CHAPTER – 9

THE LIVING ORGANISMS AND THEIR SURROUNDINGS

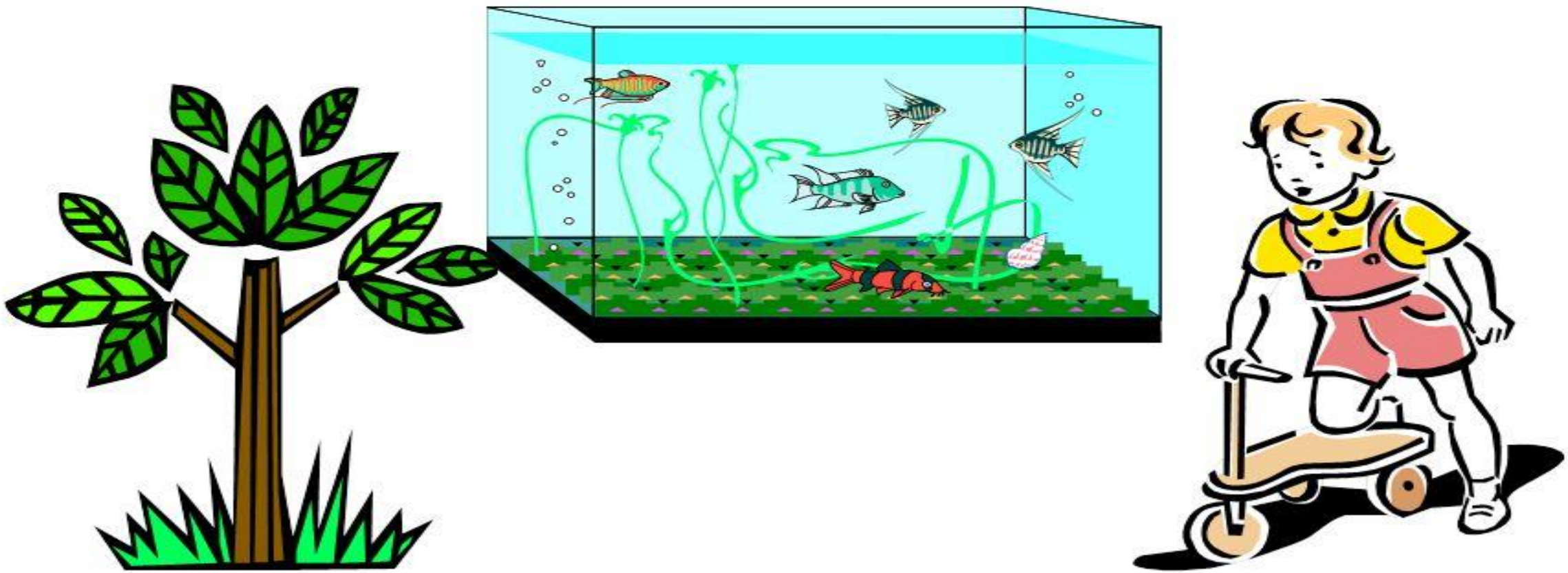
CLASS – VI

MODULE – 3/3

Till now you have learnt……

- What is a habitat?
- What are the various types of habitat?
- What are the different components of a habitat?
- What are adaptations?
- How are different plants and animals adapted to different habitats?

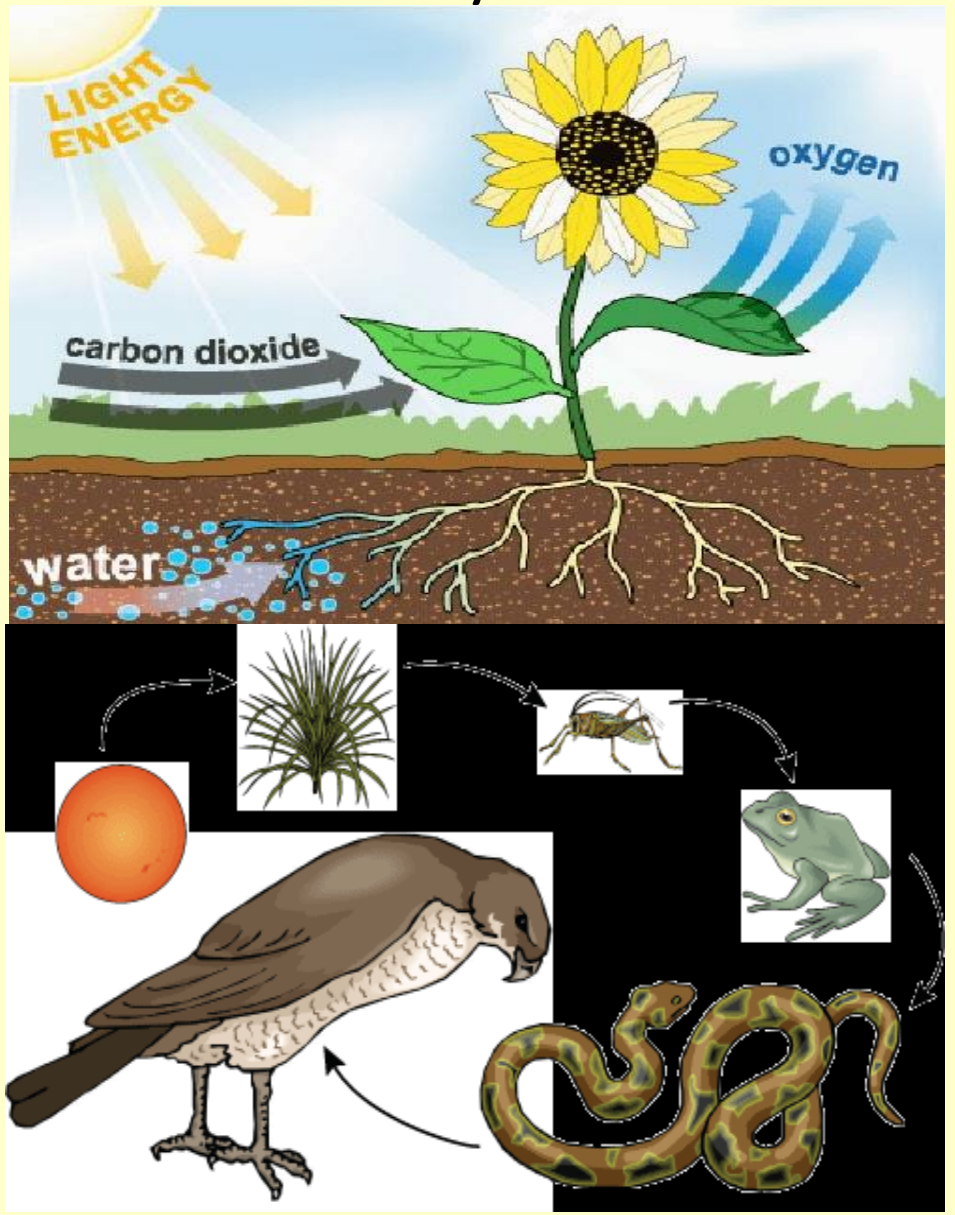
7 Characteristics of Living Things



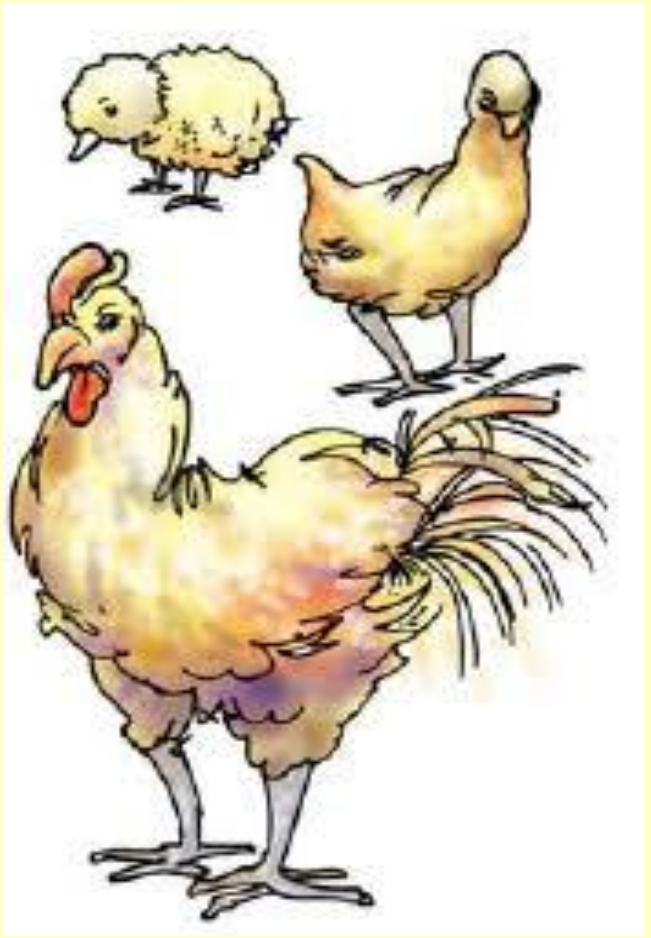
1. All living things need food.

- Plants make their own food through the process of photosynthesis.
- Animals depend on plants and other animals for their food.

Photosynthesis



2. All living things show growth.



3. All living things respire.

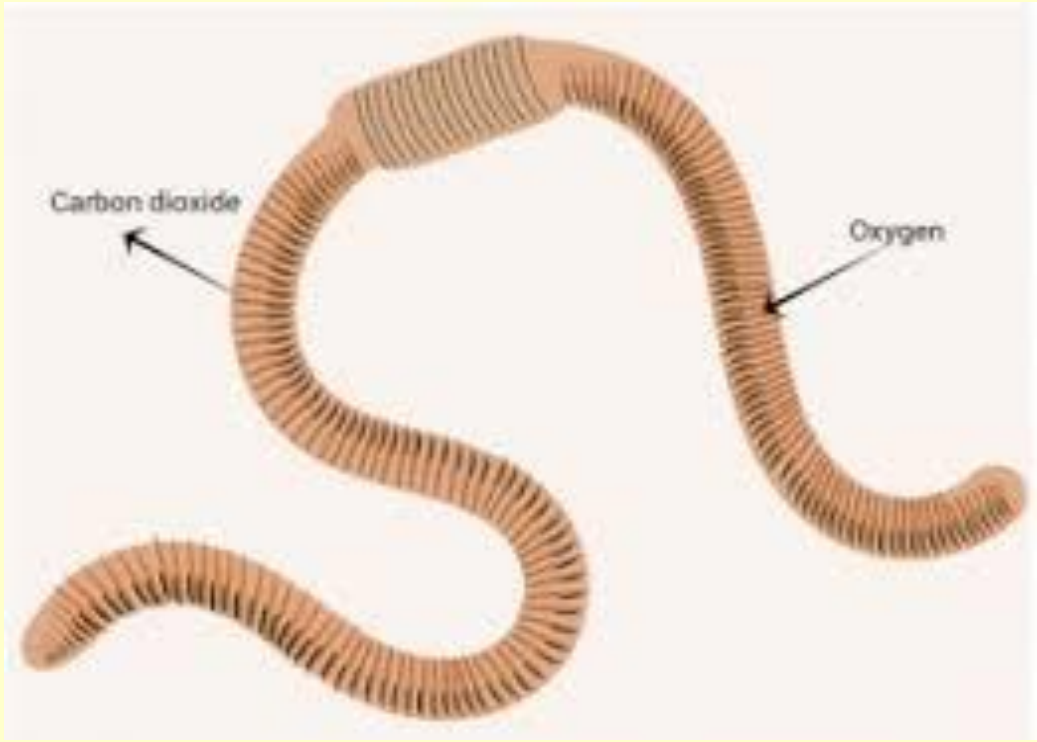
- The process of taking in oxygen and using it to release energy from the food and giving out carbon dioxide is called respiration.

- Breathing is a part of respiration.

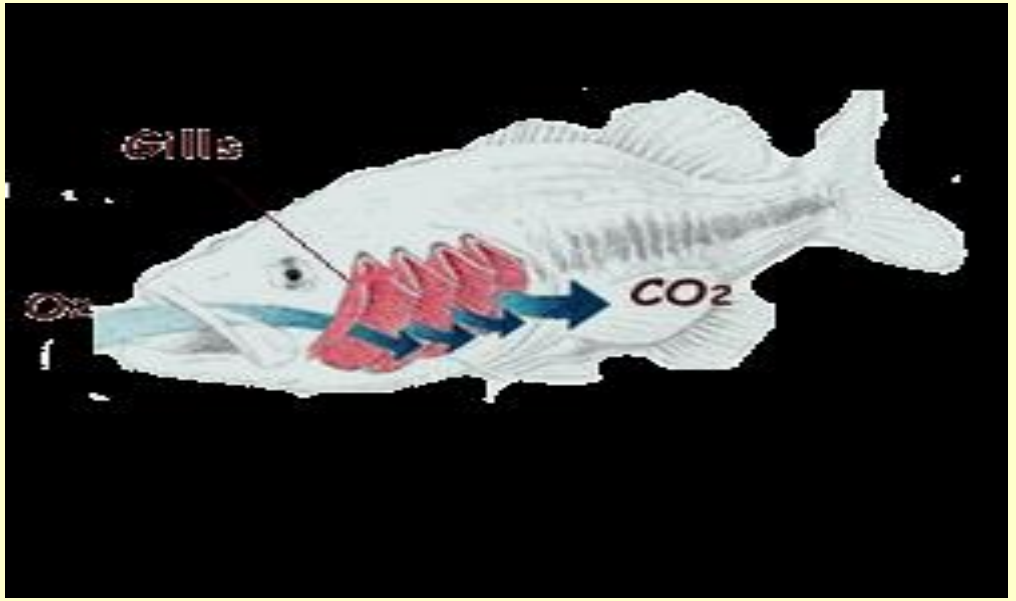
- Different living things use different mechanism for exchange of gases during breathing.

For example…….

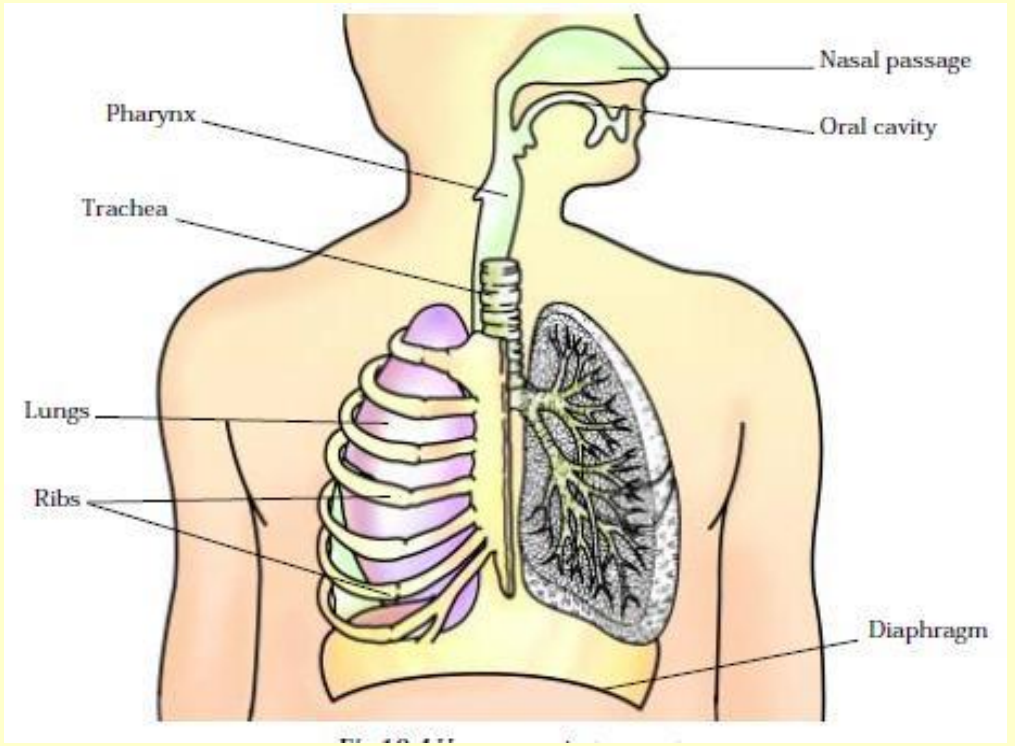
- Earthworms breathe through their skin



- Fish breathe through gills. Gills absorb oxygen from the air dissolved in water



- Animals like cows, buffaloes, dogs, cats, human beings, etc. breathe through lungs.

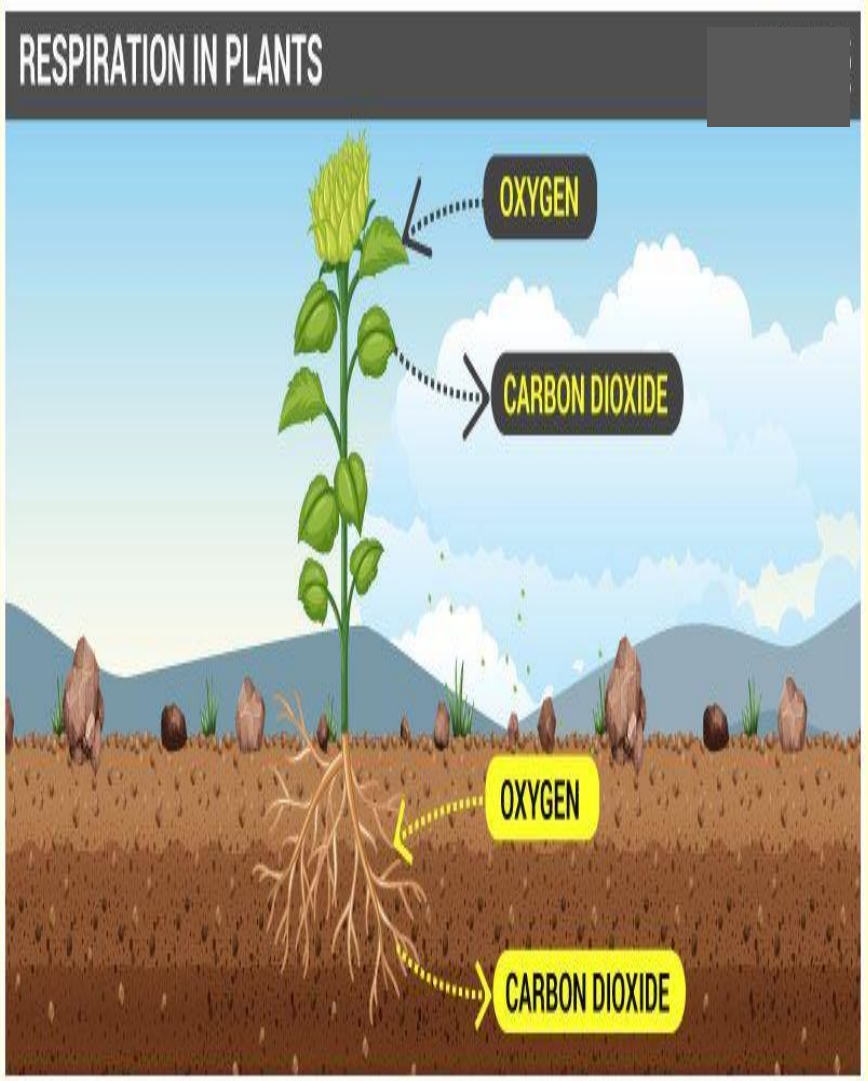


Do plants also respire?

Yes they do. Plants also respire.

Exchange of gases in plants mainly takes place through their leaves.

Leaves take in air through tiny pores called Stomata, in them.
Use the oxygen in air and give out carbon dioxide.



If they give out carbon dioxide ,
why do they not release it
as we do????????

In presence of sunlight plants use carbon dioxide for making food by the process called photosynthesis. During the day time, Plants use this carbon dioxide released during respiration to make their food.

.

Then, how do the plants give out oxygen?

Plants produce oxygen during the process of photosynthesis.

The amount of oxygen produced during photosynthesis is much more than the oxygen they use in respiration.
Thus
Plants give out oxygen during the day.

4. All living things respond to stimuli.

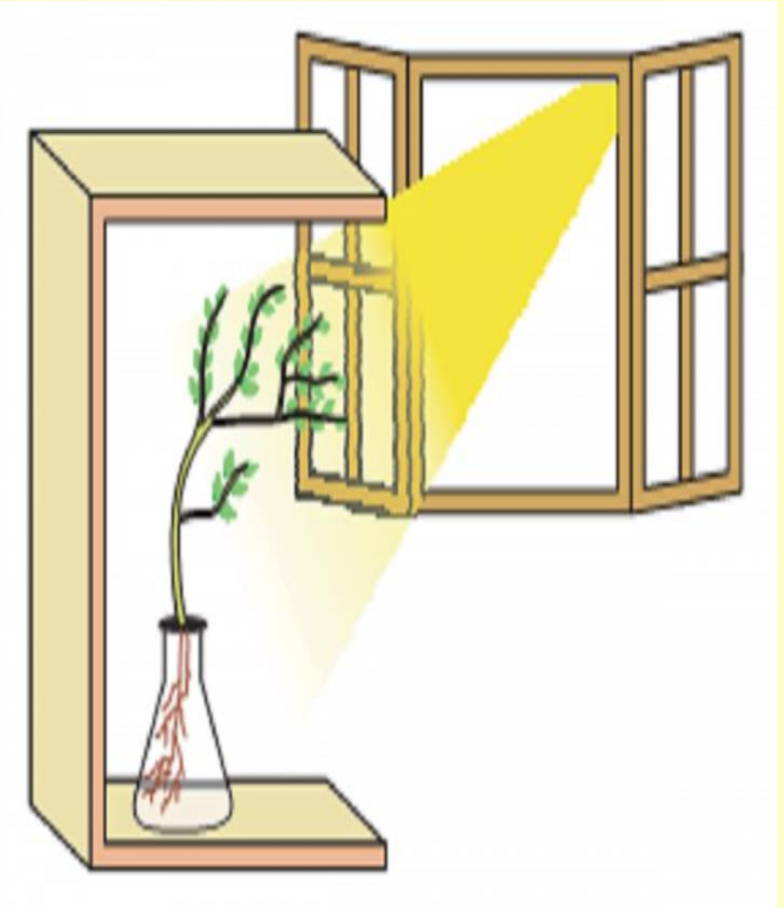
Stimuli: The changes in our surroundings that make us to respond to them are called stimuli.
For example….
Mouth starts watering when we think of our favourite food.

Plants also respond to stimuli.

- Flowers of some plants bloom only at night.
- In some plants flowers close after sunset.
- Leaves of some plants like Mimosa / Touch me not , close or fold when some one touches them.

ACTIVITY TO SHOW THAT PLANTS RESPOND TO LIGHT:

- Place a potted plant in a room a little away from a window through which sunlight enters some time during the day.
- Continue watering the plant for few days
- Note the direction in which the plant bends as it grows.
- Plant does not grow upright . It bends towards the window through which the sunlight enters the room.
- The bending of plant towards the direction of light is the response of plant to a stimulus like sunlight.



5. EXCRETION:

- The process of getting rid of the wastes by the living organisms is known as Excretion.
- All living things excrete the wastes formed in their bodies.
- Animals like cows, dogs rats etc. excrete the wastes in the form of urine.
- Plants also excrete.
- The photosynthesis and respiratory wastes like oxygen and carbon dioxide respectively are removed through stomata.
- Some plants store the wastes as secretions such as nectar, latex etc.

6. REPRODUCTION:

- The process by which new individual organisms – "offspring" – are produced from their "parents" is called Reproduction.
- Reproduction is a fundamental feature of all living organisms.
- Each individual organism exists as the result of reproduction.
- There are two forms of reproduction: asexual and sexual.

❖Reproduction in Animals:

- The mode of reproduction is different in different animals
- Some animals reproduce their young ones through eggs and are called “Oviparous”

  Ex. Snakes, Lizards, Birds, etc.
- Some reproduce by giving birth to their young ones . These animals are called “ Viviparous”.

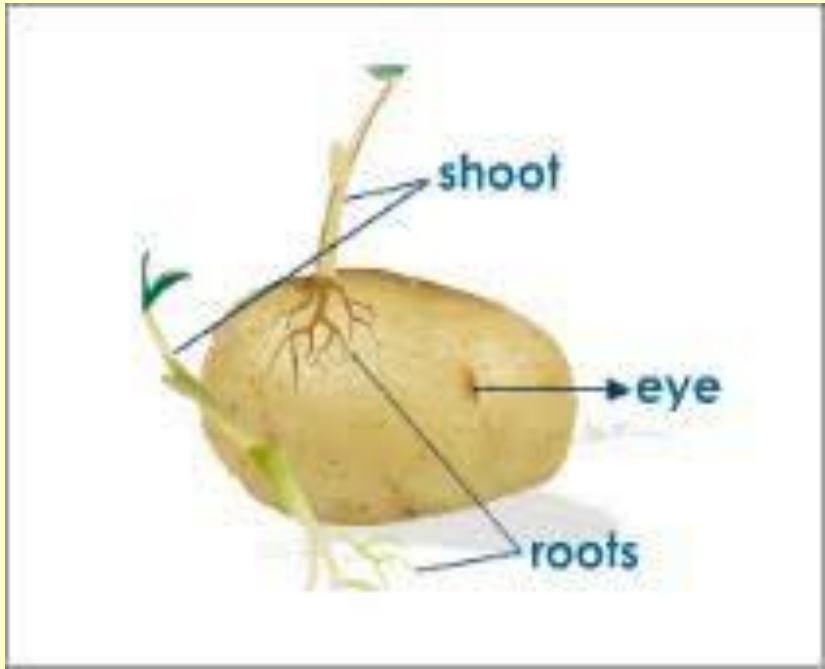
  Ex. Cat, rat dog, human beings, etc.

❖Reproduction in Plants:

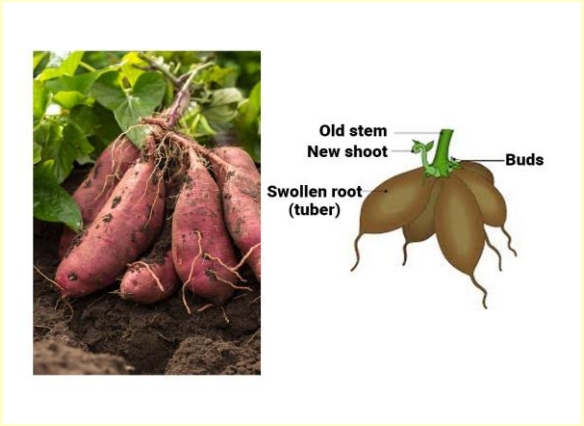
- Plants also reproduce their own kind.
- Many plants reproduce through seeds
  Ex. Cereals, Grams, Mango, Neem etc.

- Some plants reproduce through parts other than seeds.

For example….
a part of a potato with a bud, grows into a new plant.

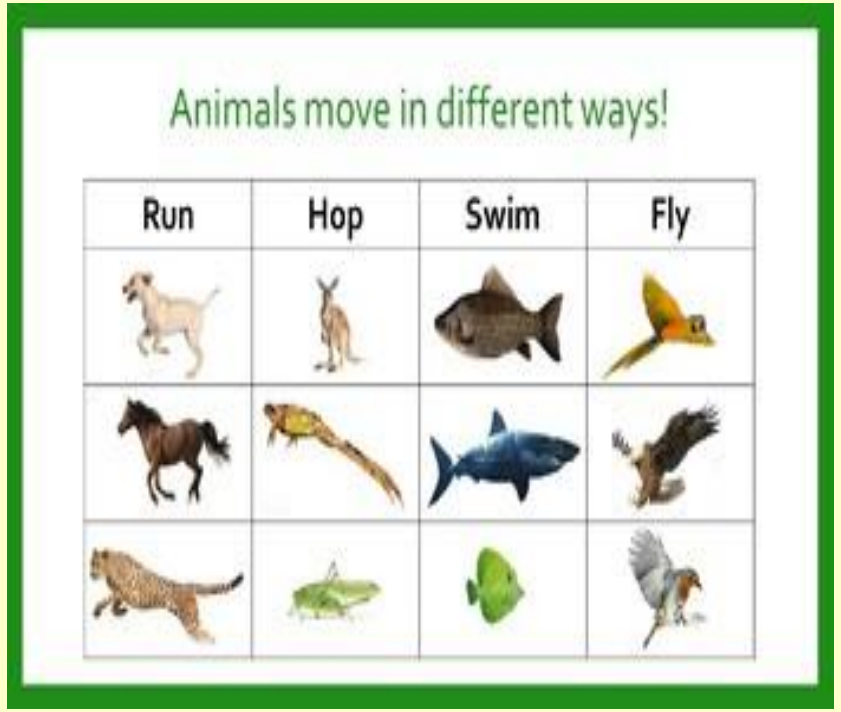


- Some plants reproduce through their roots.
  Example: Dahlia,sweet potato,curry leaves, etc.



- Some plants reproduce vegetatively ….. through leaves.Ex. Bryophyllum
- and some through cutting.
  Example: rose

7. MOVEMENT:



- Animals move from place to place.
- Animals move from place to place in search of food, shelter and to escape from their enemies.

- Plants do not move from place to place.
- But they show movement in the form of…
- closing and opening of flowers.
- Movement of stem towards light as a response to a stimulus (light) etc.

- Some non- living things such as bus, cars, trains, a small piece of paper, clouds etc ; also move from place to place. But their movement is not in the response to the external stimuli.

- Living things can move bodily or show movement of parts of organs of their body .
- Non-living things never move on their own effort.

- Though some non-living things show some of the characteristics of living things , they may not show all the characteristics at the same time.

It is heard that seeds also respire. Do they come under living things? If so why do they not show other characteristics of living things?

Seeds are living! Yes, they are just typically in a dormant state, which means they require very little of the resources necessary to stay alive, until they are in the appropriate conditions to grow.

Inside of a seed is an embryo - a baby plant.

THE END