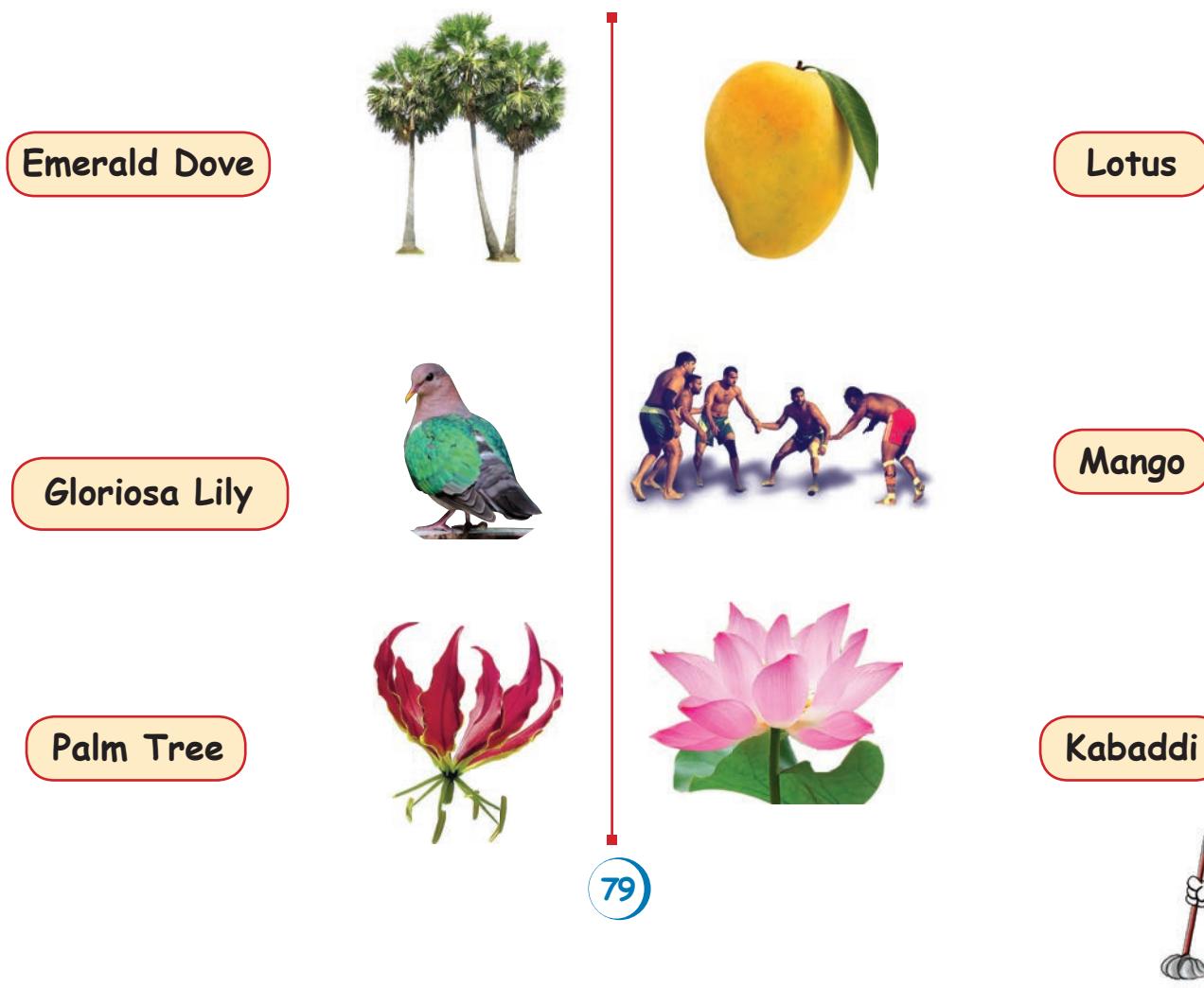
2. Circle the odd one.

- |               |              |             |              |
|---------------|--------------|-------------|--------------|
| a. Mango      | Bengal Tiger | Banyan tree | Jackfruit    |
| b. Palm tree  | Nilgiri Tahr | Lotus       | Emerald Dove |
| c. Saffron    | Green        | Red         | White        |
| d. January 26 | August 15    | October 2   | November 12  |



**3. Select and circle the name for the given picture.**

a.		Bengal Tiger	Lion	Elephant
b.		Duck	Peacock	Dove
c.		Ganges	Cauvery	Vaigai
d.		Mango Tree	Banyan Tree	Neem Tree
e.		Jackfruit	Banana	Apple

**4. Draw a line connecting the symbol with its name.**

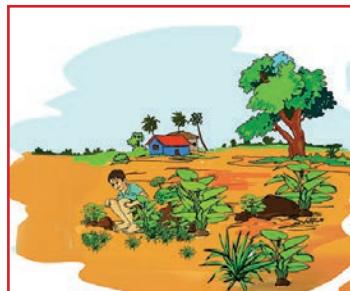


### 5. Fill in the blanks.

( Dr.Rajendra Prasad, Pandit Jawaharlal Nehru, State fruit,  
Mahatma Gandhi, Nilgiri Tahr )

- \_\_\_\_\_ was the first Prime Minister of India.
- The First President of India was \_\_\_\_\_.
- \_\_\_\_\_ is the Father of our Nation.
- The State animal of Tamil Nadu is the \_\_\_\_\_.
- Jackfruit is our \_\_\_\_\_.

### 6. Tick (✓) the correct behaviour and cross (✗) the wrong one.



<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------



<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------



### Self Evaluation

- ★ I can name some National days and National leaders.
- ★ I can identify National and State symbols.
- ★ I care for public property.





Unit  
3

## Shakthi's Journey



You will learn about

- ❖ Different modes of transport
- ❖ Road safety



### Roadways



Shakthi, his father, mother and sisters Kayal and Kavitha lived in Trichy.

They planned to go on a **tour** of Chennai for their **holidays**. They had to reach the railway station to board the train.

**Shakthi:** "How are we going to the station?



### Vehicles on the Roadways



Bus

Needs fuel  
Carries  
50+people



Car

Needs fuel  
Five people can travel



Auto rickshaw

Needs fuel  
Two / three people can travel



Lorry

Carries goods



Ambulance

Takes sick people to hospital



Fire and Rescue Vehicle

Puts out fires



Scooter

Two people can ride



Bullock cart

Does not need fuel to move - **eco friendly**



Bicycle

The simplest form of transport  
**Eco friendly**  
Cycling keeps us fit

- ❖ Which vehicle should Shakthi's family choose to reach the railway station? Discuss the answer and write it here. \_\_\_\_\_

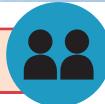


## Think and Discuss

We know that smoke from vehicles makes the air dirty. Can you name some vehicles that do not give out smoke?



Tick ( ✓ ) the slowest vehicle. Discuss why it is slow.



## Railways



Shakthi and his family reached the **railway station**. They saw the vendors selling food and magazines, the station master waving a flag, porters loading the parcels and many **kinds of trains**. Kayal said, "What a busy place the station is!"



Mother replied "Yes, it's because the trains carry many people from place to place in a short time".

## Kinds of Trains

### Trains that carry people

**Passenger train**

**Stops at all stations**

**Used within and between cities**



**Metro rail**

**Used within cities**



**Superfast express**

**Stops at specified stations**



## Trains that carry goods



### Goods trains

Some trains use coal or diesel as fuel to move; therefore they give out smoke. **Electric trains** are **smokeless**. Trains **move on tracks**.

Shakthi and his family boarded their train and reached Chennai.

Can you identify the kind of train that Shakthi and his family chose to reach Chennai? .....

**Fill in the blanks.**



- The \_\_\_\_\_ train stops at all stations.
- The \_\_\_\_\_ train carries goods.
- \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ trains carry people.

## Waterways



Shakthi and his family took a tour around Chennai. They visited the **harbour**.

**Shakthi:** "There are so many boats".





**Mother:** "The smaller ones are called boats and the bigger ones are the ships. Ships carry a large number of people and goods from one country to another".

### Think and Discuss

Do vehicles that move on water have any wheels? How do they move?

### Vehicles on the Waterways



Catamaran  
(Kattumaram)  
Uses oars to move  
Used for fishing



Motor boat  
Uses fuel to move  
Used for fishing and for pleasure rides



Sailing boat  
Sails help it move  
Used for travel and sport



Ship  
Uses fuel to move  
Carries goods and people over long distances

The coracle is used to travel on lakes and rivers for short distances. It can carry five to six people.

The children played on the sea shore.

**Kavitha:** "What a lovely visit!"



Write the names of the vehicles.





## Airways

The vacation was coming to an end. The family reached the Chennai Airport as they were flying back to Trichy. Shakthi, Kavitha and Kayal were really excited to see the aeroplanes.

**Kayal:** "Look at the planes landing and taking off. I want to be a pilot Appa".

**Father:** "Sure, you can. Observe the speed at which the aeroplanes are moving. They are the **fastest means of transport**".

**Shakthi:** "Does the aeroplane use fuel too?"

**Father:** "Yes, a special kind of fuel".

## Kinds of Aircraft

This is a **helicopter**. It can carry a **few people**. It is used by the **army** to save lives and bring supplies during **floods** and other difficulties.



This is an **aeroplane**. People use aeroplanes to **go from one city or country to another**. It also carries goods.

These are **hot-air balloons**. They are used to tell us about the weather, for advertisements and as a sport.



Have you seen white lines like these in the sky?  
What are they?

Think and Discuss



**Tick ( ✓ ) the vehicles that move in the air.**



### Road Safety

**Have you seen this symbol?  
Discuss it with your teacher.**



**Always use the foot path for walking.**

**If there is no foot path,  
make sure that the road is  
to your right.**





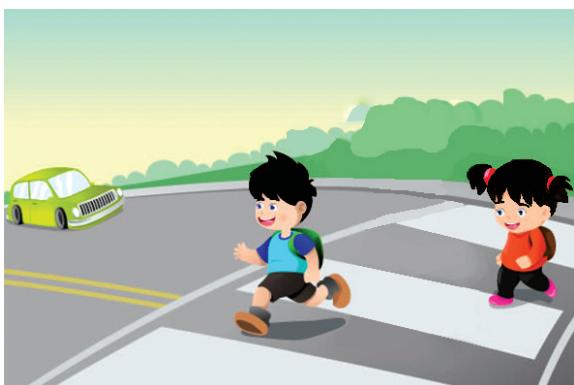
While riding a motor cycle, wear a helmet.



While driving a car, use the seat belt.



Do not run across the road.



Never go alone on the road.  
Always go with an elder.



Use the foot over bridge or subway to cross the road. If there are none, use the pedestrian crossing (Zebra crossing).



Cross when the traffic symbol of a person walking turns green.





At some places, the road and the train track meet. It is called a level crossing. Never try to cross it when the gates are closed.



### Common and Important Road Signs



School Zone  
(Drive slow)



Unmanned Level Crossing  
(Be careful when crossing)



Pedestrian Crossing  
(Cross here only)



Bus Stop  
(Bus stops here)



Level Crossing  
(Check before you cross)



Do Not Horn  
(Do not horn here)



No Parking  
(Do not park your vehicle here)



Hospital Zone  
(Do not horn)



'U' Turn  
(Allowed to turn)



Choose and write the correct answer.



1. The road sign  shown here means that a \_\_\_\_\_ is nearby.

a. hospital zone   b. school zone   c. bus stop

2. This road sign  indicates a \_\_\_\_\_.

a. bus stop   b. no parking   c. level crossing

Evaluation



UERWYW

1. Who am I? Tick (✓) the right answer.

- a. I can run without fuel. (Car/Bicycle)
- b. I stop at all stations. (Passenger train/Superfast express)
- c. I fly in the sky with a few people. (Aeroplane/Helicopter)
- d. I can travel both on a lake and a river. (Boat/Ship)

2. Connect the words with the related pictures.



Sea



Air



Lake



Road



Track



Signal



### 3. Choose and write the correct answer.



4. Identify the incorrect pair based on the mode of transport and put a ( ✓ ) mark.

- a. Ship, Sail boat
  - b. Helicopter, Aeroplane
  - c. Bicycle, Lorry
  - d. Car, Coracle

5. Write two actions that you should not do on the road.

d.

b.

6. Tick ( ✓ ) the vehicles that move using fuel.



1



1



1



1



1



1



1



1



1



### 7. Observe, think and tick ( ✓ ) the correct actions.



### Self Evaluation



- I can identify the different modes of transport.
- I follow road safety rules.





# Day and Night

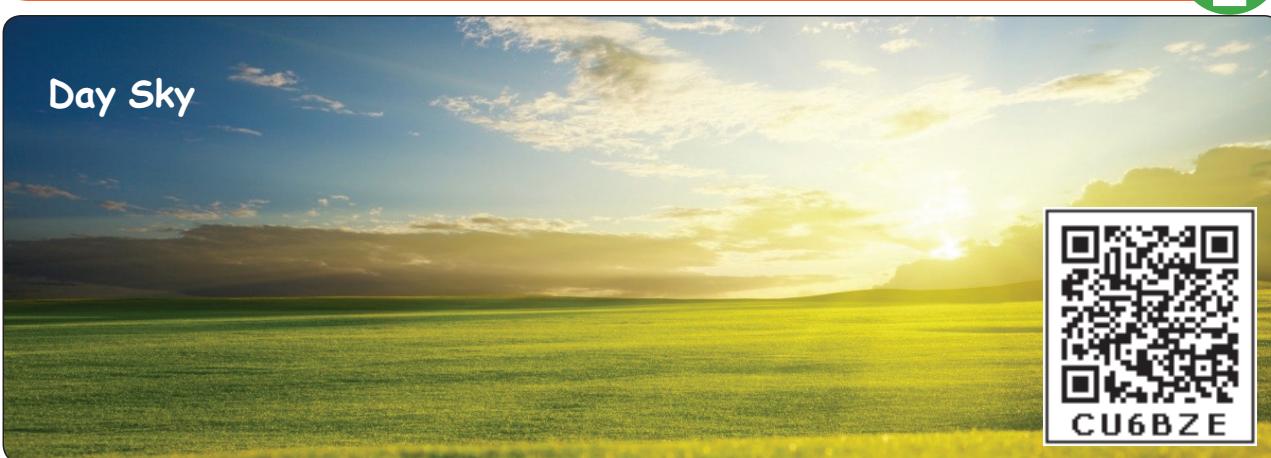


You will learn about

- ❖ The sky during the day and night
- ❖ Rhythms of the day and night
- ❖ Directions



Observe the picture. What do you see?



CU6BZE

## The Sun

The Sun gives us light and heat. It helps plants grow. The Sun is much bigger than the earth where we live. The Sun looks small because it is far away from the earth. There will be no life on earth if there is no Sun.

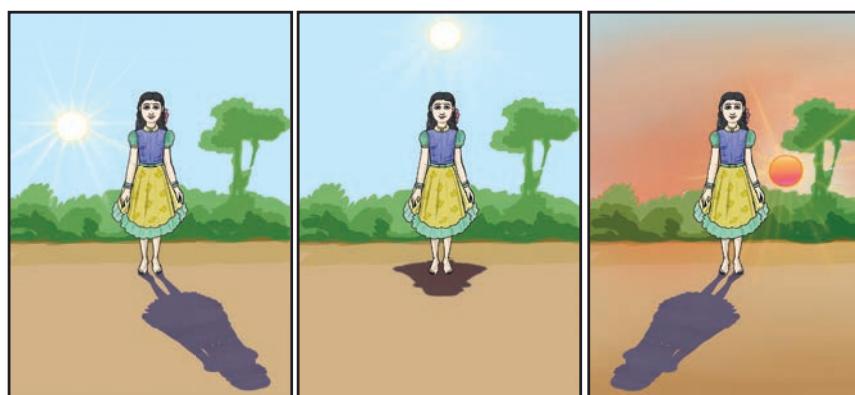


The sunlight takes around 8 minutes to reach the earth.

## Shadow

When an object does not allow light to pass through it, a dark area is formed. This is called a shadow.

Stand with your back to Sun. Look at the ground in front of you. What you see is your shadow. Find out if your shadow moves with you.





❖ Observe the things around you that make shadows and share it with your friends.

Have you noticed that the size of your shadow changes? Observe your shadow in the morning, afternoon and evening and find out its size.



Shadow	Morning	Afternoon	Evening
Long / Short			

### Night Sky



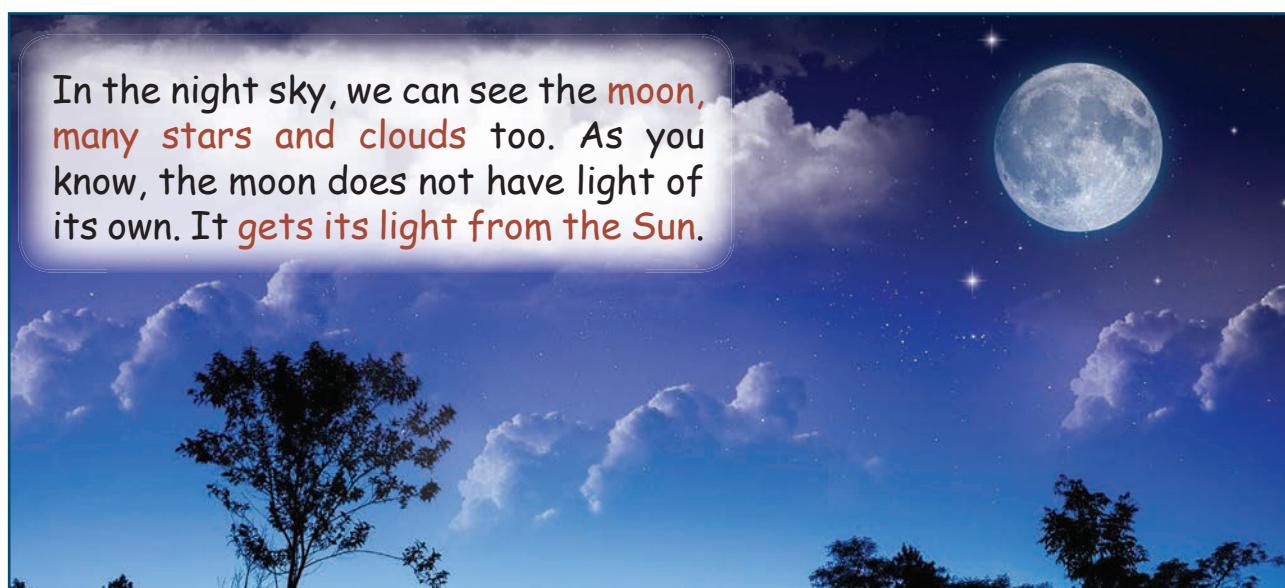
#### Let Us Discuss

Can we see in the dark? We need light to see things. Observe the pictures. How is the night sky different from the day sky?



### The Moon

In the night sky, we can see the **moon**, many stars and clouds too. As you know, the moon does not have light of its own. It gets its light from the Sun.





## Phases of the Moon

### Let Us Discuss

Does the moon look the same every day? Observe the moon in the sky every night for fifteen days and find out.



The moon appears to change shape every night. On the night when we see it in its complete form, it is called the **full moon (Pournami)**.

On the night when we cannot see the moon at all (even when the sky is clear), it is called the **new moon (Amavasai)**.

Many festivals are celebrated based on the **phases of the moon** - e.g., **Eid, Mahalaya Amavasai**.



Neil Armstrong was the first man to step on the moon.

### The Stars

There are **countless** stars in the sky. The Sun is the nearest star. The **stars shine** during the day too, but we cannot see their light because the Sun is much brighter than the other stars. We see that a group of **stars** appears to form a **pattern** in the sky. Have you seen any star patterns?

Observe the example given below.



The position of the pattern of stars helped people to know when to sow and harvest crops. They also helped to people find directions during travel.

### Match the following.

- |           |   |                                  |
|-----------|---|----------------------------------|
| a) Sun    | - | a dark area that travels with me |
| b) Stars  | - | does not have its own light      |
| c) Moon   | - | form patterns                    |
| d) Shadow | - | helps plants grow                |





## Rhythms of Day and Night

Day and night follow each other in a rhythmic way. Most animals and plants are active during the day and sleep at night. Some plants close their leaves by evening, e.g., Rain tree (Thoongu-Moonji Maram). However, some animals are active at night. The bat, owl, wild big cat, mouse, wolf, cockroach and firefly are examples of animals that are active at night.



Bat

Owl

Mouse

Wild Cat



Wolf



Cockroach



Firefly

**They are active at night to:**

- ❖ Catch other animals wandering at night for their food
- ❖ Avoid animals that eat them during the day
- ❖ Avoid the heat of the day

**They have:**

- ❖ Big eyes (owl, cat)
- ❖ A sharp sense of smell (mouse, dog)
- ❖ Good hearing (bat)



Bats use sound waves to fly and hunt. Owls can see what is behind them by rotating their heads almost fully.





Most flowers bloom in the morning. However some flowers bloom at night. Examples are **Jasmine**, **Water lilies**, **Tuberose**, **Cactus flower**, **Datura flower**. Many of them have a lovely fragrance. Many are white in colour though some have attractive colours.



**Jasmine (Malligai)**



**Water lily (Alli)**



**Tuberose (Sampangi)**



**Cactus flower  
(Chappathi kalli)**

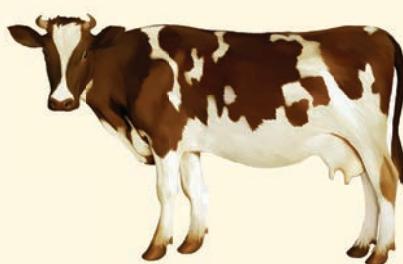


**Datura  
(Oomatham poo)**



The Bethlehem Lily (Nishagandhi) is called the "Queen" of the flowers that bloom at night.

Identify and tick (✓) the animals that are active at night.

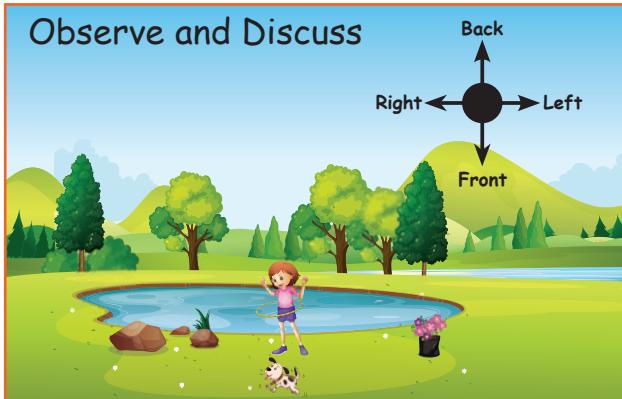




## Directions



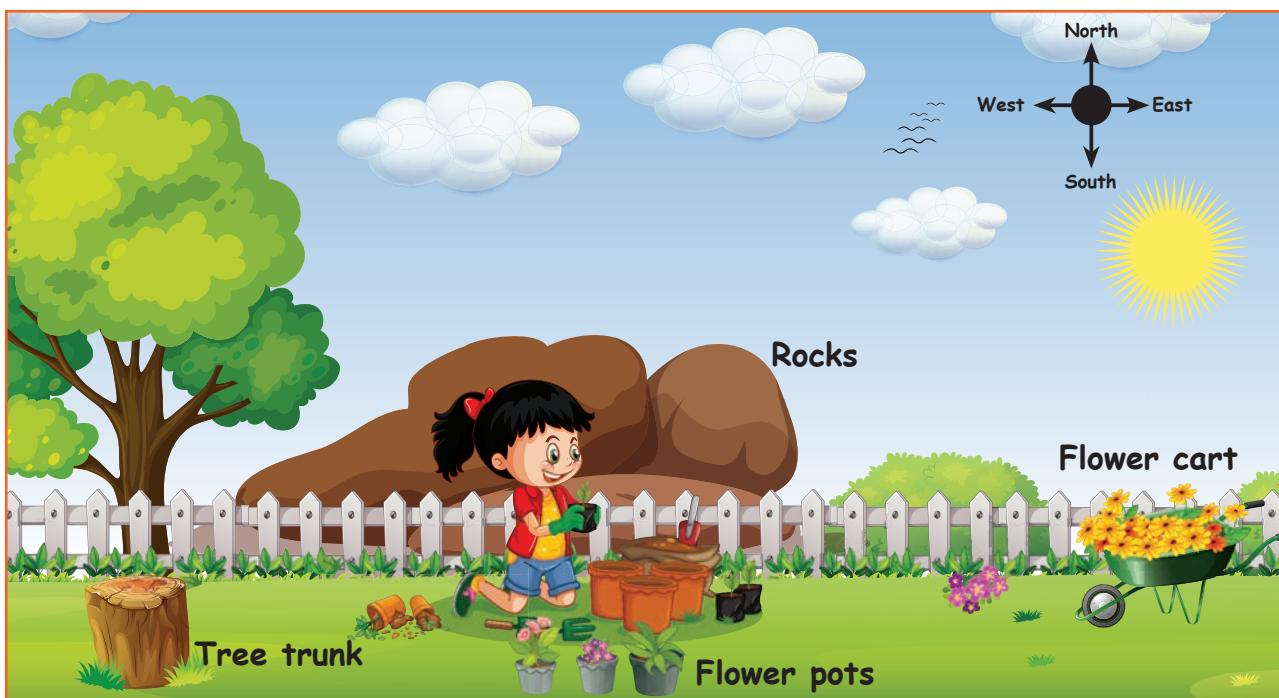
### Observe and Discuss



Front, back, right and left tell us where things are, based on a reference point. North, South, East and West tell us where places and things are, based on the position of the Sun. They are called directions. Directions help us reach a place without getting lost.

The **Sun** appears to **rise** in the **East** and **set** in the **West**. Now stand facing the Sun in the morning (i.e. East). Behind you is West. To your right is South. To your left is North.

Observe the picture given below. **In the centre is Meera.** To her South are the flower pots, to her North are the rocks, to her East is the flower cart and to her West is the tree trunk.



In your school, identify the eastern direction by finding out where the Sun rises. Ask your teacher to help you. Then find the direction in which the following are situated - water tank, flag post, playground, toilet, kitchen, gate and water tap. Tabulate your answer.



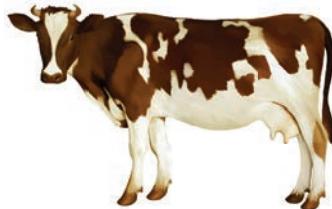
North	South	East	West



## Evaluation



## 1. Label the pictures. ( Moon, Earth, Stars, Sun )

2. Write the names of the animals that are active at night.  
(cow, wolf, deer, cockroach, monkey, firefly, rabbit, squirrel, rat)

## 3. Write 'T' if True and 'F' if False.

a. The Sun gives us light and heat.

b. The shape of the moon changes every night.

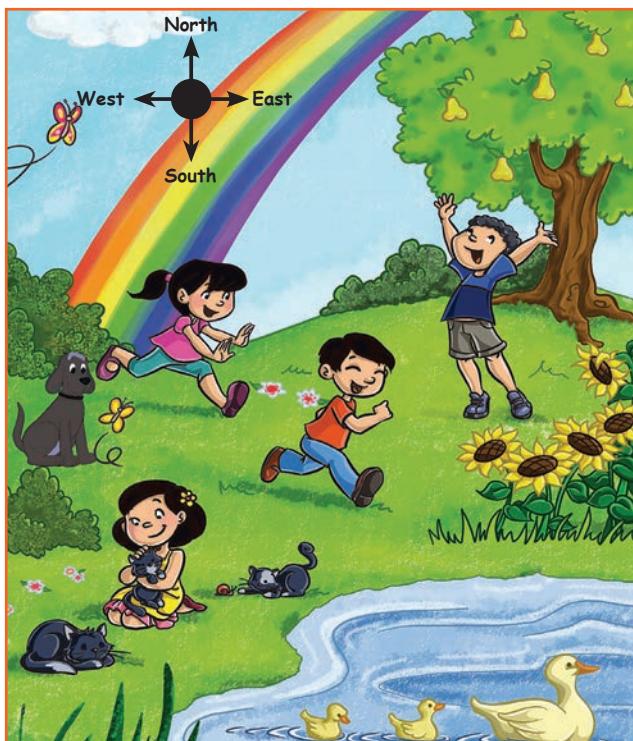
c. Groups of stars appear in many patterns.

d. The Jasmine blooms during the day.

e. When you stand facing East, to your right is West.



4. Observe the given picture and fill in the blanks.  
( tree, flowers, pond, dog )



- The \_\_\_\_\_ is in the South side of the garden.
- The \_\_\_\_\_ is in the North side of the garden.
- The \_\_\_\_\_ are on the East side of the garden.
- The \_\_\_\_\_ is to the West side of the garden.

5. Identify the flowers that bloom at night by putting a tick (✓) mark.



Self Evaluation

★ I have observed the features of the day and night sky.



★ I can identify some animals and plants that are active at night.



★ I can identify the directions.



# Wonders of Nature



## You will learn about

- ❖ Some wonders of nature - plants and animals
- ❖ Colours and fragrance of flowers

### Wonders of Nature - Plants



Nature is full of wonders. Shall we explore some of them?

#### Lily

##### Why does water not stay on the leaf of the lily?



The leaf of a lily has a **waxy coat** on the **upper surface**. It has a notch too. Water does not stay on the leaf because of the **notch** and the **waxy coating**.



EIZV42

#### Nuts under the soil

Usually nuts are seen on the stem part of the plant. In **groundnut** plants, the nuts are under the soil.



Nuts are also called seeds.

#### Kurinji



The **Kurinji** or **Neelakurinji** shrub is found in the **Nilgiri** mountains in Tamil Nadu.

The flowers of the Neelakurinji **bloom** only once in **12 years**.

They are **purple blue** in colour. **Nilgiri**, the **Blue Mountain**, gets its name from these flowers.



### Touch Me Not Plant

Have you seen this plant? It is found in many places.

It is a small herb. When you touch the leaves of this plant, they close. So it is called the 'Touch Me Not' plant. The leaves open a few minutes later.



Leaves open



Leaves closed

### Calotropis - Erukku

Calotropis is a shrub. It has a group of waxy flowers. Its flowers are either white or lavender in colour. It is also known as the 'Crown Flower' since it looks like a crown.



Draw and colour the Erukku leaf.



## Colour and Fragrance of Flowers



Flowers have beautiful colours and many have fragrance. Insects are friends of the flowers. They are attracted by the colour and smell of flowers. Flowers have nectar. **Insects and birds** come to **suck the nectar from the flowers**.



Many of the flowers that **bloom at night** are **white in colour** and they have a wonderful **fragrance**.



Night- Flowering Jasmine  
(Pavazhamalli)



Spanish Cherry  
(Magizhampoo)



Jasmine  
(Malligai)

Many of the flowers that **bloom during the day** have **attractive colours** and are less fragrant.



Butterfly Pea  
(Sangu Poo)



Jungle Flame  
(Vetchi Poo)



Periwinkle  
(Nithiyakalyani)

Join the dots and colour the picture.



### Wonders of Nature - Animals

#### Chameleon



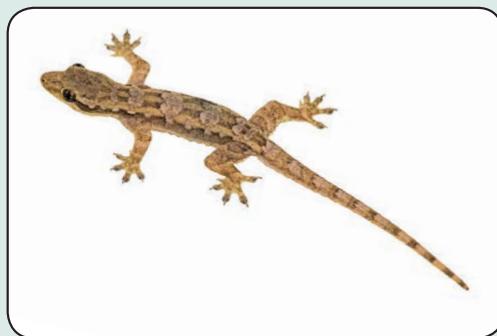
Have you seen this animal? It is called a **chameleon**. It is a type of **lizard**. It changes its **skin colour** to merge with the **surroundings**. This helps it to **escape** from its **enemies**.





### Lizard

Have you seen a lizard clinging upside down on the ceiling? Lizards have toe pads that help them stick on to the wall. If the tail of the lizard is cut, it grows back in one or two months.



### Spider

Do you remember that insects have only six legs? Spiders are not insects because they have eight legs. Spiders make threads called spider silk with which they create spider webs. The threads in the web are very strong and sticky. The webs help the spider catch insects like flies for its food.



### Dog

Dogs can smell much better than us. They can even hear very soft sounds and sounds from far away. They are trained and used by the police to identify thieves. These dogs are called sniffer dogs. They are also used to search for people during natural disasters like earth quakes.



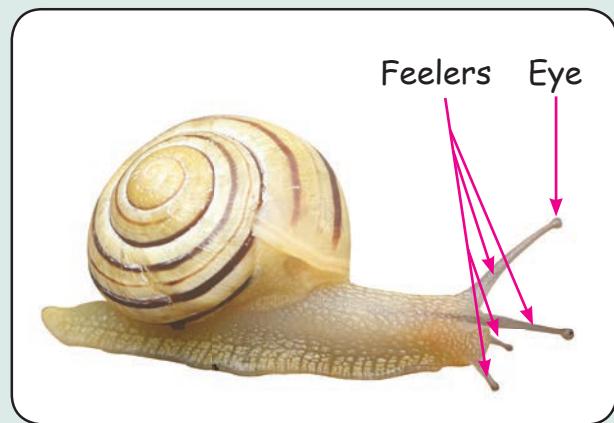


### Rat

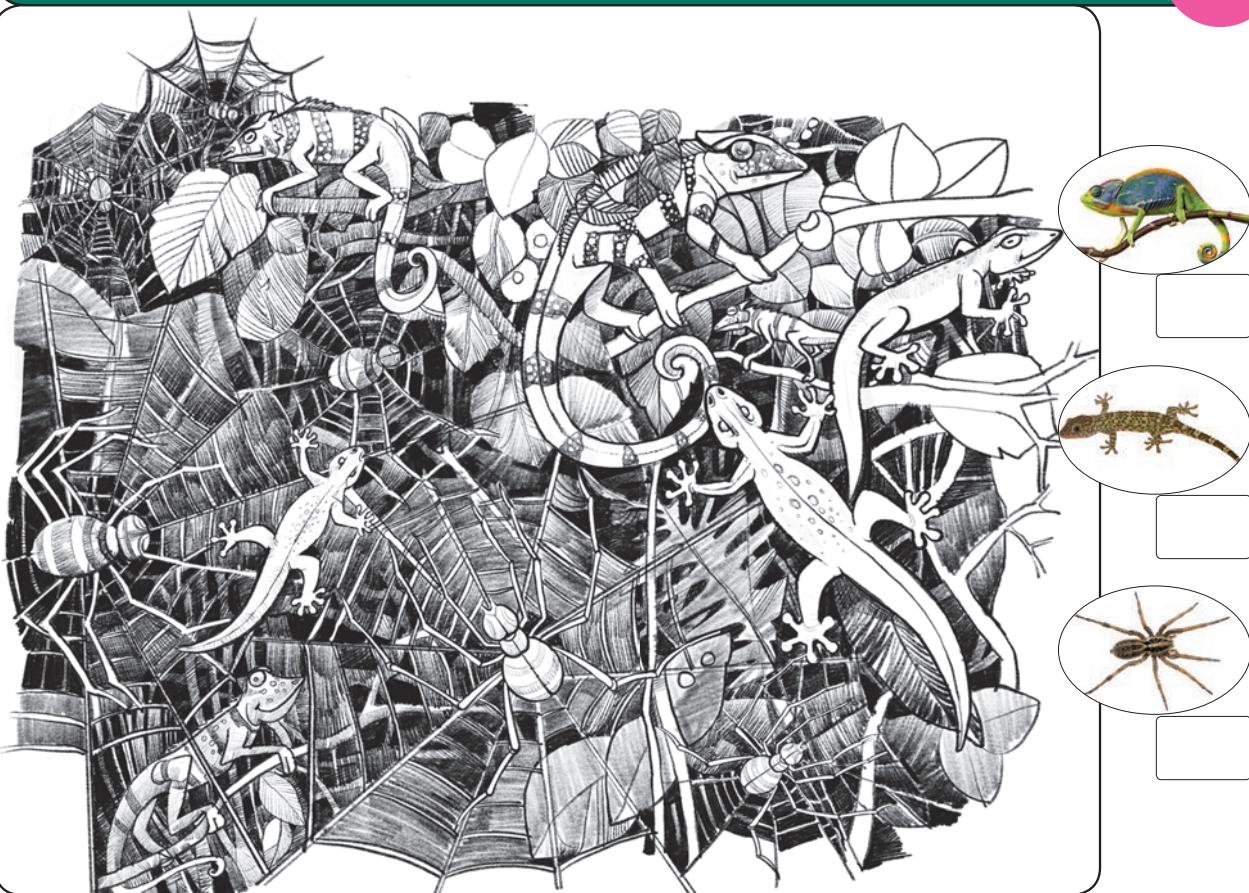
The rat is a small animal that lives in houses and fields. Rats can live without water for even longer periods of time than camels. They can bite hard wood with their teeth. Some of their teeth keep growing. Rats grind their teeth to prevent them from becoming too big.

### Snail

The snail has two pairs of feelers on its head. One pair is long and the other is short. The eyes are on the longer pair. If we touch the snail, it pulls its body back into its shell like a tortoise.



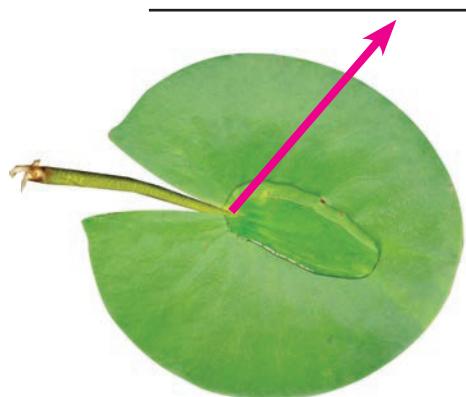
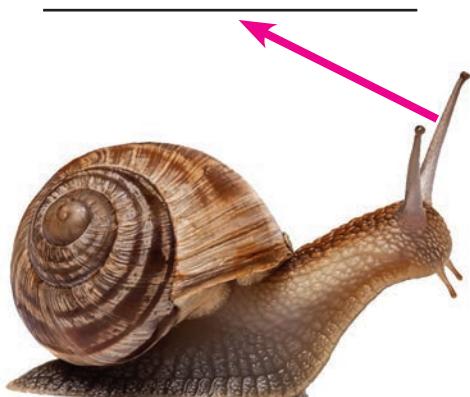
**Spot and count the different animals.**





## Evaluation

1. Label the parts. (Notch, Feeler)



2. Fill in the blanks and identify the plant and animal.



I bloom in the \_\_\_\_\_. (mountains / deserts)

I am \_\_\_\_\_ in colour. (brown / purple blue)

The name \_\_\_\_\_ is because of me. (Nilgiri/ Yelagiri)

Who am I? \_\_\_\_\_



I have \_\_\_\_\_ pairs of feelers. (2/4)

My eyes are seen on the \_\_\_\_\_. (feelers/tail)

I pull my body back into my shell.

Who am I? \_\_\_\_\_

3. Match the following.

a.



b.



**4. Fill in the blanks with suitable words.**

- In groundnut plants, the nuts are seen \_\_\_\_\_ the soil.  
(above / under)
- In the Erukku plant, the flowers are \_\_\_\_\_ shaped.  
(crown / spherical)
- Insects suck the \_\_\_\_\_ from the flower.  
(milk / nectar)
- The \_\_\_\_\_ is not an insect. (bee / spider)
- In a \_\_\_\_\_ the tail grows again when cut. (dog / lizard)

**5. Choose and write the name of the flowers and the animal.**

(Jasmine / Calotropis)    (Spider / Snail)    (Jungle Flame / Rose)

**Self Evaluation**

I observe and admire the wonders of the plant and animal world around me.





## Environmental Science - Class - II, Term-III

### List of Authors, Domain Experts and Reviewer

#### **Reviewer**

**Dr. Sultan Ahmed Ismail**

Director,  
Ecoscience Research Foundation, Chennai.

#### **Domain Experts**

**Tmt. Vijayalakshmi Srivatsan**

Educational Consultant,  
(Former Principal)  
P.S. Senior Sec. School, Mylapore, Chennai.

**Dr. Suchitra Ramkumar**

Director,  
Upasana Center for Learning and Well being,  
Nehru Nagar, Adyar, Chennai.

**Valarmathi N.**

Senior Lecturer,  
DIET, Ranipet, Vellore.

**Arumbumozhi S.**

Lecturer,  
DIET, Ranipet, Vellore.

#### **Academic Coordinators**

**S. Balasubramanian**

Deputy Director, SCERT,  
DPI Campus, College Road, Chennai-6.

**T. Ashok**

PG Asst., Govt (Boys) Hr Sec School,  
Ponneri, Thiruvallur Dist.

#### **Content Readers**

**Dr. R. Kavitha,**

Asst Prof, Dept. of Botany  
Bharathi Women's College (A), Chennai.

**T. Subhaiya,**

PGT, GGHSS, Achrappakkam, Kanchipuram.

**S. Vijayalakshmi**

GHSS, Koovathur, Kanchipuram.

## **Art and Design Team**

#### **Layout**

V2 Innovations, Gopalapuram, Chennai.

#### **Illustrators**

**N. Gopalakrishnan**

Kumara Rajah Muthiah HSS,  
Gandhi Nagar, Adyar, Chennai.

**P. Ramar**

GBHSS, Kamaraj Nagar, Avadi, Chennai.

**D.T.M. Prabu Raj**

GHS, Manimangalam, Kancheepuram.

#### **In-House QC**

Manohar Radhakrishnan, Kamatchi Balan Arumugam  
Pakkirisamy Annadurai

#### **Wrapper Design**

Kathir Arumugam

#### **Co-ordination**

Ramesh Munisamy

#### **Authors**

**Revington Babu X.**

BT Asst., GHS, Sendankadu,  
Pattukkottai, Thanjavur.

**Sakthivel Murugan S.**

BT Asst., PUMS, Sholinganallur,  
St.Thomas Mount Block, Kancheepuram.

**Gopi N.**

BRTE, BRC, Nemili Block, Vellore.

**Subashini A.**

BT Asst., PUMS, Nallaganakothapalli,  
Shoolagiri Union, Krishnagiri.

**Thangam C.**

BT Asst., PUMS, Kallarapatti,  
Alangayam Block, Vellore.

**Anbazhagan N.**

BT Asst., PUMS, 1-3 Ward,  
Uthiramerur, Kancheepuram.

**Balachandar S.**

BT Asst., G(B)HSS,  
Kadayanallur, Tirunelveli.

**Geetha R.**

SGT, AMMS, Pattaravakkam,  
Villivakkam Block, Thiruvallur.

**Azhagulakshmi M.**

SGT, PUMS, Mettupalayam,  
Sriperumpudur, Kancheepuram.

**Sivaraman M.**

SGT, PUMS, Velampalayam,  
Namagiripet, Namakkal.

#### **QR Management Team**

**R. Jaganathan**

S.G.T, P.U.M.S,  
Ganesapuram, Polur, Tiruvannamalai.

**A. Devi Jesintha**

B.T. Asst, G.H.S.,  
N.M. Kovil, Vellore.

**V. Padmavathi**

B.T., GHS., Vetriyur, Ariyalur.

This book has been printed on 80 GSM Elegant  
Maplitho paper.

Printed by offset at