



SCIENCE

Grade - 5
Activity book

Single National Curriculum
2021-2022

172 A, Ahmed Block, New Garden Town, Lahore.

Phone: 042-354288554 Web: www.pen.org.pk

Table Of Contents

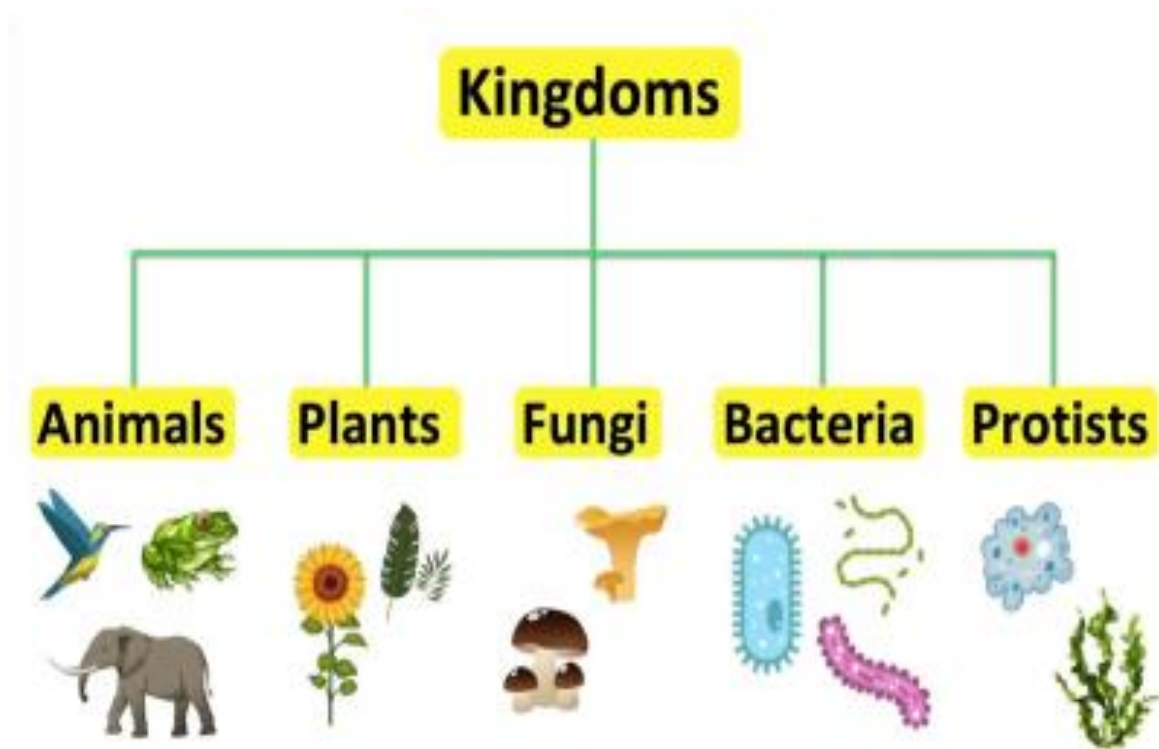
Chapter	Contents	Page No
1	Classification of Living Organisms	3
2	Microorganisms	13
3	Flowers and Seeds	21
4	Environmental Pollution	29
5	Physical and Chemical Changes of Matter	35
6	Light and Sound	40
7	Electricity and Magnetism	47
8	Structure of the Earth	54
9	Space and Satellites	60
10	Technology in Everyday Life	66

Chapter 01

Classification of Living

Students Learning Outcomes:

- | | |
|--|---|
| <p>1. Describe the classification of organisms and their importance.</p> <p>2. Classify the plants into two groups.</p> <p>3. Compare the structure of the monocot and dicot plants.</p> | <p>4. Differentiate between vertebrates and invertebrates based on their characteristics.</p> <p>5. Understand the concept of extinction and endangered species</p> <p>6. Write some measures for the conversion of endangered species.</p> |
|--|---|



The Five Kingdom Classification by Robert Whittaker

Brain Storming





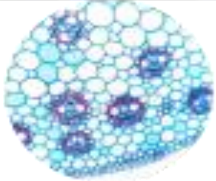



What is the kingdom of human beings?

Activity

Draw pictures of organisms according to their kingdoms.

Kingdom Protista

Kingdom Monera

MONOCOT		DICOT	
Single Cotyledon		Two Cotyledon	
Long Narrow Leaf Parallel Veins		Broad Leaf Network of Veins	
Vascular Bundles Scattered		Vascular Bundles in a Ring	
Floral Parts in Multiples of 3		Floral Parts in Multiples of 4 or 5	

Q 1: Give some examples of monocot and dicot plants.

Classification of Animals

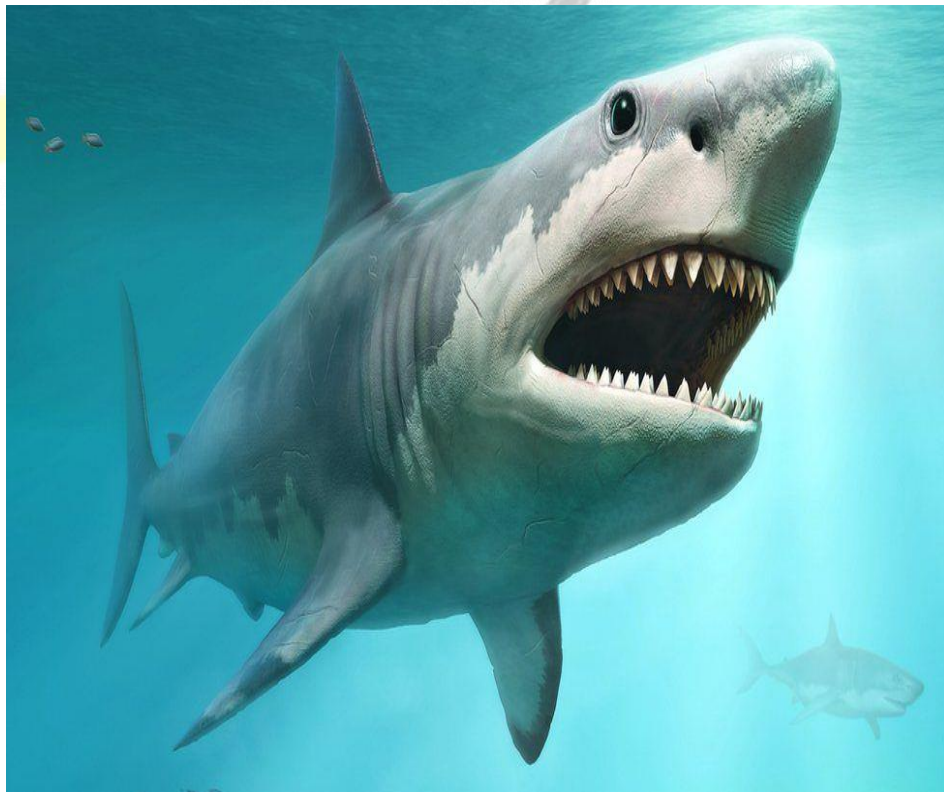
Vertebrates

Invertebrates

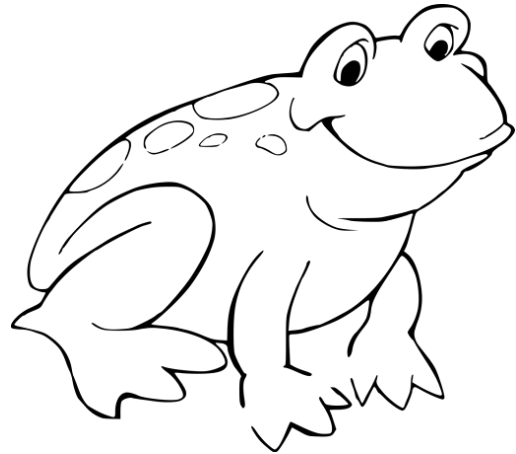
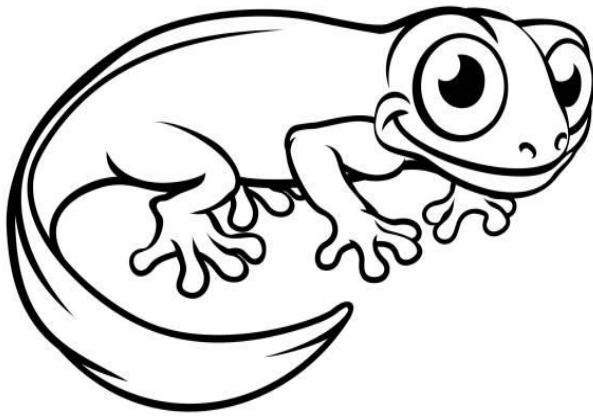
Classification of Vertebrates

Vertebrates are divided into five groups.

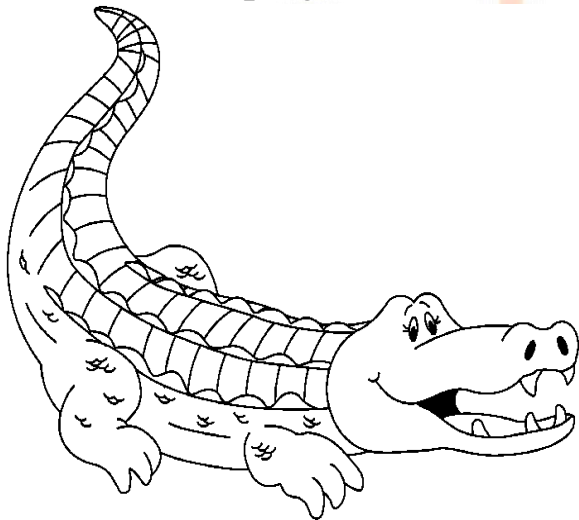
Fish: Fish breath through gills. They have scales on the body.



Amphibians: They can live on land and also in water. Their development takes place in water.

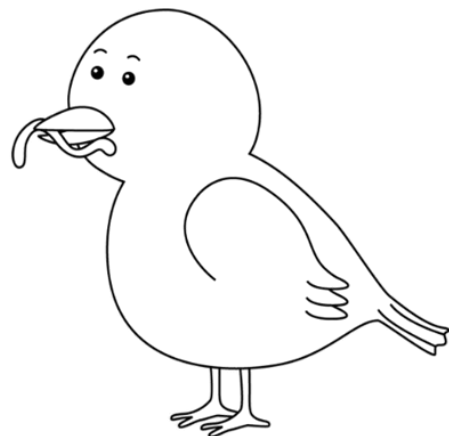


Reptiles: Creeping animals. Skin is dry and thick. Lays eggs on land.

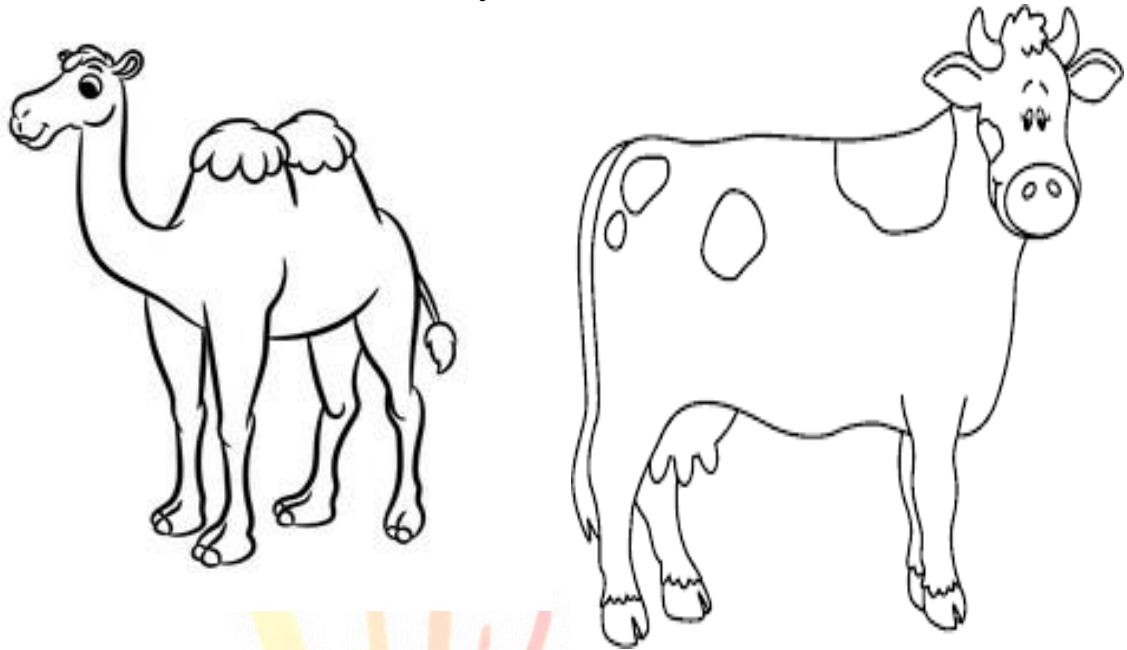


Birds: They have feathers. Bones are hollow. They can fly. Some birds cannot fly they are called running animals.

Progressive Education Network



Mammals: They give birth to their young ones and feed them milk. They have fur or hair on the body.



Q 2: What is the difference between fish and amphibians?

Fish	Amphibians

Q 3: Look at the pictures given below and write the names of organisms and 1 characteristic.

	<hr/> <hr/> <hr/>
	<hr/> <hr/> <hr/>

Classification of Invertebrates

Sponges:

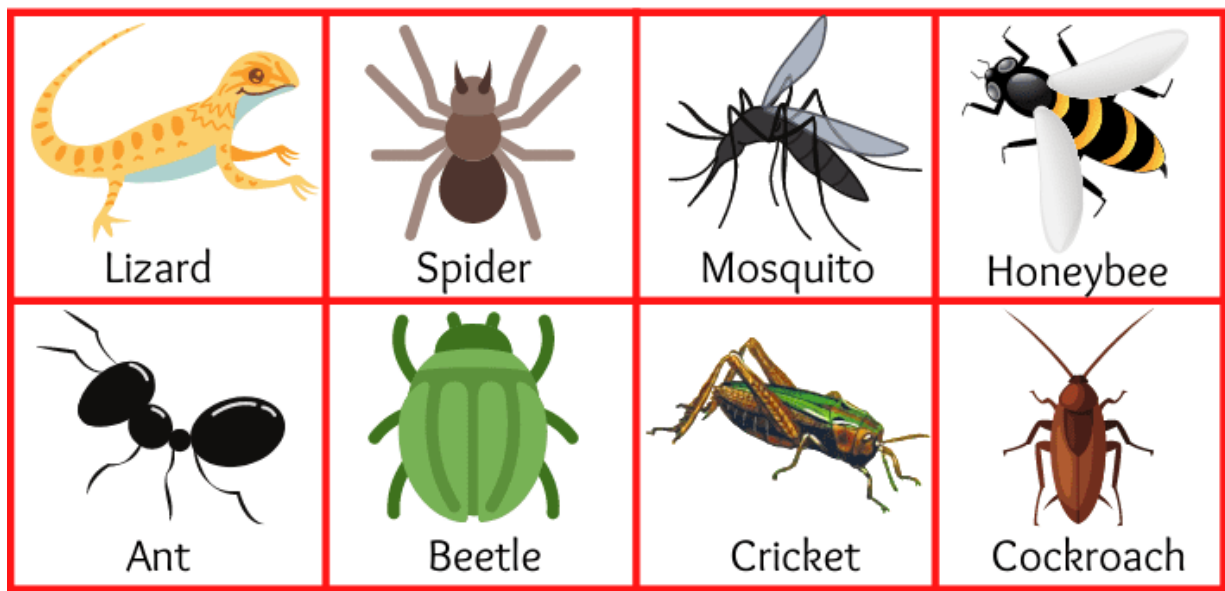


Worms:

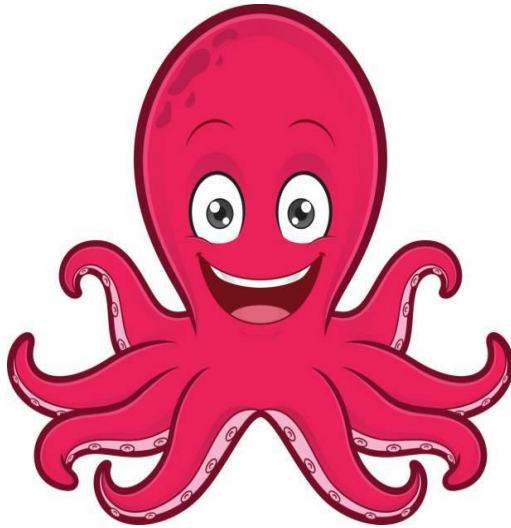
Invertebrate animals commonly called "**worms**" include annelids (earthworms and marine polychaete or bristle **worms**).



Insects: The body is divided into three parts, head, thorax, and abdomen. Exoskeleton protects and supports the body.



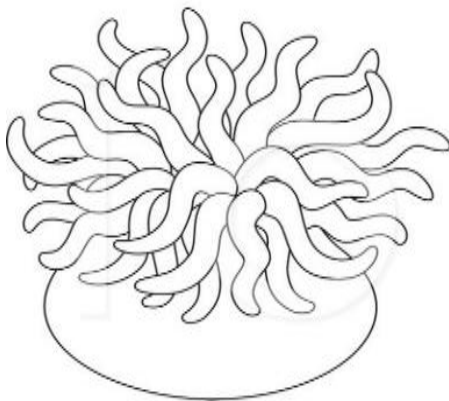
Molluscs: They move freely or remain attached to anything. They are soft-bodied animals.



Echinoderms: These animals are found only in the ocean. The body has a spiny covering.



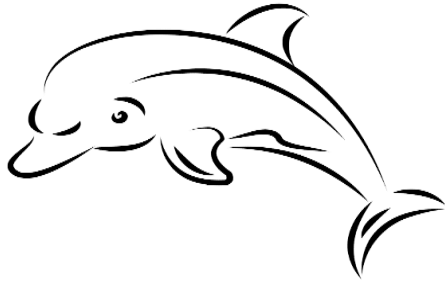
Activity: See the pictures given below and write “V” for vertebrates and “N” for non-vertebrate animals.



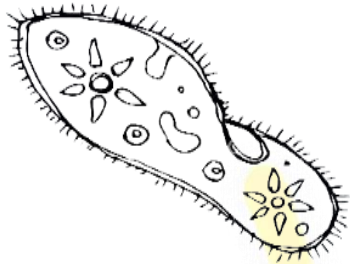


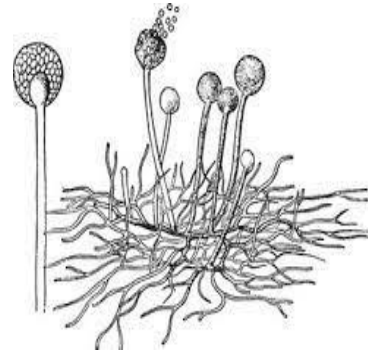
Day _____

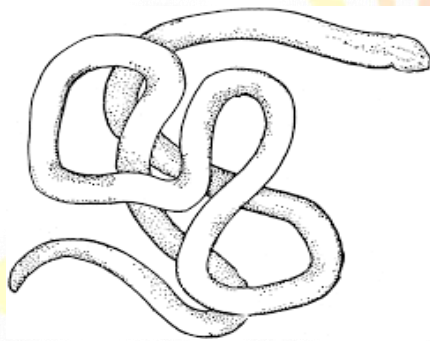
Date _____

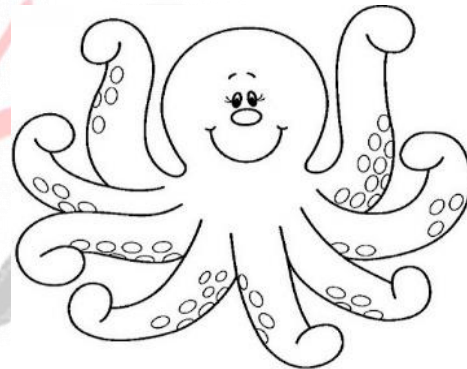








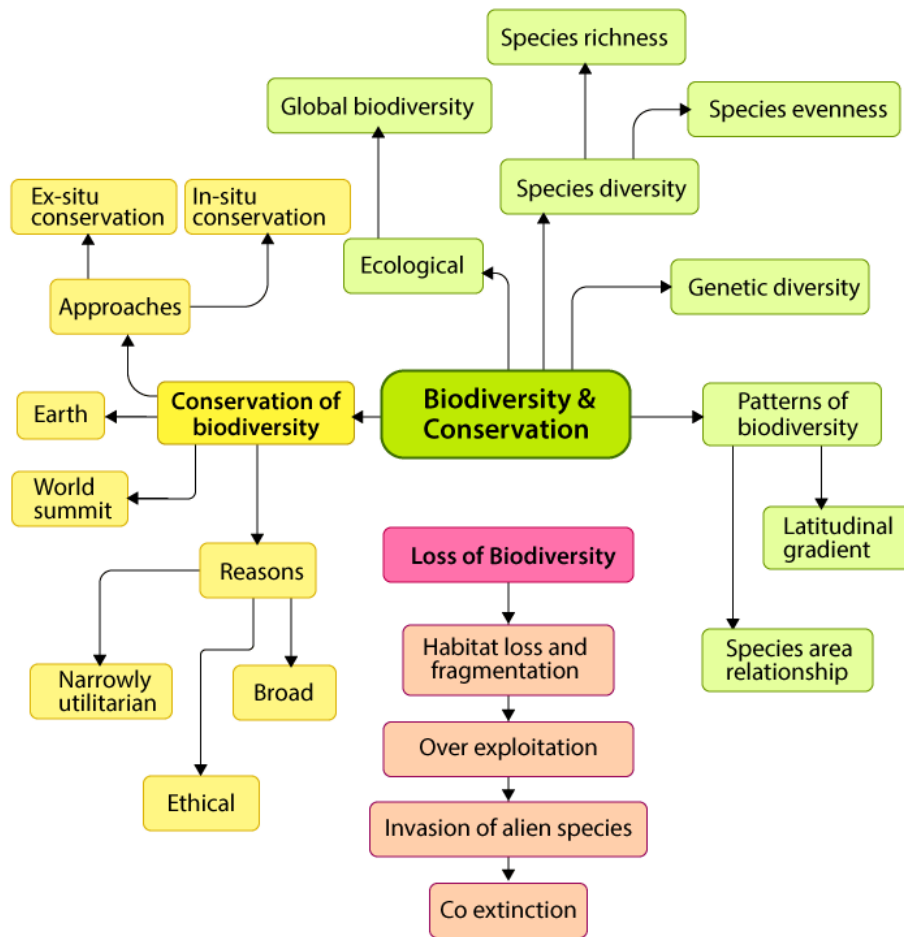




Progressive Education Network

Fill in the blanks.

1. Due to classification, we can determine the _____ and differences among organisms.
2. _____ are found everywhere on Earth.
3. Fungi need _____ for growth.
4. _____ is also called black bread mold.
5. Sugarcane, wheat, and _____ are examples of monocot plants.



Q 4: How can we conserve Biodiversity?

Do you know

Progressive Education Network

Black stripes would absorb heat in the morning

Cartilage gives shape, support, and structure to other body tissues.

White stripes reflect light more and could thus help cool zebras.

The size of an elephant's ears correlates to the heat that dissipates through them.

Some mushrooms can be eaten but some are poisonous.

Chapter 02 Microorganisms

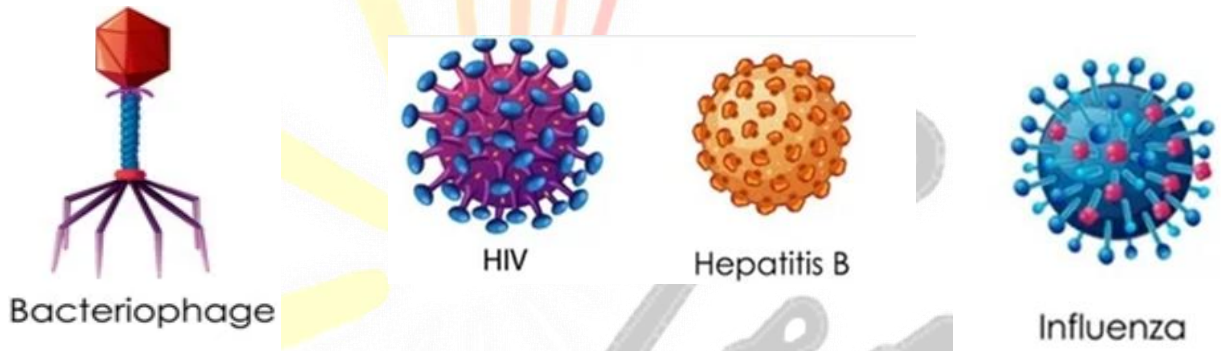
Student Learning Outcomes:

- 1. Define and describe microorganisms.
- 2. Identify the main groups of microorganisms with examples.
- 3. Describe the role of microorganisms.
- 4. Recognize some common diseases caused by microorganisms.
- 5. Discuss the advantages and disadvantages of microorganisms.
- 6. Suggest preventive measures to protect themselves from these infections.

Microorganisms

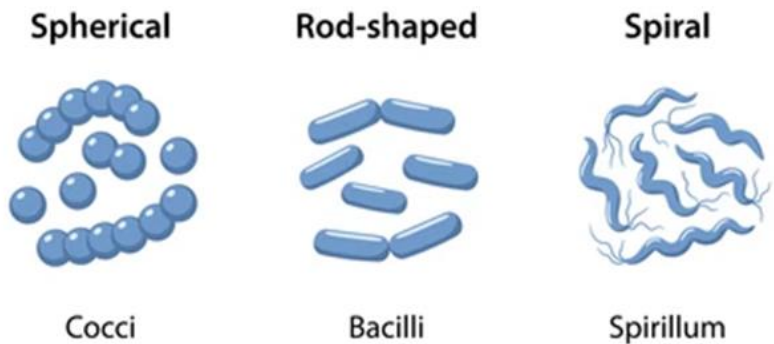
An organism that can be seen only through a microscope.

Virus:



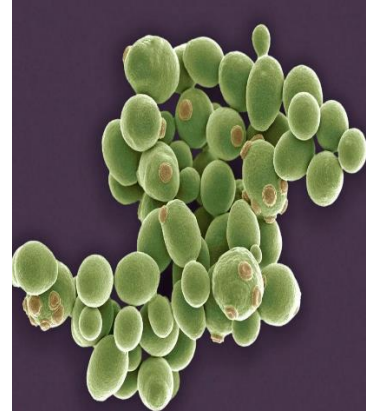
Bacteria:

Basic Shapes of Bacterial Cell



Brain Storming

Have you ever seen a microorganism?

Fungi:**Choose the correct answer.**

1. Microorganisms are tiny organisms that can only be seen under

- (a) Microscope (b) Telescope (c) Phonograph

2. Hepatitis is a disease.

- (a) Bacterial (b) Viral (c) Parasitic

3. Some bacteria help in _____ and absorption of food.

- (a) Digestion (b) Ingestion (c) Adsorption

4. Fungi are organisms that are neither like plants nor like

- (a) Animals (b) Living organism (c) Bacteria

5. Example of fungi

- (a) Yeast (b) Bacillus (c) Bacteriophage

6. Disease caused by Viruses

- (a) Rust (b) Bacillus (c) Bacteriophage

7. Microorganisms damage food and _____ by the process of decomposition.

- (a) Wood (b) Smut (c) Rust

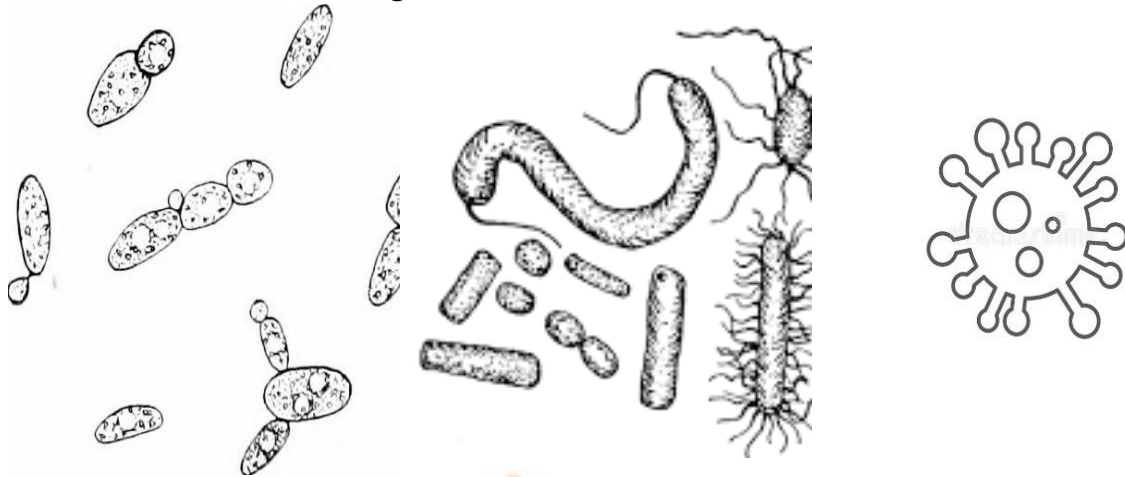
8. _____ are main ways for the transmission of infectious disease.

- (a) 4 (b) 5 (c) 6

9. Bacteria and _____ are used in making food items.

- (a) Yeast (b) Worm (c) TB

Activity: See the pictures below. Colour green in virus, brown in bacteria, and red in fungi.



Do you know?

Bacteria can live in hotter and colder temperatures than humans, but they do best in a warm, moist, protein-rich environment that is pH neutral or slightly acidic.

So were they ever alive? Most biologists say no. Viruses are not made out of cells, they can't keep themselves in a stable state, they don't grow, and they can't make their own energy.

Leaf litter decomposed faster than roots in wet forests.

Useful effects of Decomposition

Decomposers play a critical role in the flow of energy through an ecosystem.



Harmful effects of decomposition:

Microorganisms damage food and wood through the process of decomposition.



Diseases caused by Microorganisms

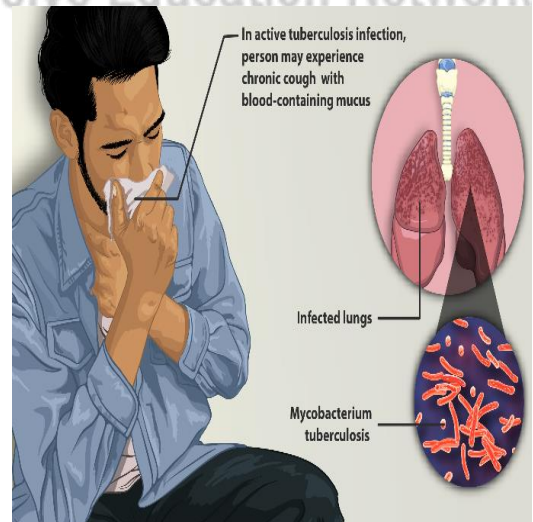
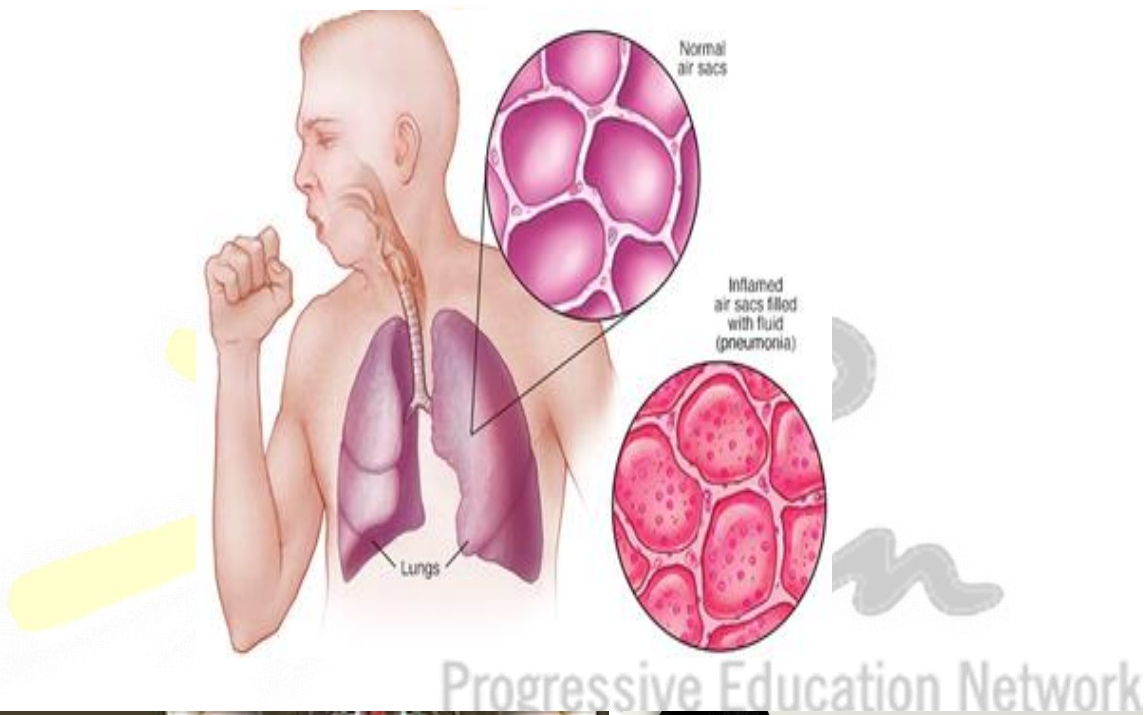
Covid-19, Polio, Measles, Mumps





Diseases caused by Bacteria

Pneumonia, Typhoid, Cholera, and Tuberculosis



Diseases caused by Fungi

Rust, Smut, Ringworm, Athletes foot.

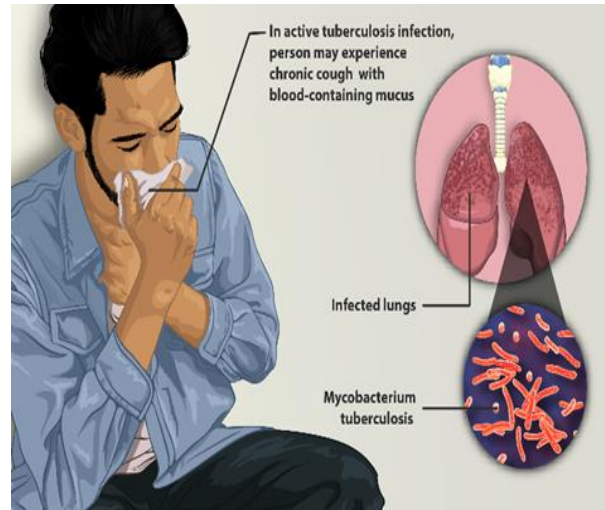
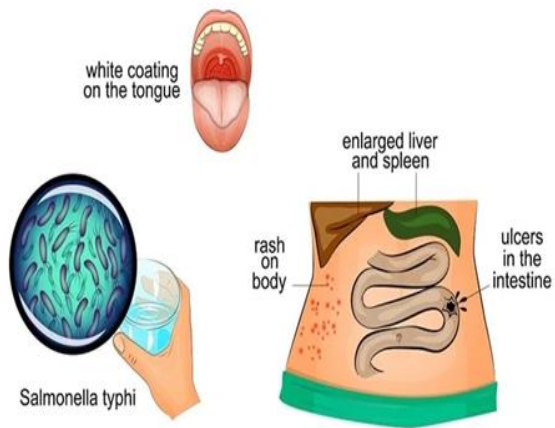


Activity

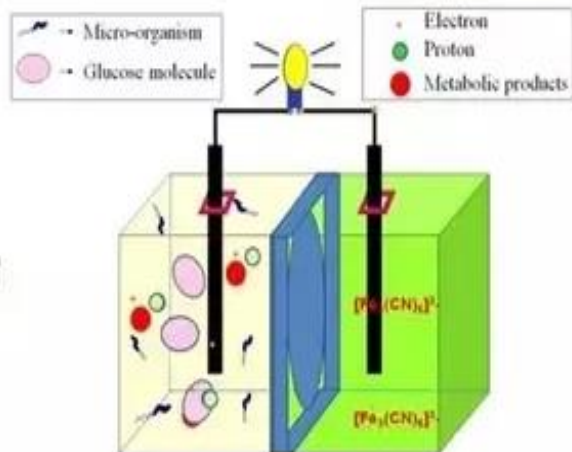
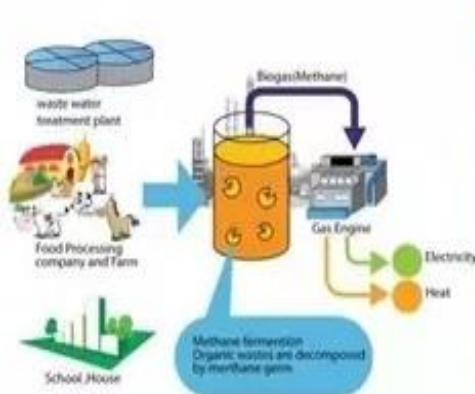
A list of various diseases is given below. Categorize them into “Waterborne”, “Airborne” and Foodborne diseases.

Progressive Education Network





Useful role of Microorganisms in everyday life



Q 1: Differentiate between bacterial and viral diseases.

Bacteria	Viruses

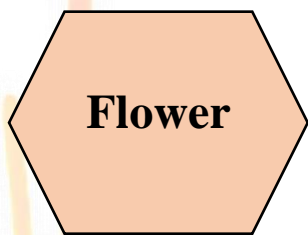
Fill in the blanks.

1. Viruses and _____ are the main groups of microorganisms.
2. Covid-19 and flu are _____ diseases.
3. A large number of _____ are useful for humans.
4. Fungi are simple organisms that are neither like plants nor like _____ in their characteristics.
5. Examples of fungal diseases in humans are ringworm and _____.
6. Yeast, Mold, and _____ are examples of microscopic fungi.
7. Pathogens are the microorganisms that cause _____ in their hosts.
8. Infectious diseases are also called _____.
9. Yeasts are used to make _____ and cheese.
10. Pathogens are microorganisms that cause _____ in their hosts.

Chapter 03 Flowers and Seeds

Students Learning Outcomes

1. Examine and describe the structure of a flower.
2. Describe pollination and describe its types with examples.
3. Define reproduction and differentiate between sexual and asexual plants.
4. Describe the structure of a seed and demonstrate its germination.
5. Compare the structure and function of a gram and maize seed.
6. Illustrate the conditions necessary for seed germination.



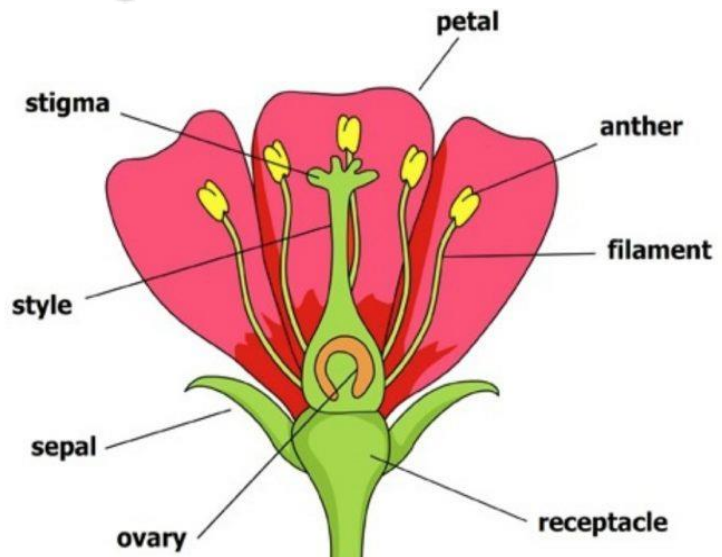
Brain Storming

What is the role of flowers in our environment?

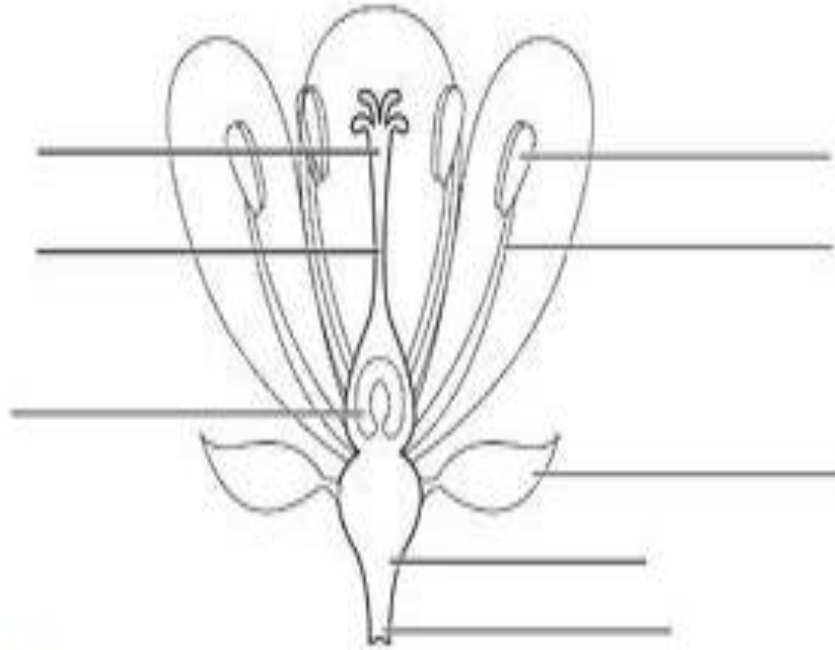


Structure of Flower:

Progressive Education Network



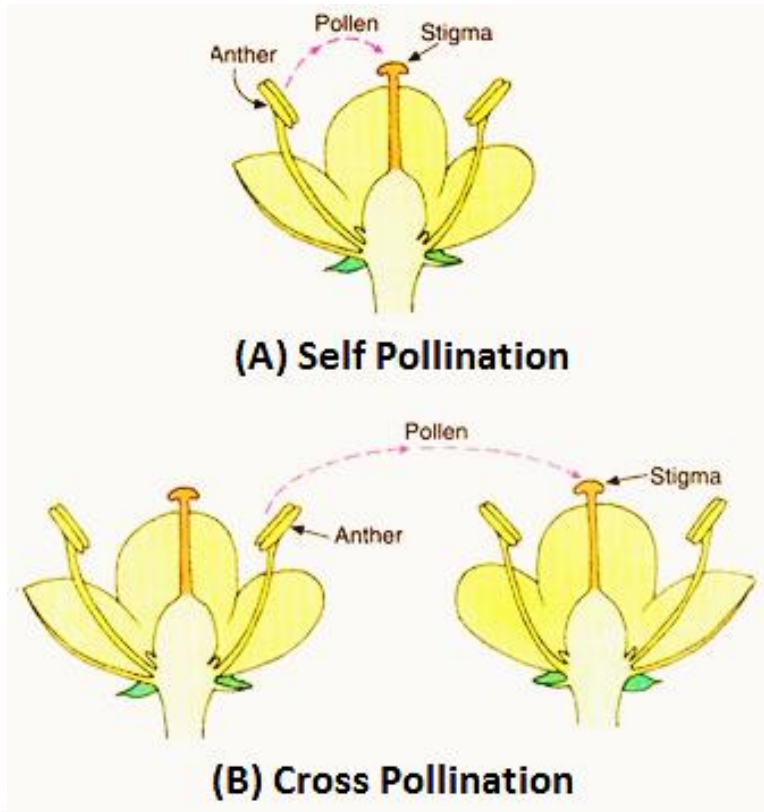
Activity: Label the parts of a flower.



Q 1: Write the characteristics and functions of parts of a flower.

Name	Characteristics	Functions
Sepal	_____ _____	_____ _____
Stamen	_____ _____	_____ _____
Anther	_____ _____	_____ _____

Pollination

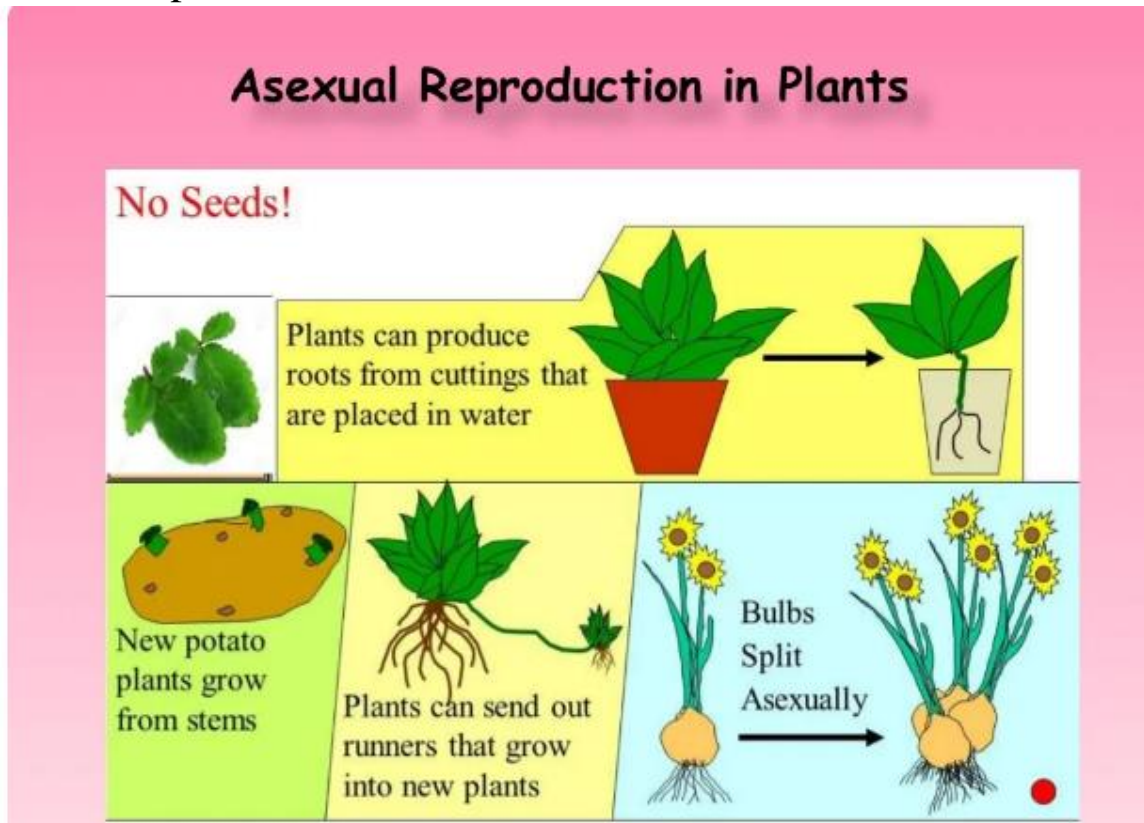


Q 2: Differentiate between Self Pollination and Cross Pollination.

Self-Pollination	Cross-Pollination

Types of reproduction in Plants

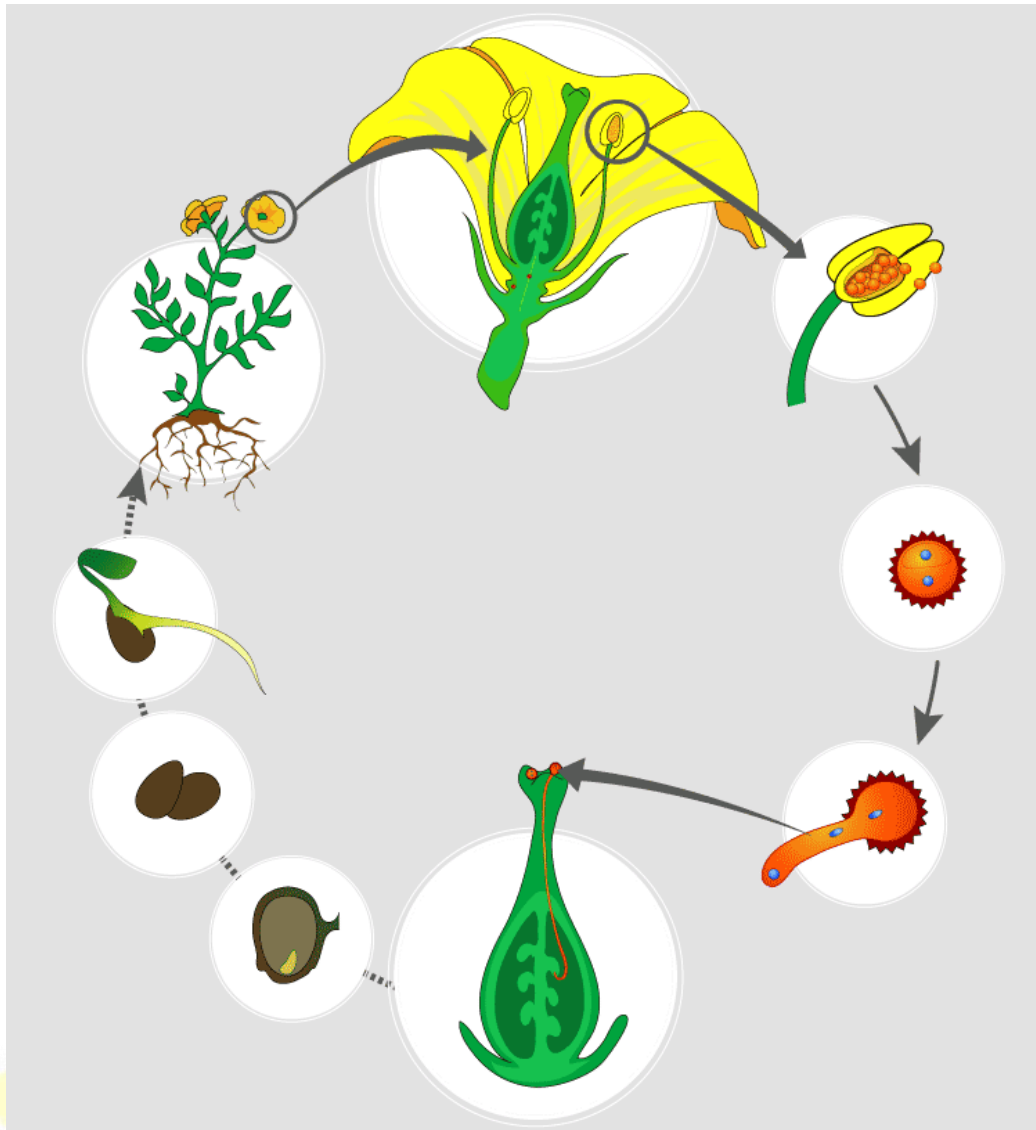
Asexual Reproduction in Plants:



Activity: With the help of diagrams explain any two types of asexual reproduction in plants.

Progressive Education Network

Sexual Reproduction in Plants

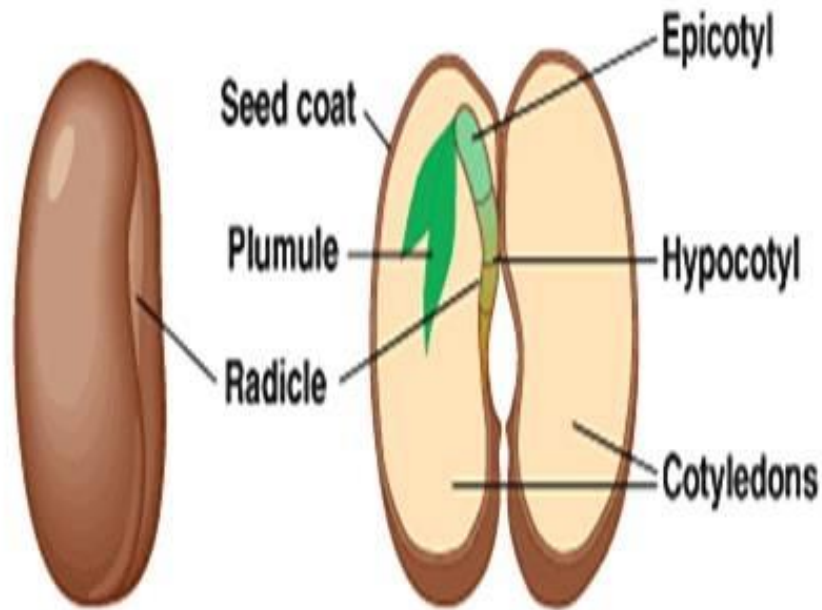


Progressive Education Network

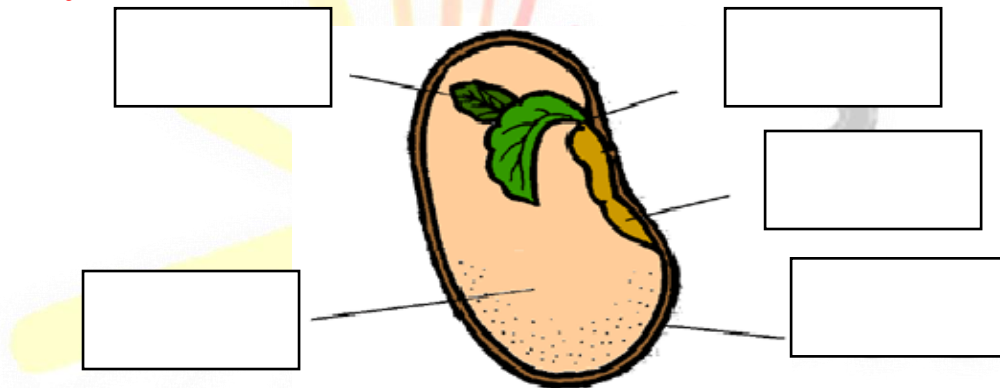
Activity: Comparison of Asexual reproduction and Sexual reproduction in plants.

Sexual Reproduction	Asexual Reproduction
Male and _____ gamete fuse to form a new plant.	There is no fusion of _____ and female gametes.
It is a _____ process.	It is a _____ process.
New plants do not completely resemble their _____	New plants completely resemble their _____.

Structure of Seed



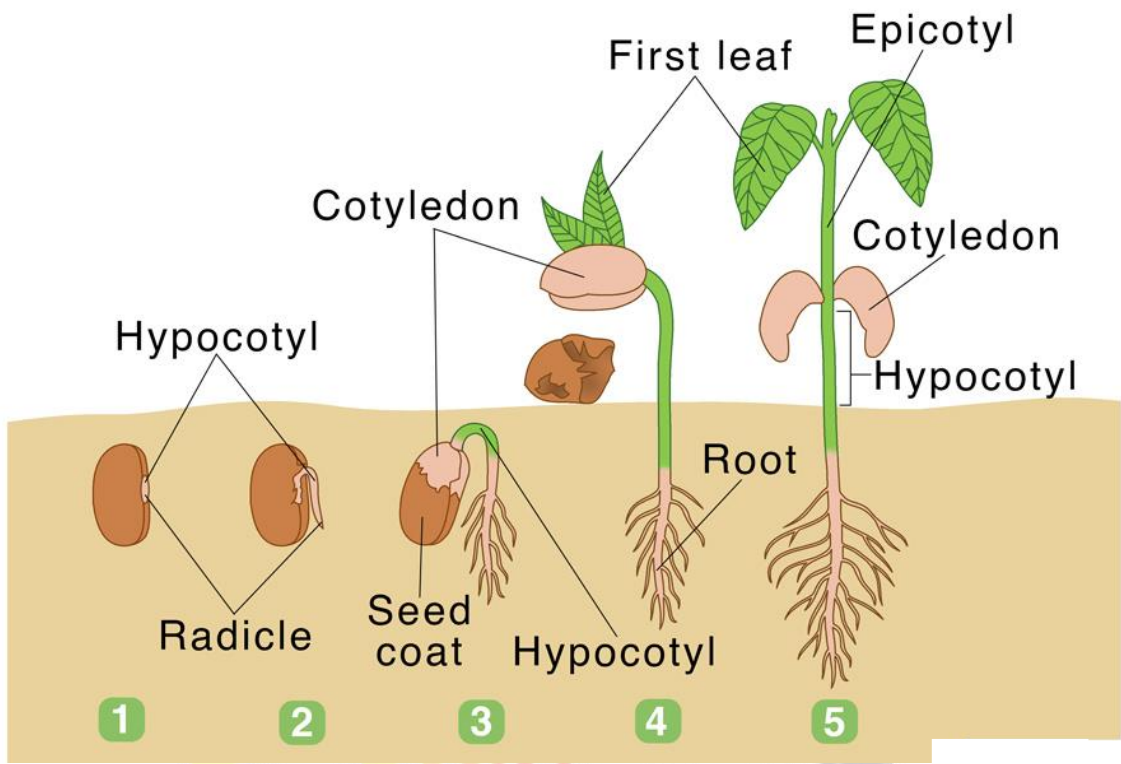
Activity: Label the structure of seed.



Fill in the blanks.

1. Pedicel is the _____ of a flower.
2. The flower has _____ parts.
3. Stamen consists of anther and _____.
4. Ovary is an oval-shaped part of a carpel, which is _____ the style.
5. There are _____ types of pollination.

Seed Germination



Activity: Numbering the process of Seed germination.

[] [] [] []

Q 3: What is the role of water in Seed germination?

Do you know?

If all insects become extinct then most plant life on Earth would disappear.

Q 4: Compare the structure of Gram and Maize seed.

Gram Seed	Maize Seed

Chapter 04

Environmental Pollution

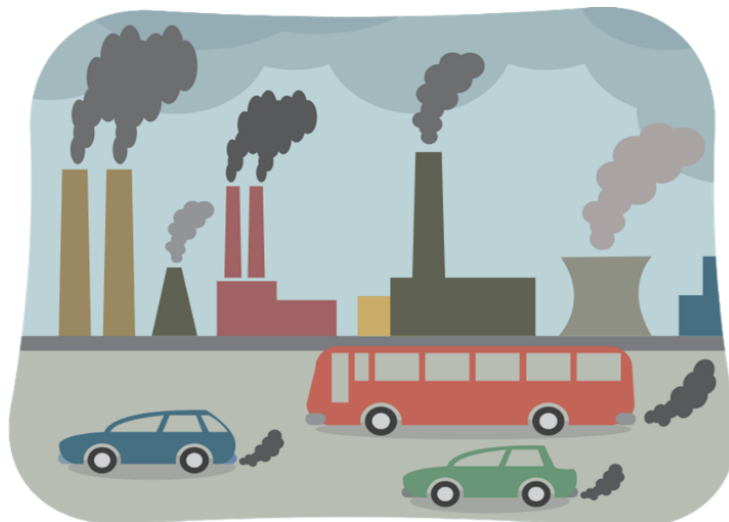
Students Learning Outcomes

1. Define Pollution and its types.
2. Explain the main causes of water, air, and land pollution.
3. Explain the effects of water, air, and land pollution on the environment and life.
4. Explain the effects of fossil fuels and releasing greenhouse gases in the air.
5. Differentiate between biodegradable and non-biodegradable materials.
6. Investigate possibilities and suggest ways to reduce non-biodegradable materials.

Environmental Pollution and its Types



Air Pollution: The most dangerous of all environmental pollution.



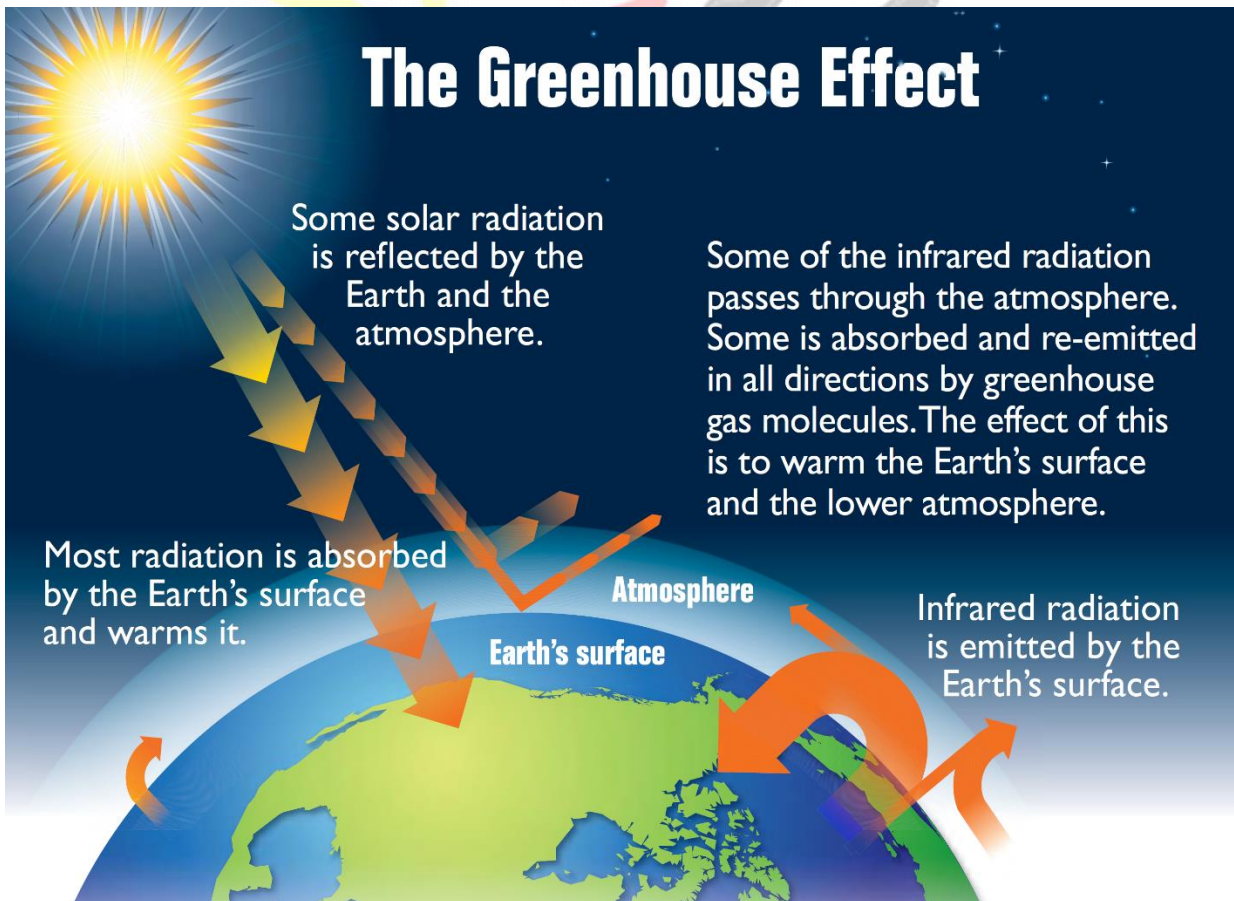
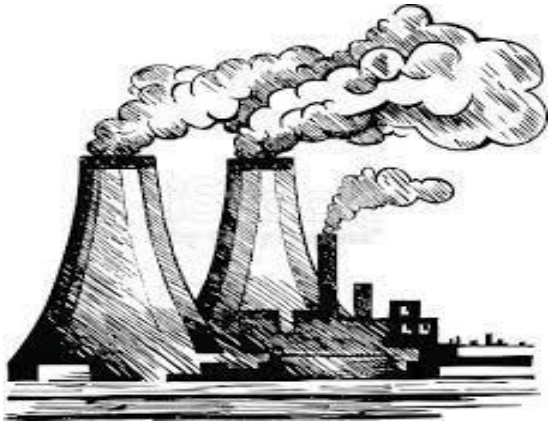
Water Pollution:**Land Pollution:**

Q 1: Fill in the given table.

Progressive Education Network

Types of Pollution	Causes of Pollution
Air Pollution	
Water Pollution	
Land Pollution	

Activity: Circle the sources of air pollution.

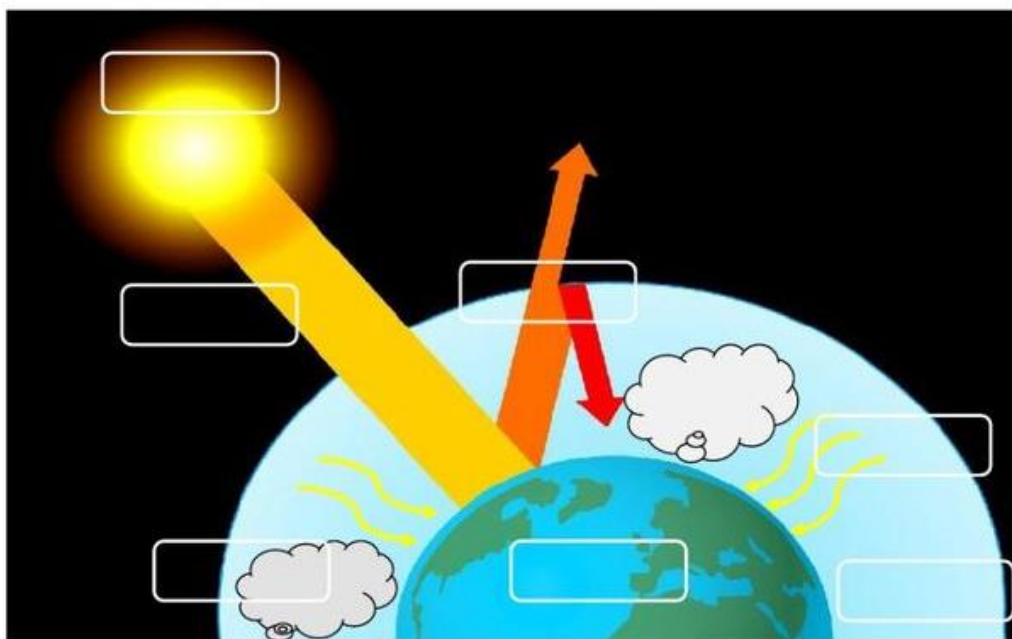
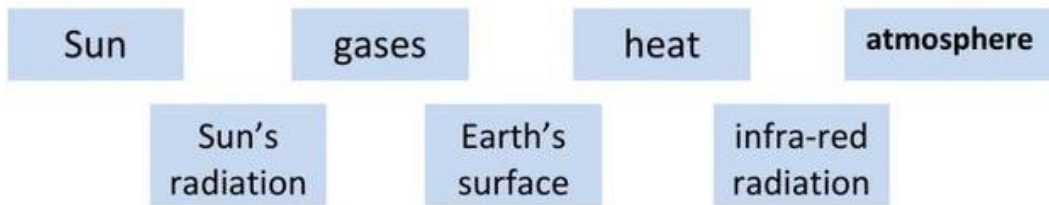


Preventive Measures Of Pollution



Activity:

Complete the diagram



BIODEGRADABLE MATERIALS:



Fruits



Hair



Papers

NON-BIODEGRADABLE MATERIALS:



Plastic bags

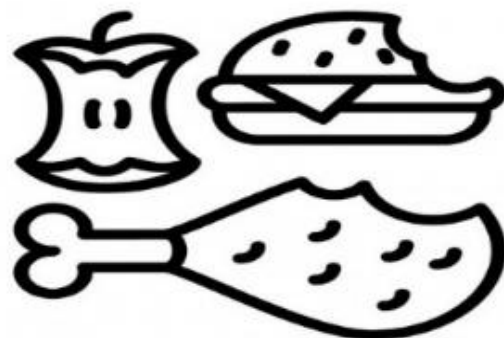
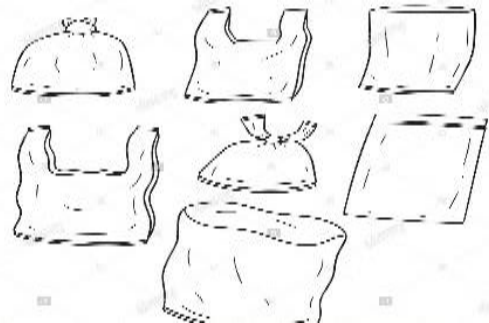
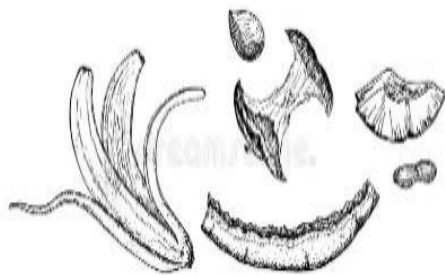


Hardware

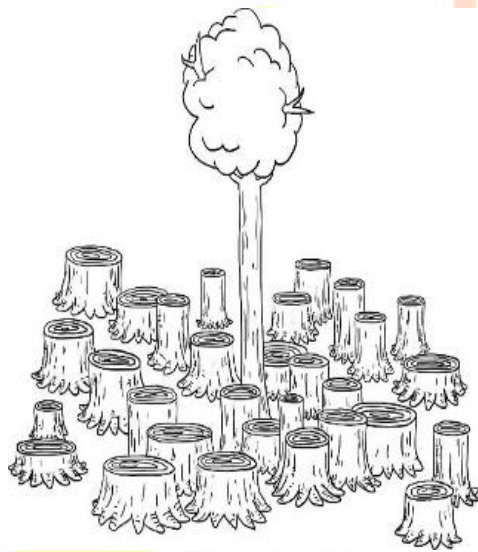
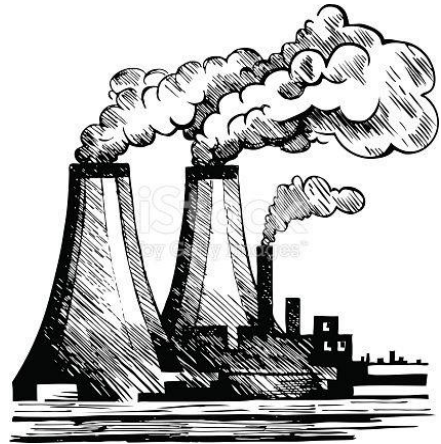


Bottles

Activity: See the pictures given below and differentiate between biodegradable and non-biodegradable things.



Activity: Colour the pictures, showing the preventive measures to reduce land pollution.



Chapter 5

Physical and Chemical Changes of Matter

Student Learning Outcomes:

1. Identify observable changes in materials that do not result in new materials with different properties.
2. Recognize that matter can be changed by heating or cooling from one state to another.
3. Describe and demonstrate melting, freezing, evaporation, and condensation processes.
4. Identify ways of accelerating the process of dissolving matter in a given amount of water and provide reasoning.
5. Distinguish between strong and weak concentrations of simple solutions.
6. Differentiate between physical and chemical changes with examples.

PHYSICAL CHANGES

In a physical change, matter changes form but not chemical identity.



CHEMICAL CHANGES

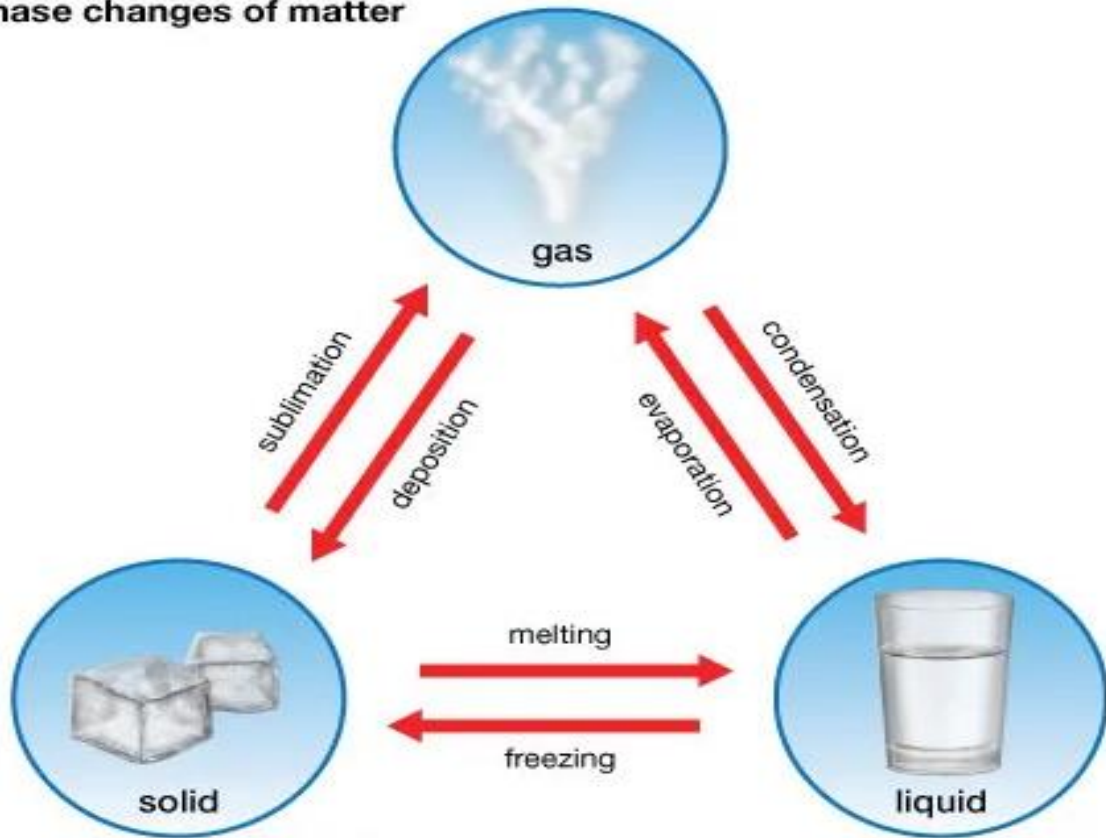
In a chemical change, a chemical reaction occurs and new products are formed.



Brain Storming

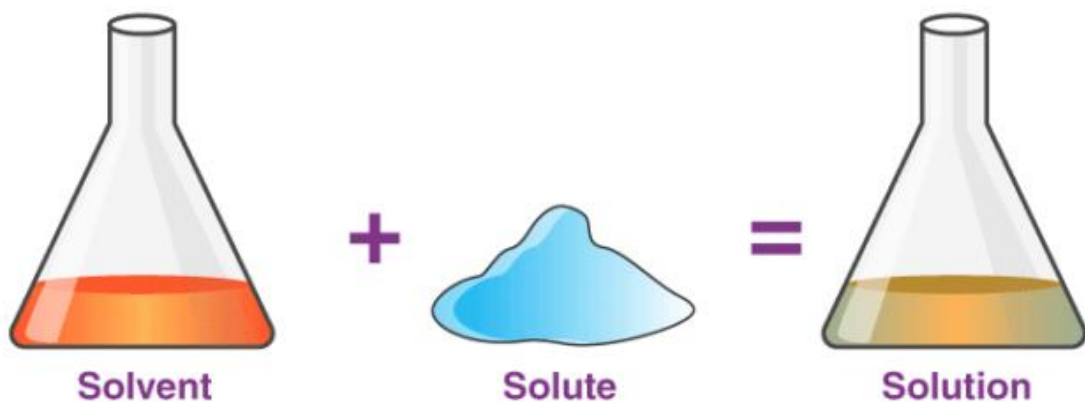
Why changes are necessary?

Phase changes of matter

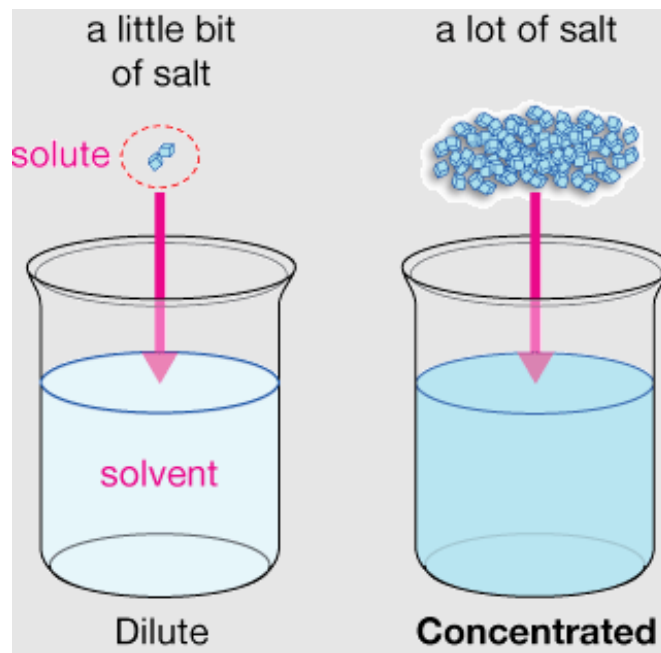


Q 1: Write the name of processes involved in changing the states of matter.

Dissolving Substances in Water:



Dilute and concentrated Solutions:



Q 2: Differentiate between dilute and concentrated solution.








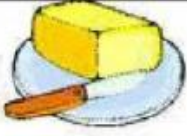




Dilute Solution	Concentrated Solution

Q 3: See the picture given below and write about the process.



Activity: Choose the correct answers

Physical and Chemical Changes

 <p>1. Soured milk smells badly because bacteria have formed new substances in the milk. This is an example of ____.</p> <p>a. physical change b. chemical change</p>	 <p>2. Sand flowing in an hour glass is an example of ____.</p> <p>a. chemical change b. physical change</p>	 <p>3. The change of state from a gas to a liquid is an example of ____.</p> <p>a. chemical change b. physical change</p>
    <p>4. Which is an example of a physical change?</p>	 <p>5. The melting of butter when is let out in a warm room is an example of ____.</p> <p>a. chemical change b. physical change</p>	 <p>6. Which of the following is an example of physical change?</p> <p>a. closing the door b. cracking an egg c. turning off the electric light d. putting the milk back in the fridge</p>
 <p>7. An ice cream cone melting on a hot day is an example of ____.</p> <p>a. chemical change b. physical change</p>	 <p>8. Which of the following describes a chemical change?</p> <p>a. water freezing b. match burning c. dew on grass d. magnetizing a nail</p>	 <p>9. Charcoal burning on the grill is an example of ____.</p> <p>a. physical change b. chemical change</p>

Q 4: Write some examples of physical and chemical changes from your daily life.

Fill in the blanks.

- The change of milk into _____ is a chemical change.
- A change in which a new material is formed is called _____ change.
- The flame develops during _____ reaction, which is called burning.
- Change of solid state into liquid state by _____ of heat is called melting.

The formation of manures from leaves is considered a chemical change because the manure formed has a different composition of leaves. Many reactions occur to convert leaves into manures, and most of them are irreversible.



Chapter 6

Light and Sound

Students Learning Outcomes

1. Identify natural and artificial sources of light.
2. Justify that light emerges from a source and travels in a straight line.
3. Investigate that light travels in a straight line.
4. Explain the formation of shadows.
5. Demonstrate that shiny surfaces reflect light better than dull surfaces.
6. Describe and demonstrate how sound is produced by a vibrating body.
7. Identify a variety of materials through which sound can travel.
8. Identify that speed of sound differs in solids, liquids, and gaseous mediums.
9. Define noise and its harmful effects on human health.
10. Appreciate the role of human beings in reducing noise pollution.

Natural Light

Natural light sources are those which are not man-made.



Artificial Light

Artificial light sources are man-made. They include candles; lamps and matches



Brain Storming

What is light?

Activity:

Unscramble the letters to create the **word**
names of the **light sources** given.



SNU



TROHC



LBUL



FRIEYFL



MPLA



DLECAN

Luminous and non-luminous objects

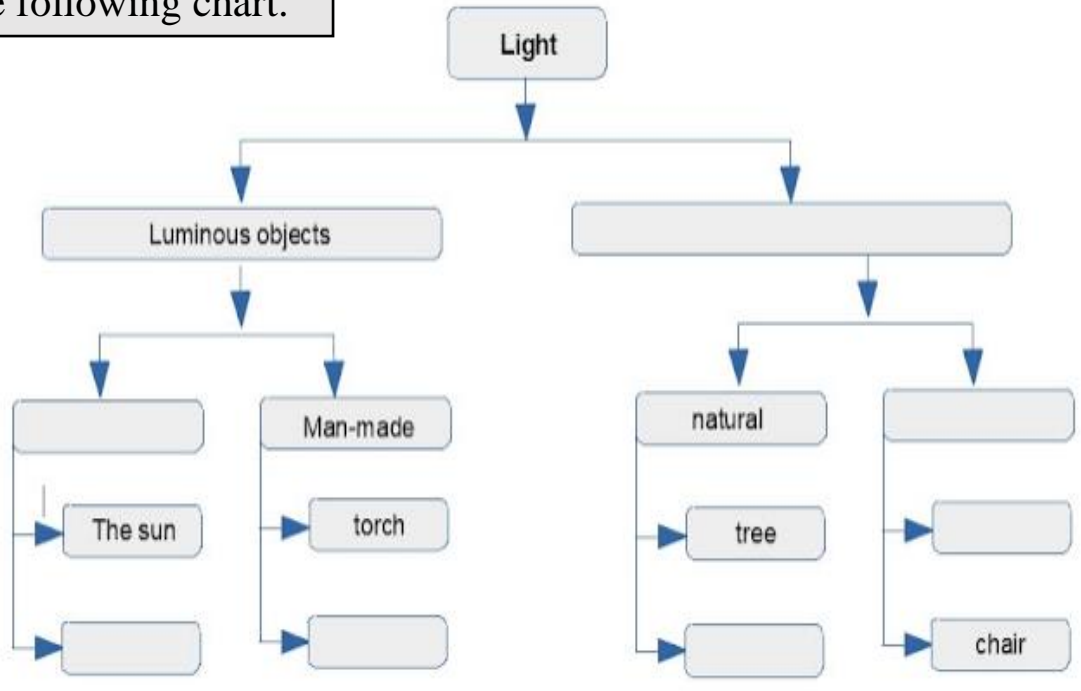
We see **luminous objects** such as the sun, fires, light bulbs and stars because some of the light they emit enters our eyes.






We see **non-luminous objects** because some of the light they reflect enters our eyes.



Activity: Complete the following chart.









The Moon gets its light from the Sun. Sun sets horizontally. "A black object is black because it's absorbing all the light; it's not reflecting any color," that's why we can read black pages of book.

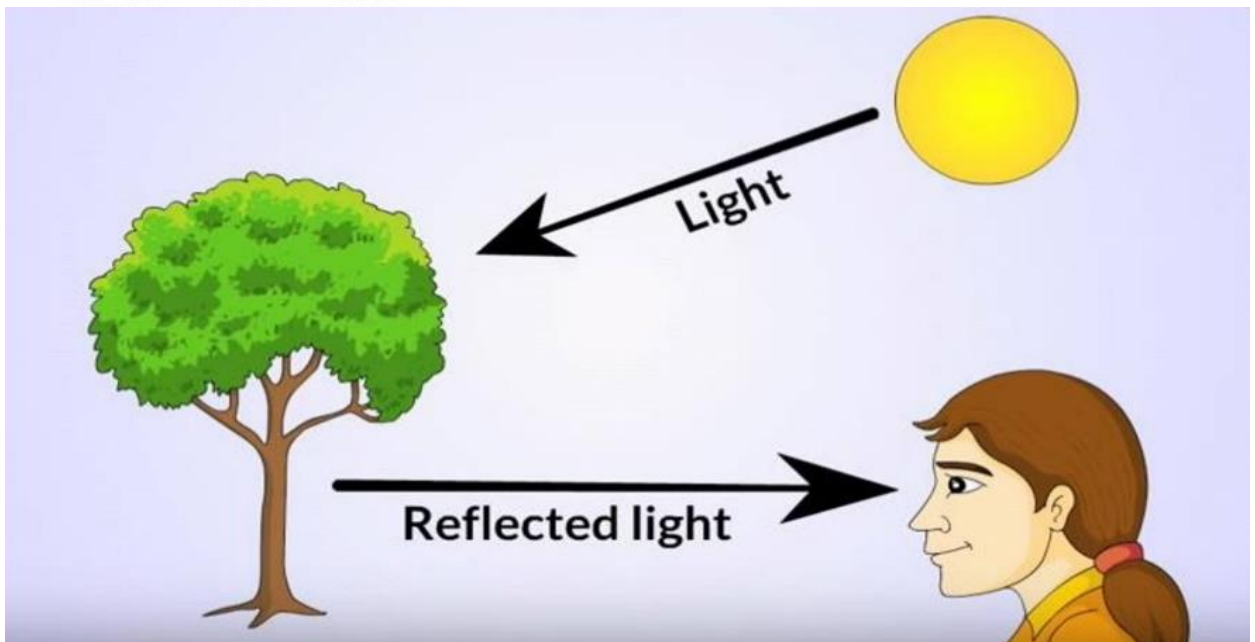
TRANSPARENT	TRANSLUCENT	OPAQUE
 <p>Transparent objects allow all of the light to pass through them. This means that we can clearly see through them.</p>	 <p>Translucent objects only allow some light to pass through them. This means that we can partially see through them.</p>	 <p>Opaque objects do not allow any light to pass through them. This means that we cannot see through them at all.</p>

Activity:

**TRANSPARENT, TRANSLUCENT,
OR OPAQUE?** For each object check off whether
it's transparent, translucent, or opaque.

	TRANSPARENT	TRANSLUCENT	OPAQUE
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

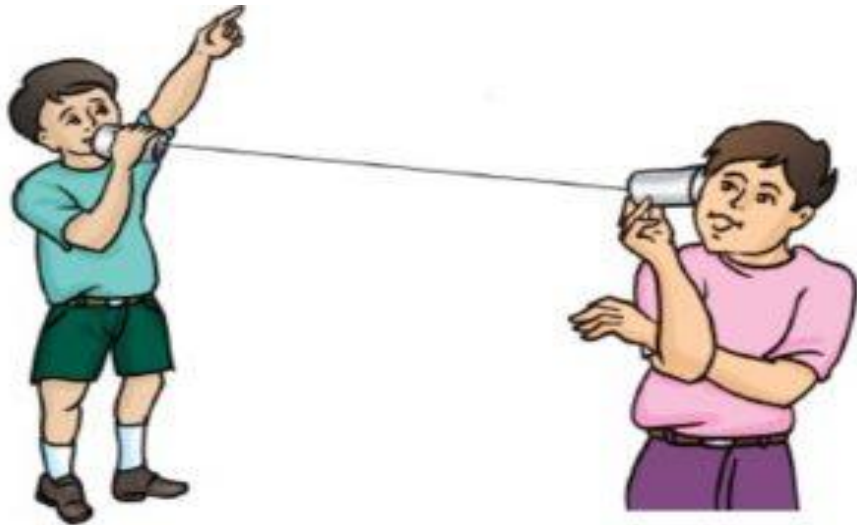
Reflection of Light



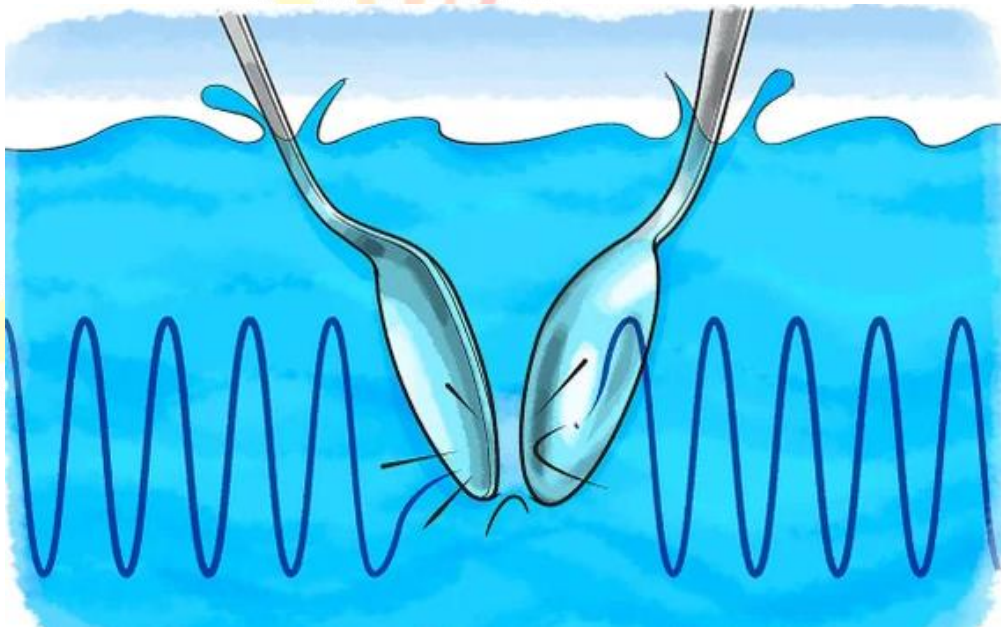
Formation of Shadows: The shadow of a rotating object is a perfect circle. Transparent objects cannot form a shadow. Translucent objects form shadows, but they may be faint, fuzzy, or coloured.

Sound

Propagation of Sound in Solid objects



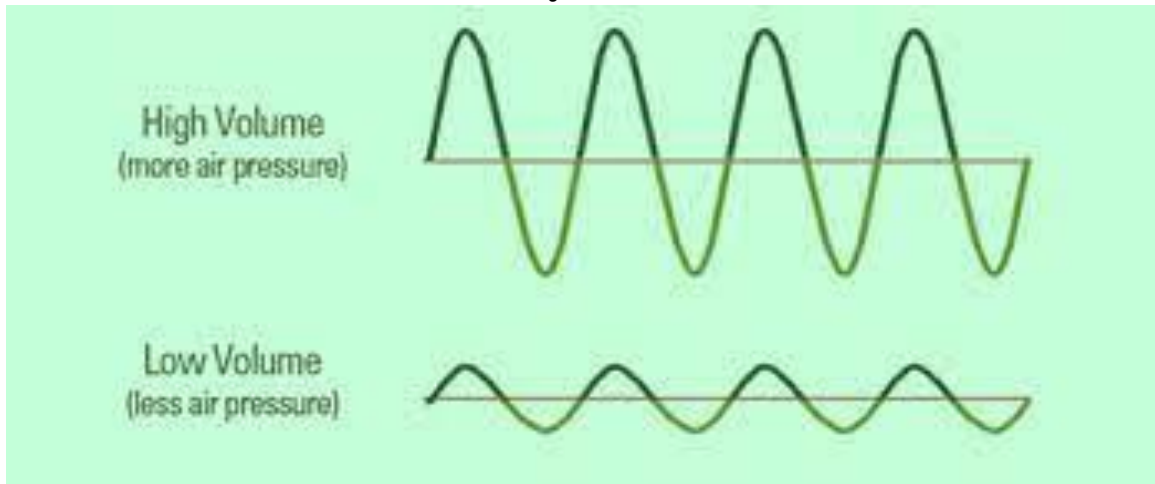
Propagation of Sound in Water



Sound travel faster through solid objects than in the air.

Vocal cords vibration makes speech. Sound needs a medium to propagate, so we not hear the explosion on Sun surface.

Intensity of Sound:



Intensity of sound decreases with the increase of distance from its source.

Activity: Identify sound (soft or loud) produced by observing the following pictures.













Noise

A sound, especially one that is loud or unpleasant or that causes disturbance.



Q 1: How can we control noise pollution?

Do you know?

Rabbit and rat ears that are straight up mean that the rabbit is curious or alert. Wood and charcoal are naturally non-luminous objects. When we burn them, then they become luminous. Frogs only hear what they need to survive, and they use their mouths to do it. Locusts have a highly integrated and miniaturized hearing system that bears little resemblance to either the human ear or an electronic microphone. Detection of sound provided invaluable added information that helped fishes to survive and thrive.

Chapter 07

Electricity and Magnetism

Students Learning Outcomes:

1. Explain the phenomenon of static electricity in everyday life.
2. Describe charges and their properties.
3. Differentiate between conductors and insulators in daily life.
4. Describe the flow of electric current in an electric circuit.
5. Describe and design an electric circuit and explain its components.
6. Describe and demonstrate that magnets have two poles.
7. Recognize that magnets can be used to attract some metallic objects.
8. Identify Earth as a huge bar magnet and demonstrate it with an experiment.
9. Describe the working of a magnetic compass.
10. Explain different types of magnets.

Static Electricity

Static electricity is the charge that stays on an object.



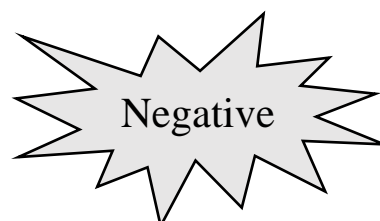
Brain Storming:

What is the role of electricity in our daily life?

Charge

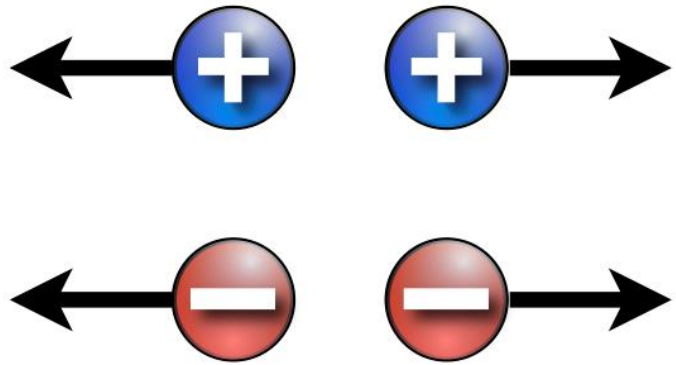
A charge is the basic property of matter.

Types of Charges



Properties of Charge

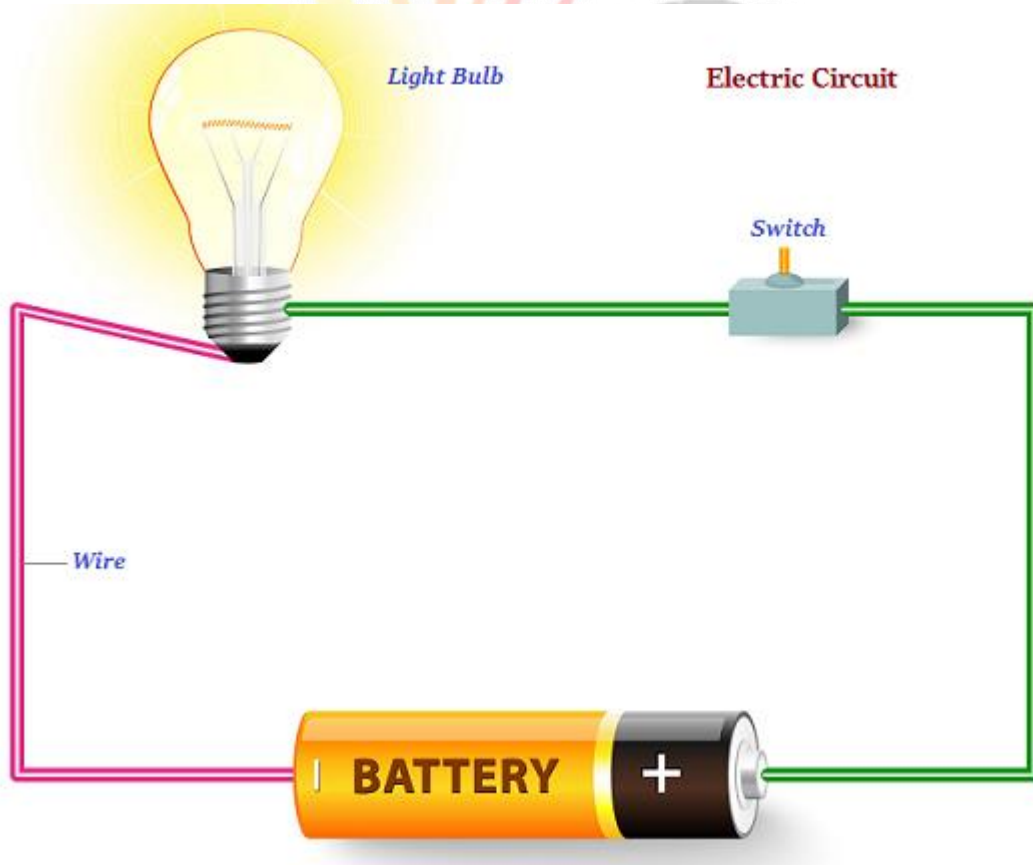
Like
charges
repel



Opposite
charges attract



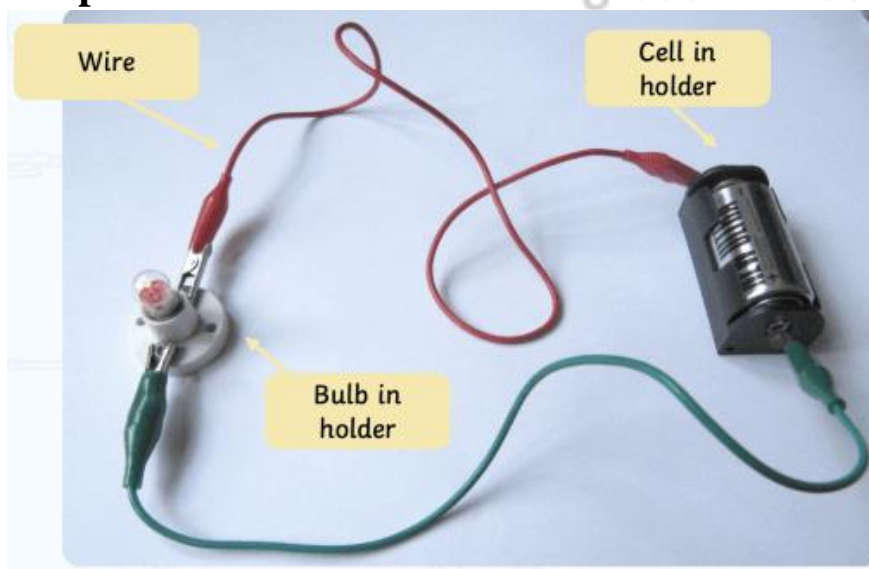
Electric current: Flow of cahрге is known as an electric current.



Fill in the blanks.

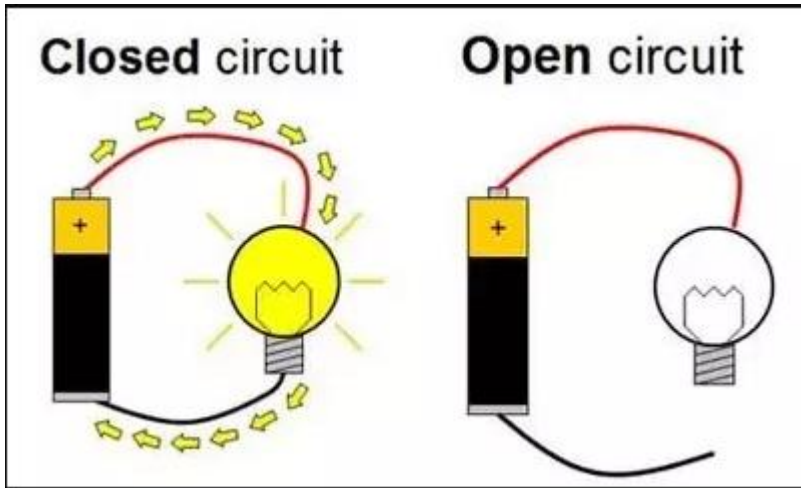
- Static electricity is _____.
- Like charges _____ each other.
- Opposite charges _____ each other.
- Electric current is the flow of _____.
- There are _____ types of charges.

Activity: With the help of a diagram show the flow of charges

**Electric circuit and its Components****Simple Electric Circuit**

Damage from short circuits can be reduced or prevented by employing fuses, circuit breakers, or other overload protection, which disconnect the power in reaction to excessive current.

Open and closed circuits:



If battery connections are reversed in closed circuit bulb will not glow.

Q 1: Differentiate between closed and simple electric circuits.

Closed circuit	Simple circuit

5 Electrical Conductors



silver



gold



copper



steel



sea water

5 Electrical Insulators



rubber



glass



oil



diamond



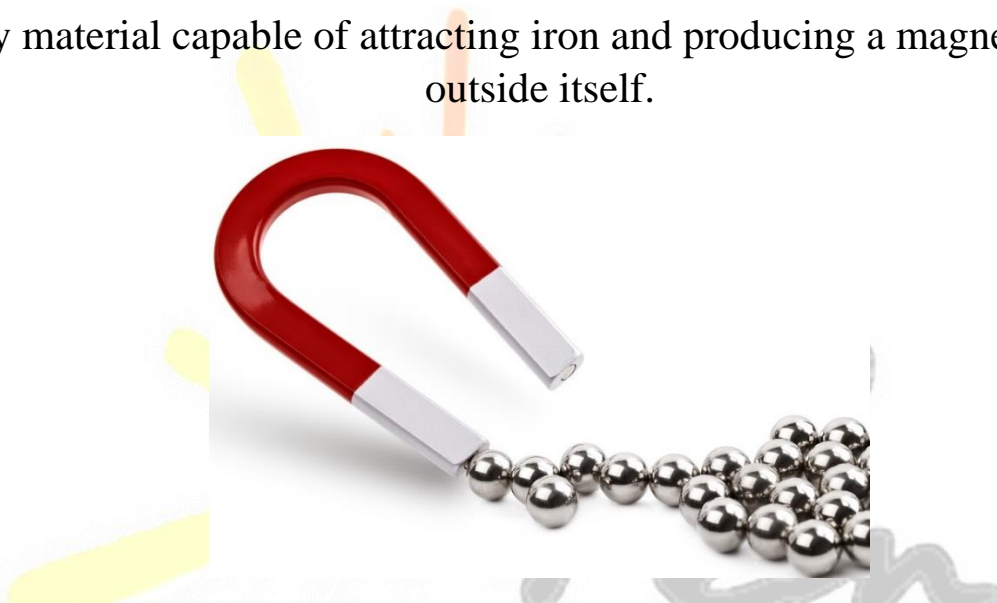
dry wood

Conductors allow for charge transfer through the free movement of electrons. In contrast to conductors, **insulators** are materials that impede the free flow of electrons from atom to atom and molecule to molecule.

Q 2: Give 3 examples of conductors and insulators from your surroundings.

Magnet

Any material capable of attracting iron and producing a magnetic field outside itself.



MAGNETIC METALS



NON-MAGNETIC METALS



Iron



Nickel



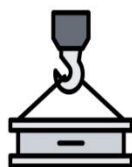
Aluminum



Gold



Cobalt



Steel



Silver

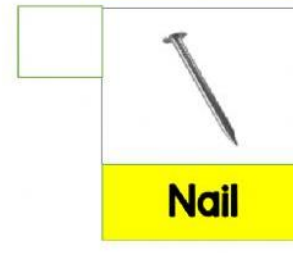
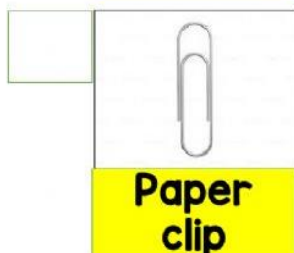


Copper

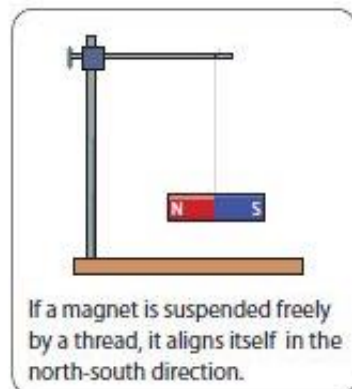
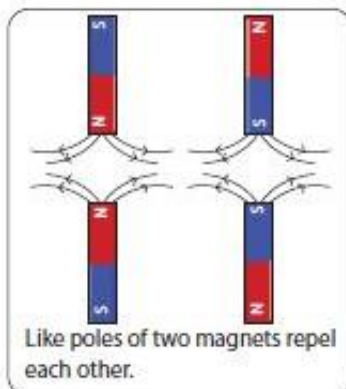
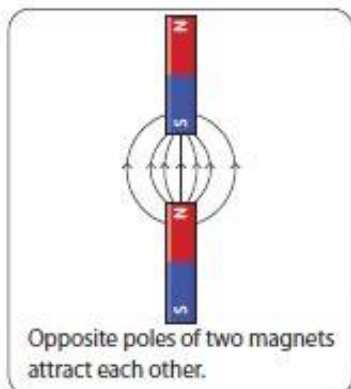
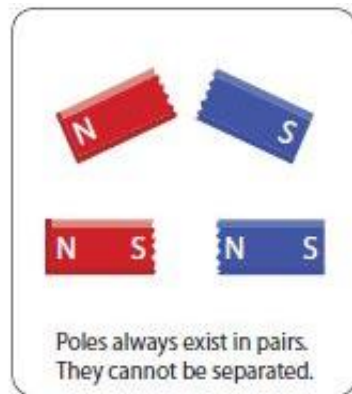
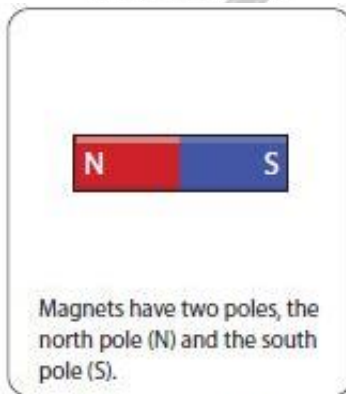
Substances that are attracted by a magnet are called **magnetic substances**. Example: Iron, cobalt, nickel, etc. Substances that are not attracted by a magnet are called **non-magnetic materials**. Example: Aluminum, copper, wood, etc.

Activity:

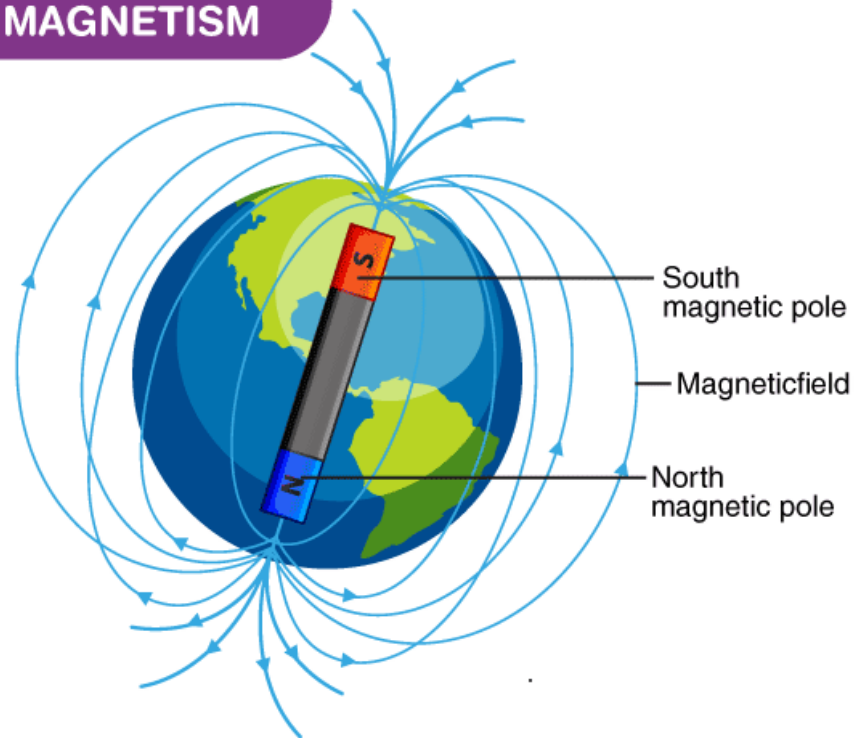
Which are the magnetic materials?



Properties of Magnet:



EARTH'S MAGNETISM



Q 3: How Earth behaves like a magnet?

Types of Magnet:

Temporary and Permanent Magnets:

Temporary and Permanent Magnets

- Temporary magnets are those which act like a permanent magnet when they are within a strong magnetic field, but lose their magnetism when the magnetic field disappears. Examples would be paperclips and nails and other soft iron items.



Permanent magnets are those we are most familiar with, such as the magnets hanging onto our refrigerator doors. They are permanent in the sense that once they are magnetized, they retain a level of magnetism.



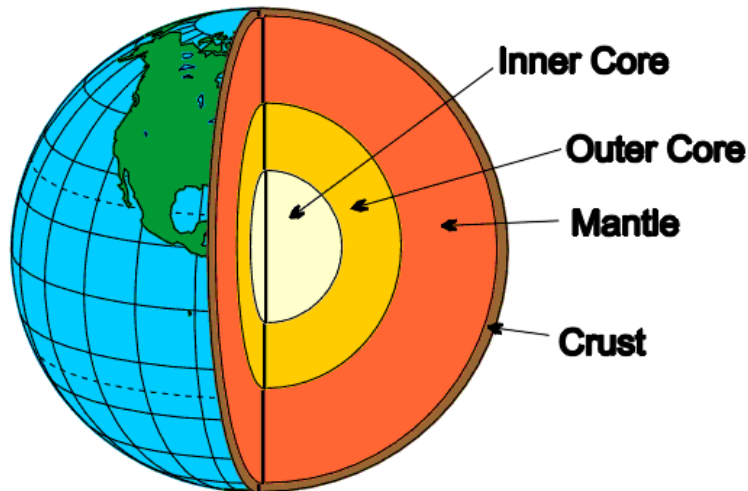
Chapter 08

Structure of the Earth

Student Learning Outcomes:

1. Describe the structure of the Earth and the physical characteristics of these distinct parts.
2. Describe the sources of water on the Earth.
3. Identify similarities and differences among different types of soil.
4. Investigate the composition and characteristics of different soils.

Structure of the Earth

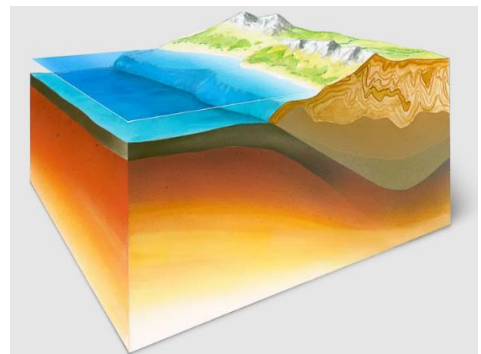


Brain Storming

What is the shape of our Earth?

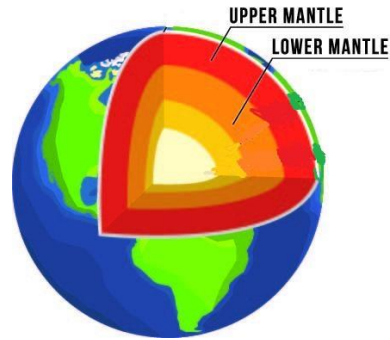
Crust:

The Earth's crust is its lightest, most buoyant rock layer.



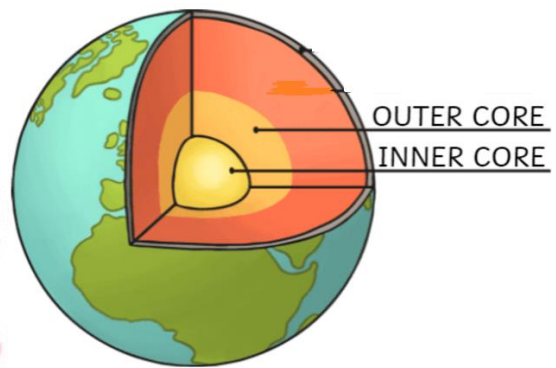
Mantle:

The mantle is the mostly-solid bulk of Earth's interior.



Core:

Earth's core is the very hot, very dense center of our planet.



Activity: Label the following diagram.

The Layers of the Earth

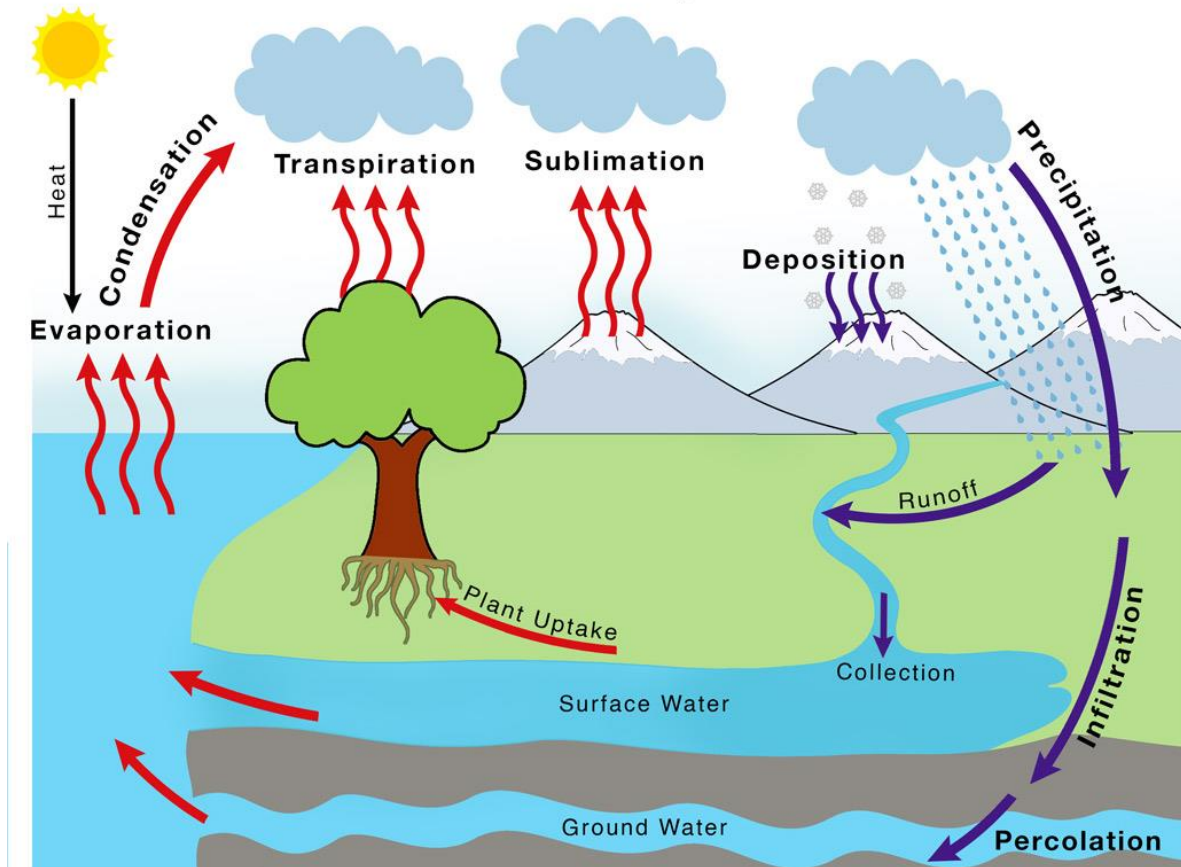
A line drawing of the Earth's layers for labeling. The diagram shows the crust, upper mantle, lower mantle, outer core, and inner core. There are six empty rectangular boxes with lines pointing to the different layers: one on the left side, one on the right side, and four in the center. The title 'The Layers of the Earth' is written in a large, outlined font at the top of the diagram.

Q 1: Differentiate between Earth's crust and core.

Crust	Core



Water Cycle



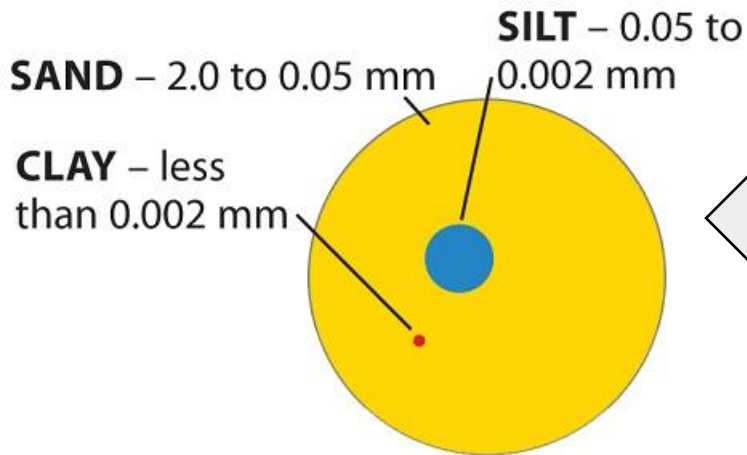
Q 2: What is the importance of Water Cycle?

Soil

Soil is commonly referred to as earth or dirt, is a mixture of organic matter, minerals, gases, liquids, and organisms that together support life.



Components of soil in fertile soil:



Clay bricks are produced by the drying and firing of clay or shale raw material, forming a sintered porous structure.

Types of Soil:

1. Clay:

Clay soils are old, tightly packed soils that formed and condensed over long periods of time.



Sand:

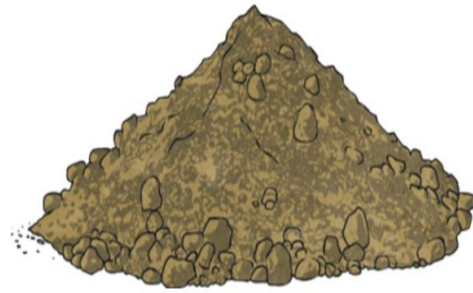
A loose granular material that results from the disintegration of rocks, consists of particles smaller than gravel but coarser than silt, and is used in mortar, glass, abrasives, and foundry molds.



Groundwater helps grow our food. 64% of groundwater is used for irrigation to grow crops.

Silt:

Fine sand, clay, or other material carried by running water and deposited as sediment, especially in a channel or harbour.



Q 4: Write the name of different types of soil and their uses in daily life by observing the pictures.

Inundation of the flood plains helps recharge the groundwater, which is an important source of drinking water and is essential for agriculture. They are an important source for restocking local man-made water sources such as ponds, reservoirs, dams and irrigation channels, meeting round-the-year demand.

Chapter 09

Space and Satellites

Student Learning Outcomes:

1. Define the term space and emphasize the need to explore it.	2. Recognize the role of NASA in space exploration.
3. Define the term “satellite” and describe its importance.	4. Describe the natural satellite of the planets of solar system.
5. Define artificial satellites and explain their importance in exploring the Earth and space.	6. Recognize the key milestones in space technology.

Space Exploration



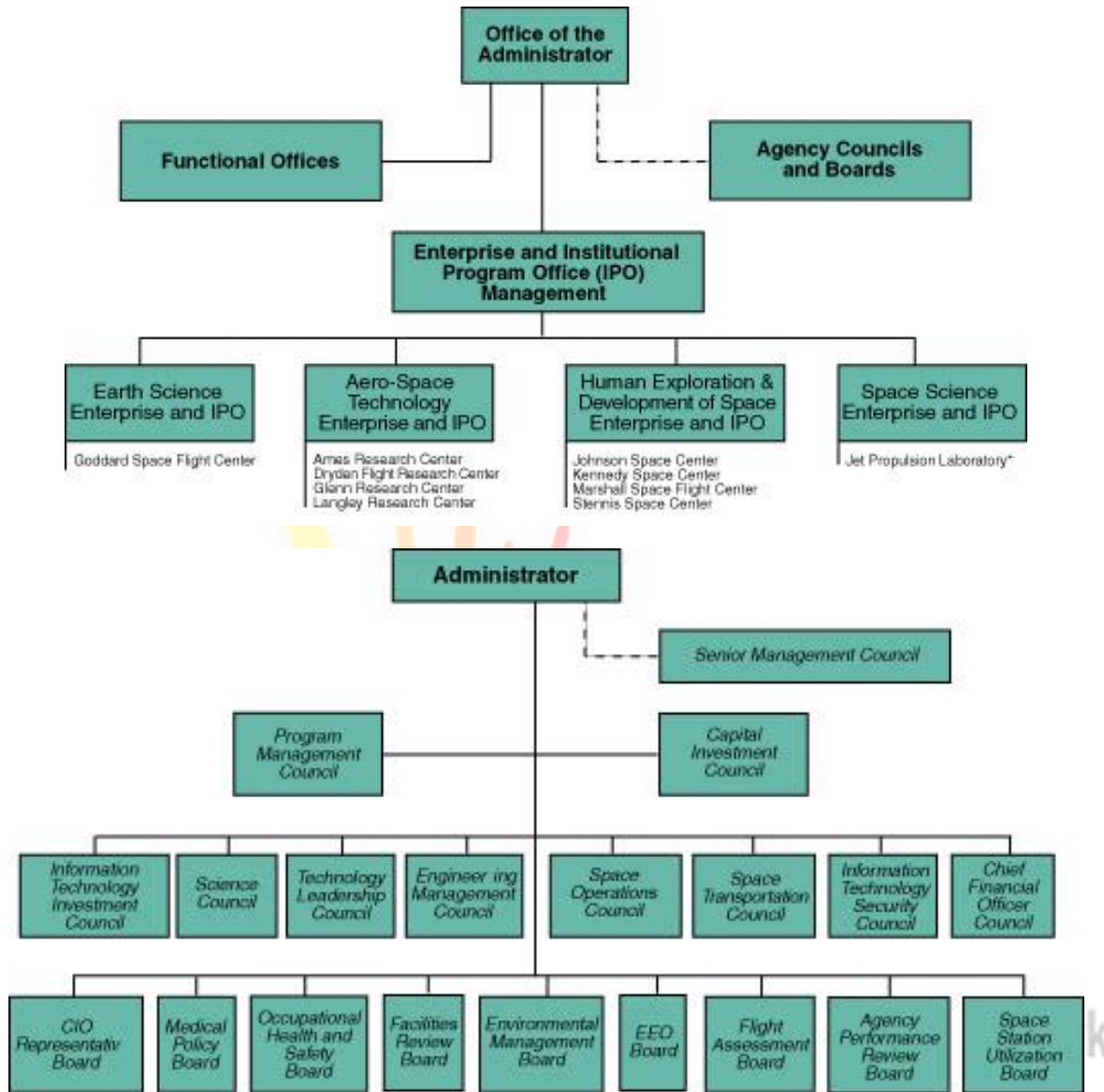
Brain Storming

What do you know about space?

Satellite: A satellite is a moon, planet, or machine that orbits a planet or star. For example, Earth is a satellite because it orbits the sun.



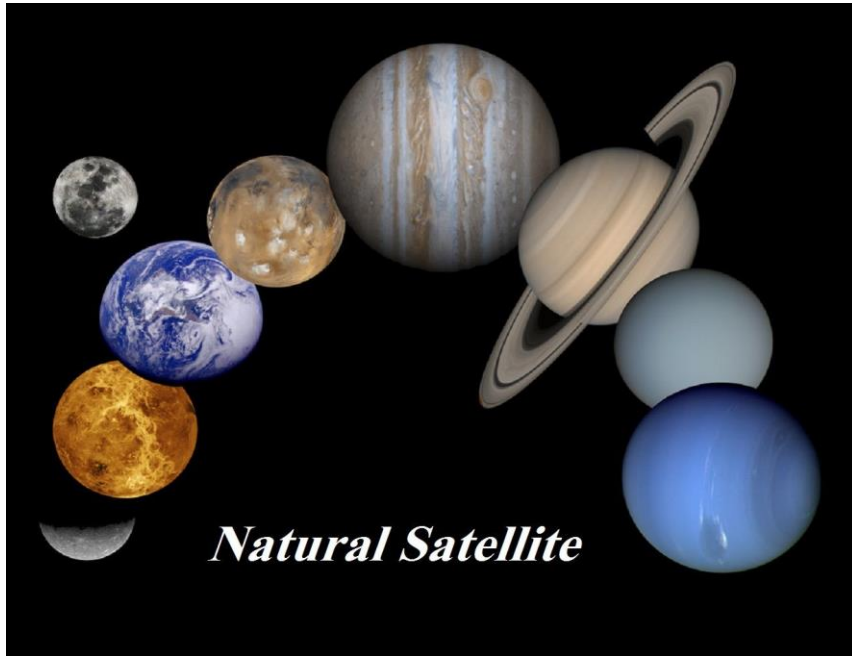
The Role of NASA



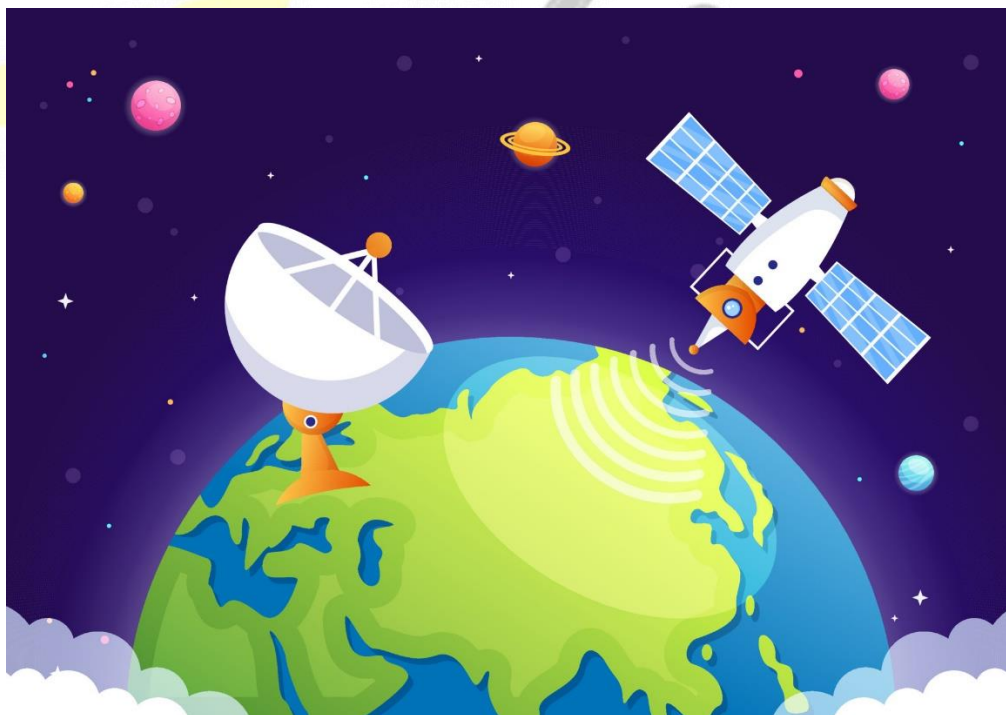
The Moons of other Planets

Planets	Moons
Mars	2
Jupiter	79
Saturn	82
Uranus	27
Neptune	14

Q 1: What do you know about the achievements of NASA in space exploration?



Artificial Satellite



Q 2: Differentiate between Natural and Artificial satellites.

Natural satellites	Artificial satellites

Importance of artificial satellites:

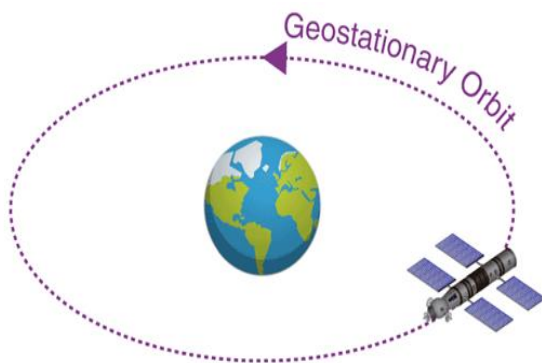
Artificial satellites are used to study the Earth, other planets, to help us communicate, and even to observe the distant Universe.



Satellites can even have people in them, like the International Space Station and the Space Shuttle. ... **Satellites** are launched into different orbits depending on their mission. Dec 2, 2009

Q 3: In space, there's no gravity, so how can an astronaut survive in space?

Uses of Various Satellites:



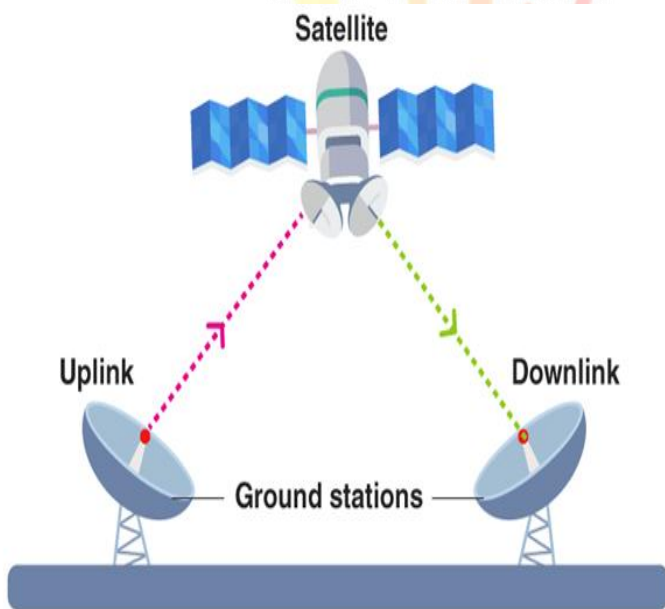
Geostationary meteorological satellites are used to provide infrared images of the Earth's surface and atmosphere.

Polar-orbiting satellite



Satellites with polar orbits are used for monitoring the weather, military applications (spying) and taking images of Earth's surface.

Communication Satellite



Satellite communications are used in telephone, radio, television, internet and military applications.

Q 4: Describe life without satellites.

Q 5: Match the following.

Key Milestones in Space Technology

October 4, 1957	Soviet Union launches 1 st ever Sputnik-1
April 12, 1961	Neil Armstrong became the first man to walk on the Moon
March 1994	First piece of the International Space Station is launched.
November 6, 2012	Completion of Global Positioning System.
January 31, 1958	Soviet Cosmonaut Yuri Gagarin becomes the first human to enter space.

Activity: See the picture carefully, tick the natural and circle the artificial satellite.



Chapter 10

Technology in Everyday Life

Student Learning Outcomes:

1. Enlist and practice safety procedures while carrying out the activities.
2. Make a model of a footbridge and bookshelf
3. Use spirit level/water level to level different objects.
4. Use a plumb line to install a flag pole vertically.
5. Prepare LED light strings working with a 12-volt battery.
6. Make a musical instrument from easily available resources.
7. Make a moveable wagon, bus, trolley, etc
8. Use a first aid box to dress a wound.
9. Practice shifting a person to the hospital.
10. Practice earthquake, fire, and flood drill.

Brain Storming

Have you ever thought of making a model? What sort of tools and equipment you will be used in making a model?



Q 1: Below given picture is of a spirit level. Write 2 uses of spirit level in making a model.



Q 2: See the picture carefully. What is the man doing?



Progressive Education Network
