

# SCIENCE

**Standard Three**

**Term III**

SCIENCE

What do these **icons** stand for!



**Shall we classify !**



**Let us collect!**



**Activity / Let us do !**



**Let us write.**



**Let us think!**



**Let us find!**



**Fact**



**Project**



**Let us discuss !**

# 1. WIND...BREEZE!



It was evening. A cool breeze was blowing in the beach. Malar was playing on the sand and enjoying the cool breeze. Suddenly, a strong wind blew. "Let us go home Malar, It may rain" said her mother.

Malar did not want to go home. She asked her father "The wind was blowing gently just before, why is it so strong now?". Father started explaining about the different types of winds.

Come on children, let us listen to what he says.

- ◆ Moving air is called wind.
- ◆ The layer of air surrounding the earth is called atmosphere.
- ◆ The atmosphere is a mixture of gases.
- ◆ We cannot see air. We can only feel it. We need air to breathe.



## Types of wind!

### Breeze :

Cool and gentle wind is called breeze. We can feel it near the water bodies like rivers, ponds, on sea shore and near the hills.



Breeze blows at a speed of 5 to 38 kilometers per hour.

### Storm :



Storm blows at a speed of 89 to 102 kilometers per hour.

Winds which blow very strongly are called stormy winds. This is because of low pressure in the sea.

Let us discuss !



Look at the pictures and discuss.



Before the storm



After the storm





## The effects of storm

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### Cyclone :

Wind which blows with very high speed is called cyclone. It is stronger than storm. This is also due to low pressure in the sea.



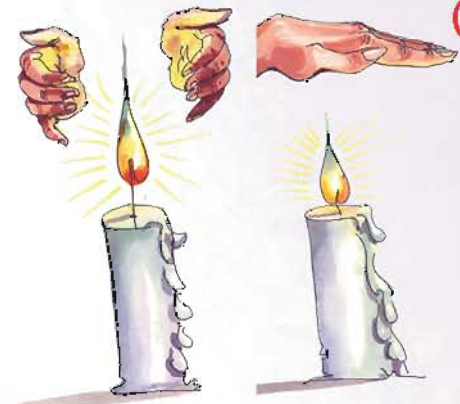
### Hot air :

Air that rises up because of heat is called hot air.

### Let us do!



(Try this only in the presence of elders.)



- ◆ Light a candle. Keep your hands around the flame.
- ◆ What do you feel?
- ◆ Keep the hands on top of the flame.
- ◆ What do you feel?



## Cool breeze

When hot air rises upwards, there is an empty space or vacuum in that place. To fill that space, cool air from the surroundings rushes towards it. This is called cool breeze.

### Let us do!



Take two paper bags. Fix them upside down to a stick as shown in the picture. Keep a candle under the bag marked A. Why does the bag A rise?

(Try this only in the presence of elders.)

## Sea breeze

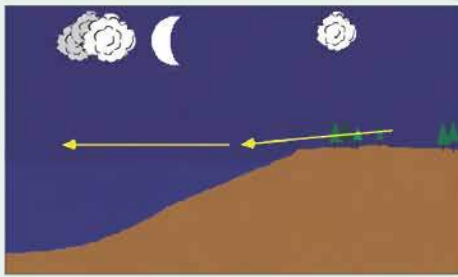
During daytime, land gets heated more than sea water. The hot air in the land rises upwards. Cool wind from the sea blows towards land. This is called sea breeze.



During daytime sea breeze blows towards land.



## Land breeze



During nighttime land breeze  
blow towards sea.

During nighttime, the sea will be hotter than the land. Cool breeze from the land will blow towards sea. This is called land breeze.

### Facts



- ◆ We get electricity from wind mills.
- ◆ Tamilnadu stands first in generating electricity from windmills in India.
- ◆ Many windmills are located in Aralvaimozhi, Palladam, Udumalaipet and Kaitharu in Tamilnadu.



### Activity



(a) Air is nature's gift to man. We need air to live. We have to protect this basic and most important need of man. Today, air is polluted by various activities of man. As a result a lot of natural disasters take place. Can you write all that you know about air pollution?

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What steps can you suggest to prevent air pollution?

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(b) Is there any relationship between wind and electricity? What do you think? Explain.

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Let us think!



- ◆ If you can talk to the wind, what will you say?
- ◆ What brings rain?
- ◆ What is the connection between wind and fire?

### Facts



- ◆ Wind which blows in a particular direction during a particular season is called monsoon wind.
- ◆ Tamilnadu gets rain from both north east monsoon and south west monsoon wind.
- ◆ We get 48% of rain from north east monsoon wind.

Who are they?



Orville Wright  
Wilbur Wright  
( Wright Brothers )

First people to fly in an  
aeroplane



## Evaluation :

a. Let us match :



Breeze, Sea breeze, Electricity, Storm

b. Let us write!



1. Uses of wind.
2. Causes of storm.
3. Damages caused by the cyclone.
4. What do you know about windmills?
5. Why does cool breeze blow during evening in the beach?



**c. Let us do it, young scientist**

i.

**Objects required**

- |                             |                         |
|-----------------------------|-------------------------|
| 1. Cycle pump               | 8. Dried leaves         |
| 2. Hand fan                 | 9. Balloon without air  |
| 3. Table fan                | 10. Pencil and pen      |
| 4. Small pieces of paper    | 11. Hay or straw        |
| 5. Paper                    | 12. Chalk               |
| 6. Chart paper pieces       | 13. Scrapings of pencil |
| 7. Few small pieces of wood |                         |



**Method :**

Spread all the above mentioned things on a table. Blow air on them using

- Your mouth
- Hand fan
- Table fan
- Cycle pump and make a list of things that flew away in the table below

Air blown by mouth	Hand fan	Table fan	Cycle pump



a. What do you understand from the activity?

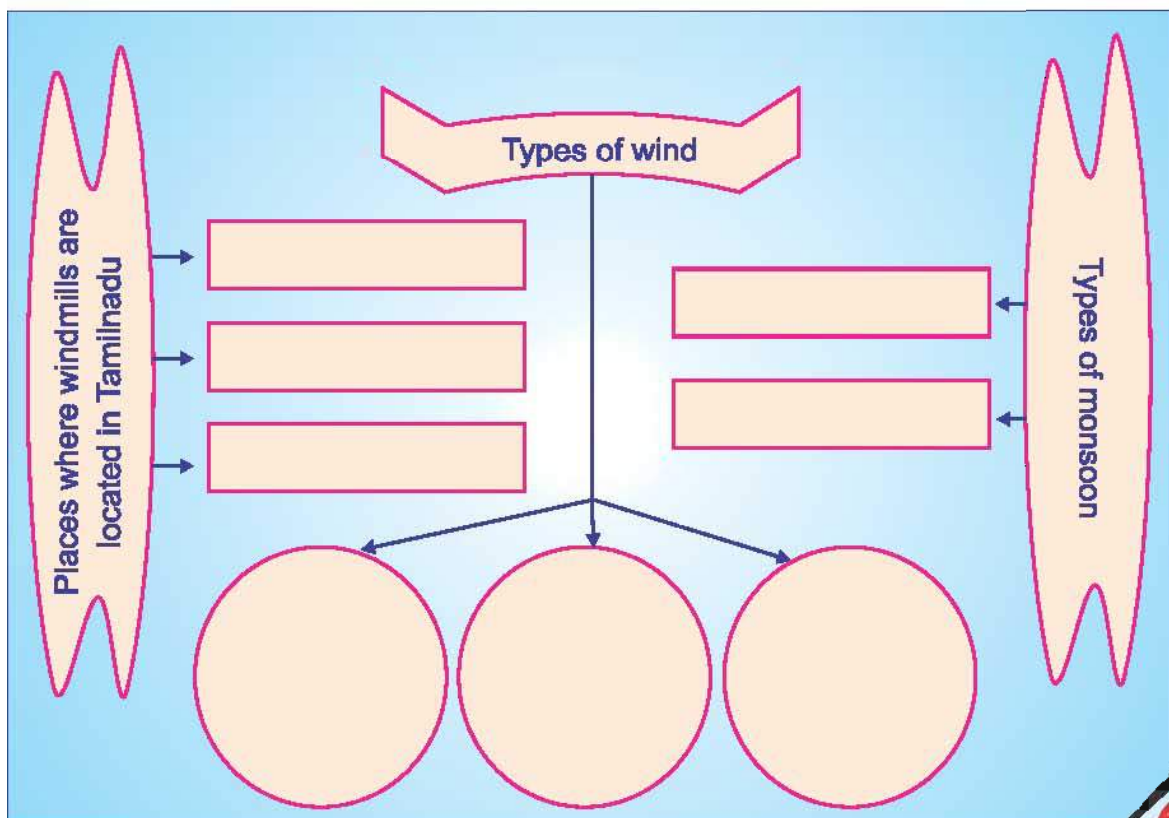
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

b. The strongest wind was from \_\_\_\_\_.

(1) Mouth. (2) Table fan. (3) Cycle pump. (4) Hand fan.

ii. Prepare a collage titled "Natural disaster"

d. Complete the following:





### e. Let us do!



#### Objects required

1. Chart paper
2. Pins
3. Straw – 2 (long one and short one)



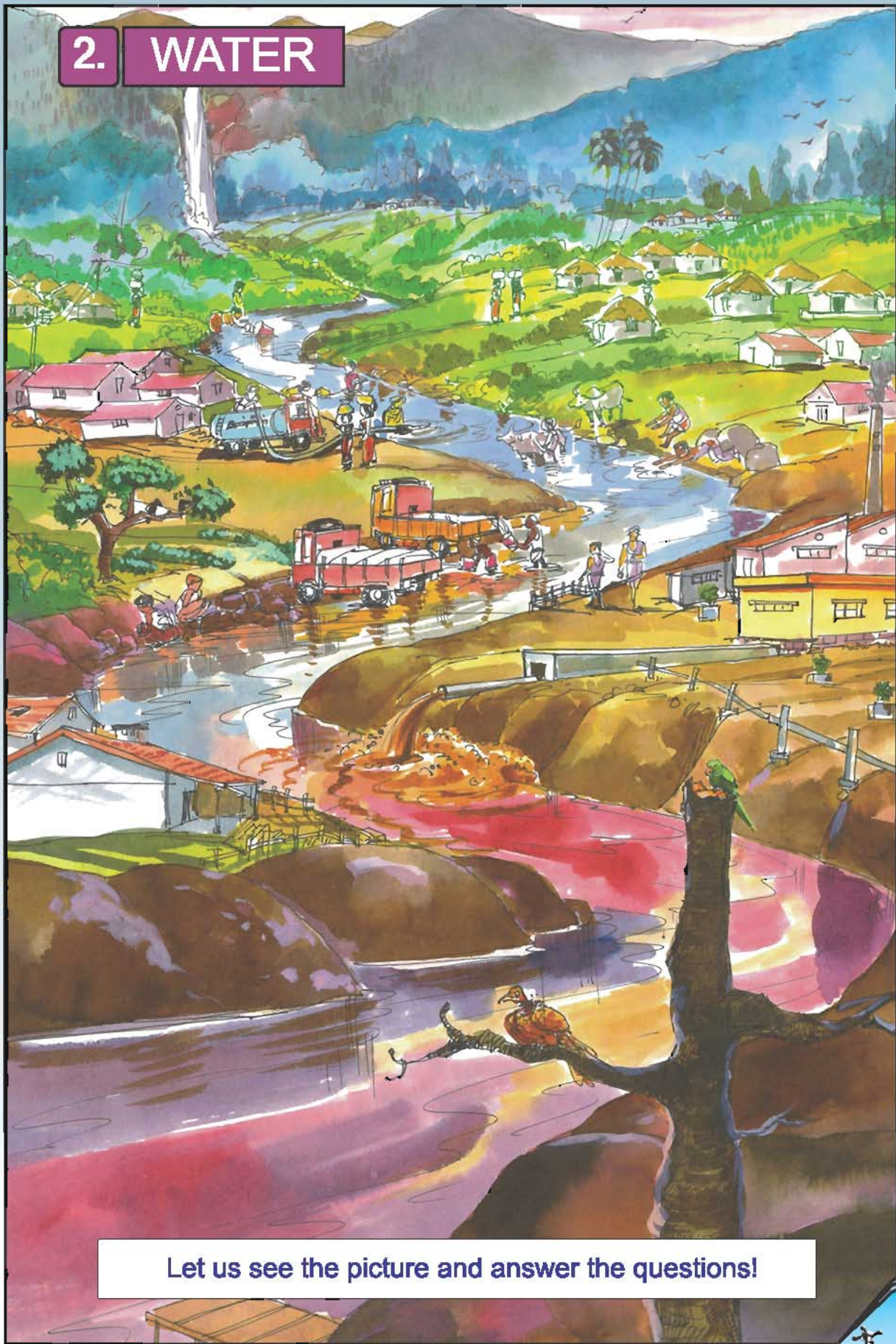
#### Procedure :

Cut the chart paper as shown in the picture. Make a small vertical cut with scissors on one side of the smaller straw. Insert the chart paper in the gap. Join the other end of the straw with the longer straw in your hand and hold the straw loosely. The direction indicated by the chart paper is the direction of wind.





## 2. WATER



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Let us see the picture and answer the questions!

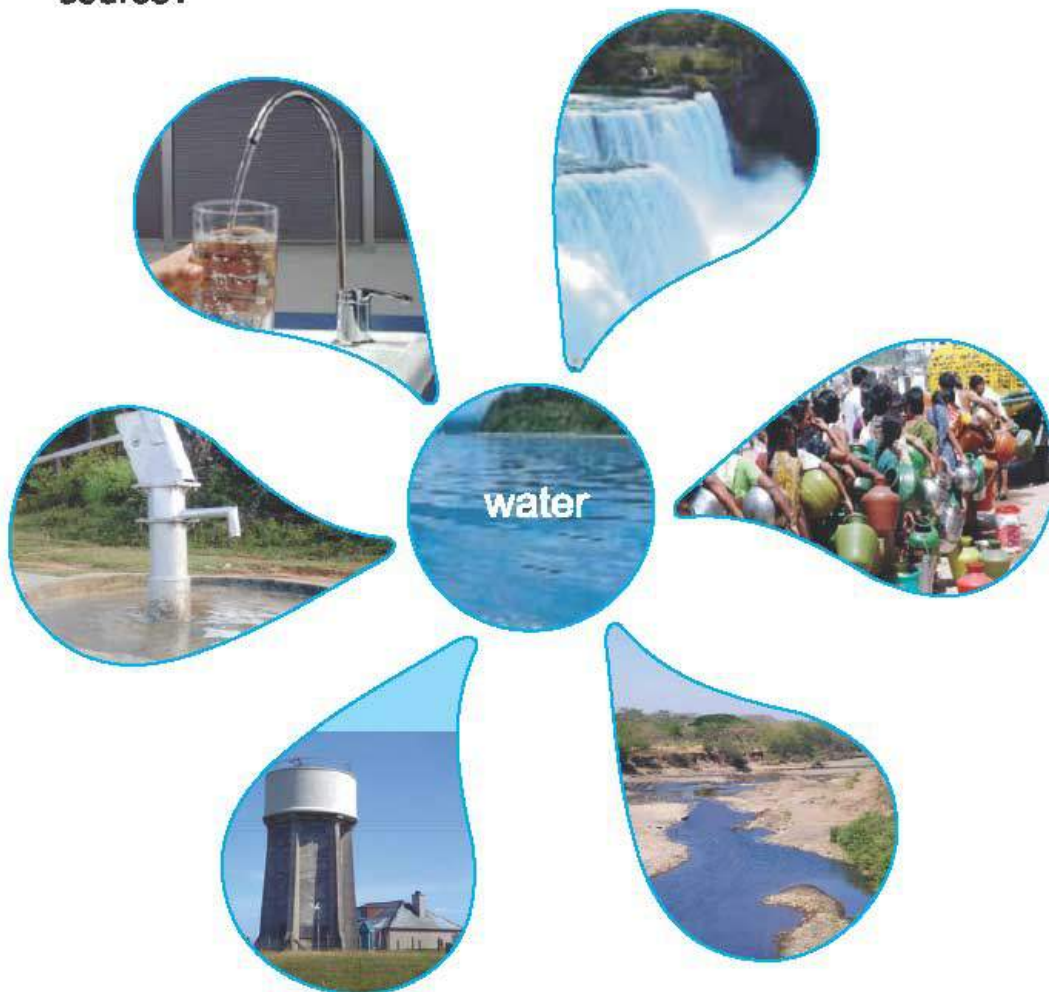




1. What are the different uses of water?
2. From where the drinking water is taken?
3. Is river water clean?
4. How does the river water get polluted?
5. Can we wash vehicles in the river water?
6. How do human activities change the purity of water?

#### Drinking water :

- i. From where do you get drinking water for your house?
- ii. Do all people in your street get drinking water from the same source?





Let us collect!

Collect the following details at least from 10 houses in your neighbourhood and discuss it in the class.

House	Place from where the drinking water is taken	Is the water filtered and boiled before use.
1.		yes / No.
2.		yes / No.
3.		yes / No.
4.		yes / No.
5.		yes / No.
6.		yes / No.
7.		yes / No.
8.		yes / No.
9.		yes / No.
10.		yes / No.

1. Who collects drinking water in your house? Why?

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2. Why is sea water not used for drinking?

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Let us know the uses of water !



Uses of water



Let us write...



Write down various uses of water from the pictures above :

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

Can you give some other uses of water?

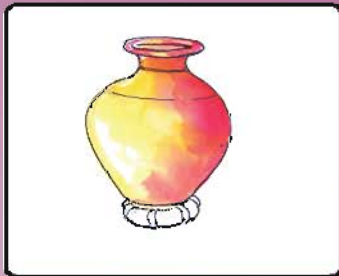
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How can we purify water for drinking purpose ?



Scene 1



Scene 2

Which is right?  
Shall we discuss!

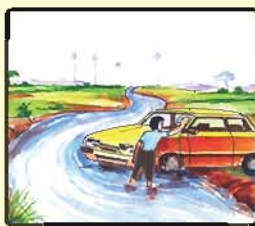


## Fact



- ◆ 90% of the diseases we suffer from are caused by drinking polluted water.

## Water pollution



- ◆ Chemicals in soap contaminate water when people wash and bathe in the rivers.
- ◆ Human waste pollutes water bodies.
- ◆ Dumping garbage in water bodies pollutes them.
- ◆ The industries let out their chemical wastes directly into the water source, polluting it.
- ◆ Cleaning vehicles and cattle in rivers and lakes pollute water.
- ◆ When drinking water is left open dust and other small organisms pollute it.

## Water-borne diseases...

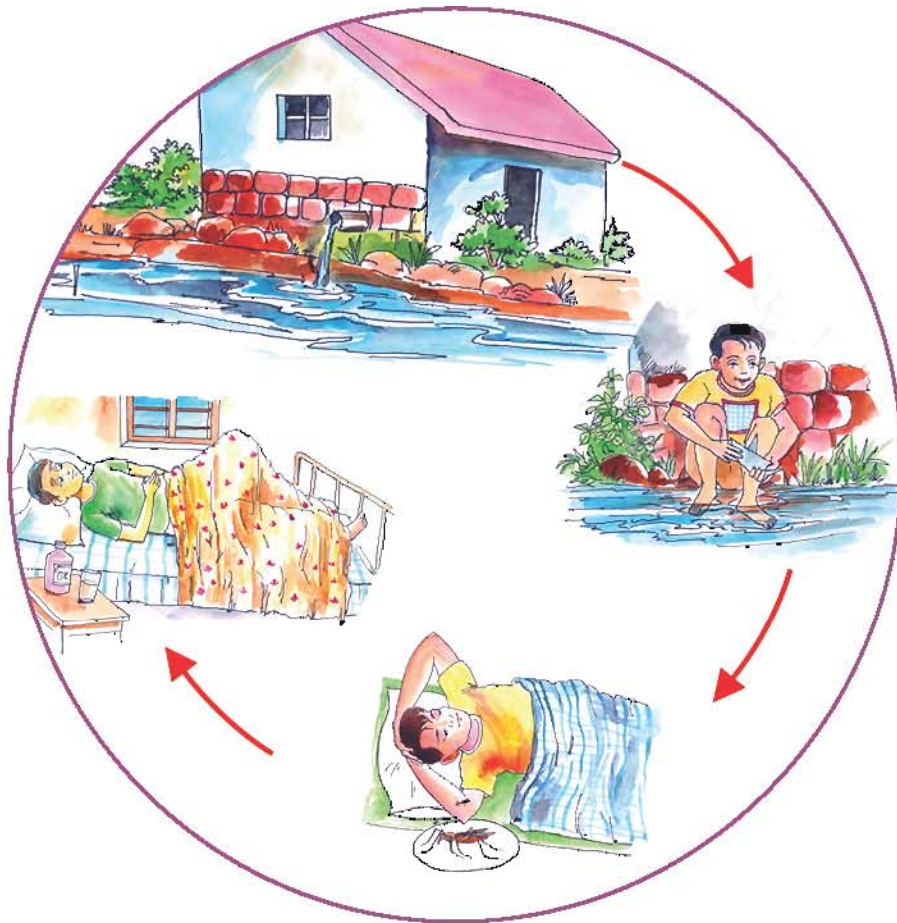
Drinking unfiltered and polluted water causes diseases like cough, dysentery, jaundice, cholera and typhoid.



### To prevent water pollution

- ◆ Waste water from houses can be used for gardening.
- ◆ Water from industries must be treated properly before it is let out.
- ◆ Vehicles can be cleaned in service stations.
- ◆ Cattle can be bathed at a distance from water bodies.

### Water stagnation and Mosquito breeding...



What do you understand from the above picture?



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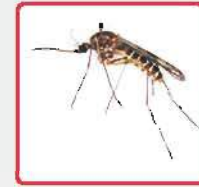
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### Let us know about the mosquitoes...

- ◆ There are different types of mosquitoes.
- ◆ Some breed in fresh water and some in sewage water.
- ◆ They spread diseases like malaria, dengue, chikungunya, jaundice, elephantiasis, etc.,
- ◆ Breeding of mosquitoes can be controlled by
  - ⊙ keeping drinking water in a closed container.
  - ⊙ Keeping our surroundings clean.
  - ⊙ Preventing water stagnation in our area.



### Let us write...



Where does water stagnate in our school ?

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What is the reason for water stagnation?

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What can we do to prevent water stagnation?

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Save rainwater!

Save life!

Water is our life source

Let us not pollute it.



### Activity



Form groups of four. Prepare a set of questions about water, as given below.

1. Why do elephants throw water over themselves?
2. Are waterfalls beautiful?
3. How could you classify the plants that grow in water?

Discuss the answers with your friends and teacher.

He designed various river valley water dam projects in India.

Who is he?



Sir. Vishweshwaraya

### Evaluation :

a. Tick ☒ the right one and cross ☒ the wrong one.

1. Keeping drinking water container closed.

☐

5. Keeping drinking water container open

☐

2. Waste water stagnation in houses

☐

6. Using the waste water for gardening

☐

3. Dumping garbage in water bodies

☐

7. Using the dustbins.

☐

4. Letting out industrial waste directly into rivers

☐

8. Treating industrial waste.

☐

**b. Let us match**

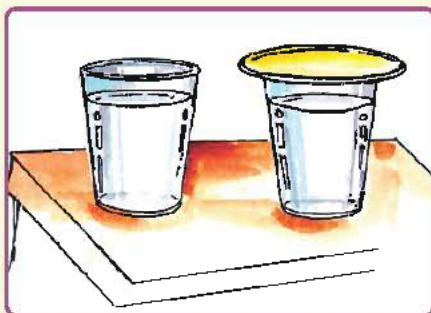
- |                                   |                           |
|-----------------------------------|---------------------------|
| 1. Drinking water                 | Malaria                   |
| 2. Mosquito breeding              | Rain                      |
| 3. Water pollution                | Boiled and filtered water |
| 4. Disease spread by the mosquito | Stagnated water           |
| 5. Source of water                | Washing vehicles          |

**c. Let us do !**

- ◆ Take two jars
- ◆ Fill one jar with pond water and the other with mild soap water.
- ◆ Add some algae into both jars.
- ◆ Leave it in sun for 2 or 3 days.
- ◆ Drop some fish in both.
- ◆ Observe the jars after a week.
- ◆ Note the results in your notebook.
- ◆ Analyse the reasons.
- ◆ Why do the fish in the soap water die?



d. Let us do !



**Procedure :**

Pour equal amount of water in two glass tumblers. Close one glass tumbler with a lid. Let the other one be open. Observe the 2 tumblers after 2 days. Use magnifying glass if required and list the differences.

What do you observe in the glass tumbler without lid?



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## 3.

## TOWARDS MOON



The school was buzzing with activity. Everyone in the village had come to the school. They were happy and excited. They were all awaiting the arrival of scientist **Dr. Deepa** who is a renowned scientist and an old student of the school. She preferred to interact with the students rather than giving a speech. So arrangements were made for the interaction.

**Selvam** : Good morning, madam. We are happy to meet you.

**Scientist** : Good morning. I like interacting with children. **You are the budding scientists** who are going to make this country prosperous in future.

**Iqbal** : What is science?

**Scientist** : Good question. Why did you ask me this question? You asked me this to know the answer for your doubts. Just like you, many of us ask questions about the things happening in our earth which is a biosphere. Using our knowledge and experience we find an answer. This is science.



We can explain all things happening around us based on science.

**Selvam** : We said our earth is a biosphere. Is it because life exists on earth?

**Scientist** : Yes. You are right. You should also know that the earth is the third planet in the solar system. It is spherical in shape.

**Selvi** : Why does life exist only on earth?

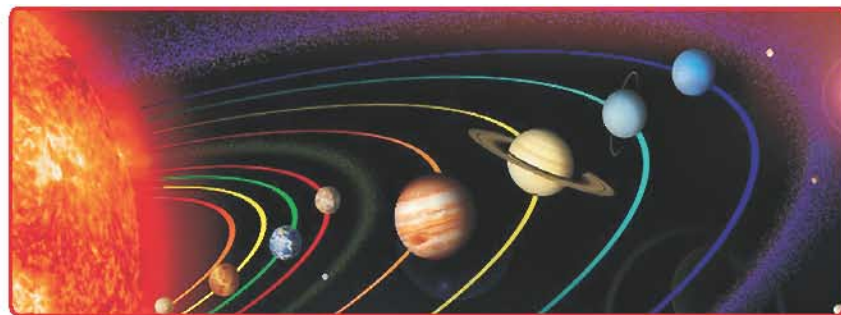
**Scientist** : Among all the planets in our solar system only earth has air and water. So life is possible only on earth.

**Madhumitha**: How much of water is there on earth?

**Scientist** : The surface of earth is covered with three parts of water and one part of land. Do you all know about solar system?



Earth

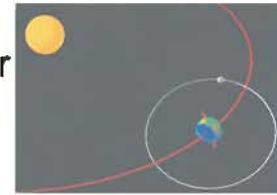


Solar System

**Mary** : The sun and the 8 planets revolving around it form the solar system.



**Goutham** : Is it true that the earth takes one year to go around the sun?



**Scientist** : Yes, the earth revolves round the sun in an elliptical orbit. It takes  $365 \frac{1}{4}$  days to go around the sun. This period is called as one year. Do you know what is one day?

**Vaigunth** : The earth not only goes around the sun it also spins on its own axis. This is called rotation. It takes 24 hours to complete one spin. We call the time taken by earth to rotate once on its own axis as one day. A day has almost 12 hours of day time and 12 hours of night time. The sun is seen during day time and the moon is seen during night time. Am I right madam?



**Scientist** : You are right Vaigunth. When Earth spins on its own axis the part of the Earth facing sun has day time and the other part which is dark has night time. (One among you can stand as sun and the other can revolve around him as earth and do the experiment.)



**Chitra** : How is day and night caused?

**Scientist** : Rotation of the earth on its own axis causes day and night.

**Fathima** : Madam, Is the moon a planet?



**Scientist** : No. The moon is a satellite. The earth goes around the sun. The moon goes around the earth.

**Meenakshi** : Why do we see the moon in different shapes?

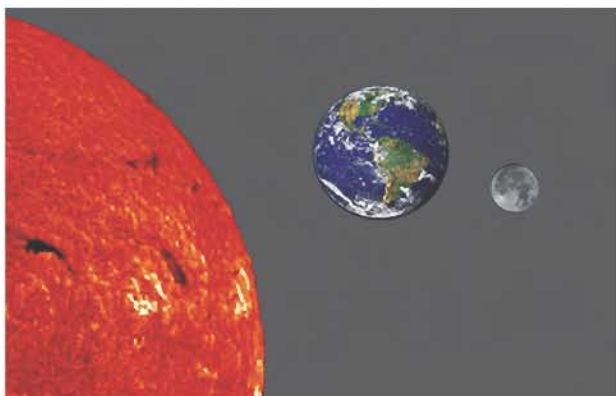
**Scientist** : Let us do a small experiment, does anyone have a mirror?

**Gokulavani** : Yes, we have it in our lab.

**Scientist** : Selvam, bring the mirror and set it outside the classroom slightly tilted towards the sun. Now what do you all see?

**Goutham** : Sunlight gets reflected. We have played like this many times.

**Scientist** : The moon has no light of its own. It reflects the light comes from the sun.



The moon never grows or reduces in size.

The moon seems to grow and wane because of the effect of sunlight falling on it. On which day we don't see the moon?

**Devi** : Newmoon day or Amavasya. Am I right?

**Scientist** : Yes, you are right. What about the night on which we see the full moon? What is it called?

**Sumathi** : Pournami or full moon day. I have read from a book that Pournami and Amavasya comes once in a month alternatively. We call the phases of moon between Amavasya and Pournami as growing moon and the phases of moon between Pournami and Amavasya as waning moon.

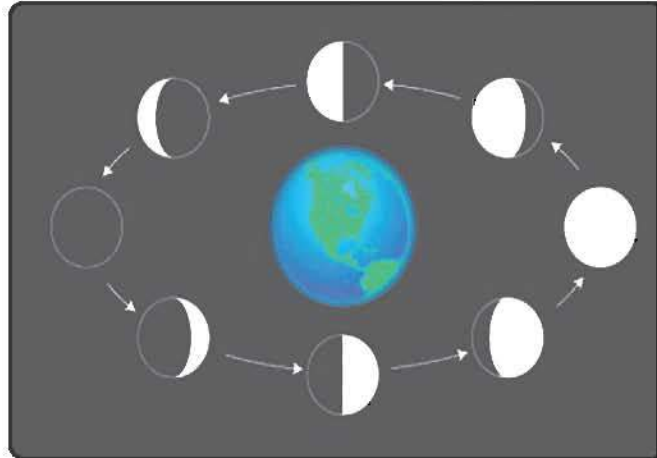




**Scientist** : We always see only one side of the moon. When sunlight falls fully on the side facing us, we see full moon.

**Kasim** : What about the new moon day?

**Scientist** : When sunlight does not fall on the side of the moon facing us we cannot see the moon. Though it is there, it does not reflect the light, so it is out of our sight. This is called as a new moon day. We see different phases of moon because of moon's revolution around the earth and earth's rotation. Moon takes 27.3 days to revolve around the earth. Moon never ceases to exist. It is always there in the sky.



**Sathya** : Madam, I love to go to the moon. Will I get a chance?

**Scientist** : Very good, just like Sathya everyone should dream high. Only then we can make India a great country. Children, You are highly Intelligent! You all seem to have a good scientific knowledge. I am very proud of you. Congratulations!

**Selvam** : Madam, in addition to reading text books we also read science titbits from magazines. Our science teachers clear all our doubts in the subject.



**Mary** : We read books from library. We also have science club to develop our scientific knowledge.

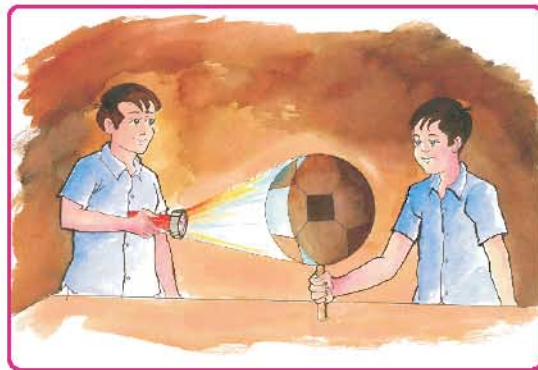
**Scientist** : Good. I am sure this club will help everyone to find answers for scientific queries. All the best.

**Students** : Thank you, madam.

**Let us do it, young scientists!**



1. **New moon and Full moon** : Take a rubber ball. Insert a thin rod as shown in the picture . Mark 'A' on the side facing us. Allow the light from the torch to fall on the ball. The side marked 'A' will be dark. Consider torch light as sun, ball as moon and yourself as earth. The light does not fall on the side of the moon facing us and we do not see the moon. It is a new moon or amavasya. Try forming full moon day in a similar way.



2. **Day and night** : Place a globe in the dark room. Allow light from torch to fall on it from the side. One side of the globe is bright and the other side is dark. Rotate the globe slowly. We see that, the parts which were in the dark now get light and bright parts become dark. Days and nights are formed in the same way.



## Activity

## Dice game



Play the following dice game. You will require a dice and four counterparts (Students)

Rules of the game:

- i) Maximum four players are allowed to play the game.
- ii) It is necessary to answer the questions. Otherwise, you cannot proceed to the next square.
- iii) The player who gets maximum number on dice plays first.
- iv) Two players cannot land on the same destination square.
- v) The player who reaches the "finish" first wins the game.



### Fact



India sent its first unmanned spacecraft Chandrayan-I to moon on 12.11.2008.

The first Indian to space - Rakesh Sharma

### Who is he?



Neil Armstrong

He was the first man to land on the moon.

### Evaluation :

a. Let us write...



The earth is \_\_\_\_\_ in shape.

\_\_\_\_\_ part of the earth is water.

\_\_\_\_\_ part of the earth is land.

The earth is the only planet which has \_\_\_\_\_.

It is the \_\_\_\_\_ planet from the sun.

The \_\_\_\_\_ revolves around the earth.

### Fact



The Indian astronomer Bhaskara wrote about the moon 900 years ago.





b. Let us write...



Earth



Moon



1. Has air and water  
to support \_\_\_\_\_.

2. Life exists.

3. Revolves around the \_\_\_\_\_

1. Not enough air and water  
to support life.

2. Life \_\_\_\_\_.

3. Revolves around Earth.

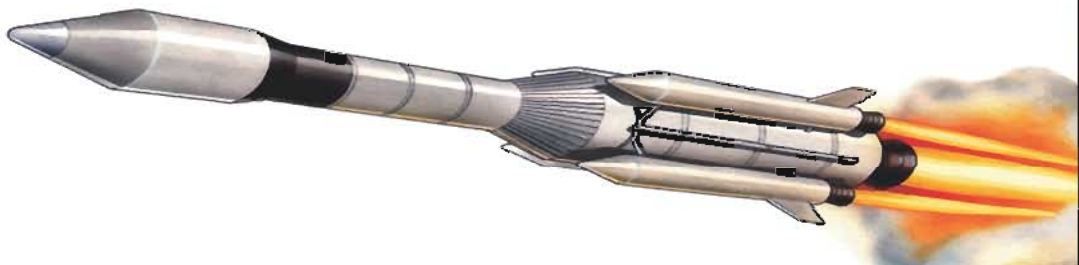


c. Project :



◆ Observe the different phases of the moon for atleast 30 days and draw them on a chart.

◆ Observe the time of moon rise for a month and record it.



## 4. THE WORLD OF TOYS


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Write 1 in the box of the toys that can move and 2 for the toys that can't move.

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- ✱ Can all toys move by themselves?
- ✱ What will you do to move the toys?



- ✱ We can push or pull the toy to make it move.
- ✱ We need force to change the position.
- ✱ We need energy to apply force.

**Toys work by using different types of energy.**



When we key the car, the spring is wound. When the spring unwinds, the toy moves.

This train uses energy from battery to move.



This car uses signal from a remote control device to move. We need battery to make the car and the remote work.





Can you see this toy? It works when we clap. This also works on battery.



Fill the table about the toys you know :

Toys which work on keys	Toys that need battery	Toys that work by push	Toys which work on sound

Do you know how these dolls work?



Shall we learn about force by playing games?



We use muscular force to do these activities.







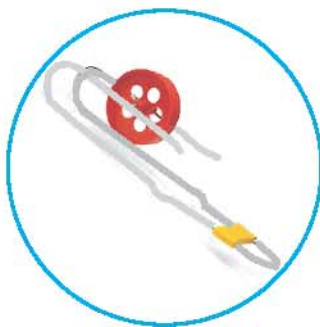
The gravitational force brings these toys to the ground.

The earth attracts all the objects towards itself.  
This is called gravitational force.



A moving car comes to rest after moving through a distance, do you know why?

**Frictional force** acts on it to bring the car to rest. When the tyre rolls over the floor, frictional force is developed. Frictional force is less on smooth surface and more on rough surface.






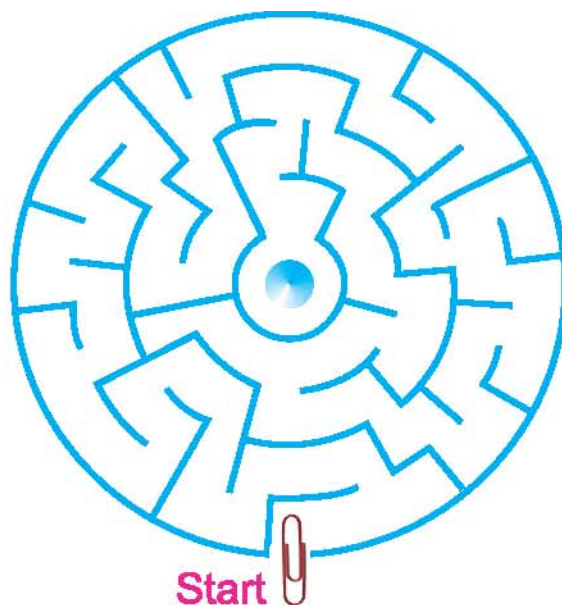
The force used in the above activities is the **magnetic force**.



Let us do!



1. Draw a maze on the paper plate as shown in the picture.
2. Place a  at the place marked start.
3. Hold a magnet below the plate.
4. Move the  to the centre of the plate using the holder.
5. What made the  move?



Who is he?

He discovered the gravitational force.



Sir Isaac Newton

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**Evaluation :****a. Let us match****Magnetic force****Gravitational force****Frictional force****b. Let us find out!**

- ✓ Leaves from trees and objects thrown upwards always come down. Why?
- ✓ Why do we fall when we walk on smooth surfaces?
- ✓ Which force helps us to row the boat?
- ✓ Why do we sprinkle fine powder on carrom board?

**c. Project :**

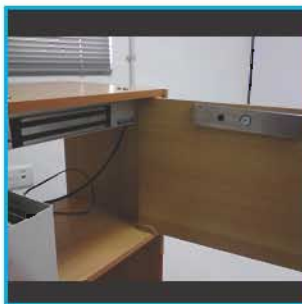
1. Make a toy car using matchboxes, empty cardboard boxes, bottle caps and wires.
2. Use colour paper and make paper rockets.





Shall we classify !

d. Based on the forces write 1 for gravitational force, 2 for Magnetic force, 3 for Muscular force and 4 for frictional force.



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**'I can, I did'**  
**Student's Activity Record**

Subject :

Sl. No.	Date	Lesson No.	Topic of the Lesson	Activities	Remarks