

Characteristics of Living Things

Solution 1.a:

Cellular structure, movement, responsiveness to stimuli, growth, respiration, reproduction, excretion and death are the characteristics of living things.

Solution 1.b:

Differences between growth of plants and growth of animals:

S.no	Growth of plants	Growth of animals
1.	Growth of plants is not restricted by time limit.	Growth of animals occurs only for a definite period of time.
2.	Plants keep on growing continuously as long as they live.	Animals grow only during a specified period of time.
3.	Growth takes place in specific parts of the plants.	Growth takes place throughout the body of animals.

Solution 1.c:

Plants produce several substances which they do not require for their nourishment and pass them out as waste materials. They excrete the waste in the form of vapour. The stems of some plants such as babhul, neem and drumstick secrete waste in the form of gum.

Solution 1.d:

Differences between living and non-living things:

S.no	Living things	Non-living things
1.	Living things have a cellular structure.	Non-living things do not have a cellular structure.
2.	All living things move of their own accord.	Non-living things do not move of their own accord.

3.	Living things have the ability to respond to stimuli.	Non-living things lack the ability to respond to stimuli.
4.	Living things grow.	Non-living things do not grow.
5.	Respiration occurs in living things.	Respiration does not occur in non-living things.
6.	Living things reproduce.	Non-living things cannot reproduce.
7.	Excretion takes place in living things.	Non-living things do not excrete.
8.	Death occurs in living things.	Non-living things do not die.

Solution 2.a:

Plants cannot move from one place to another as they lack the organs of locomotion. They are fixed firmly in the soil at a place with the help of roots. Plants can only make slight movement of parts of their body (such as leaves, flowers, shoots and roots) towards a stimulus such as water or light.

Solution 2.b:

Living things have a limited lifespan. As age advances, growth and reproduction take place which makes their organs weaker and weaker. Eventually, their life processes cease and they die. Therefore, death occurs in all living things.

Solution 3.a:

1. **Growth** – Growth is a process by which all living things become bigger in size. In animals, an overall and proportionate increase in size occurs with a corresponding increase in weight. In plants, certain parts grow as compared to the other parts.
2. **Responsiveness to stimuli** – Responsiveness to stimuli is a characteristic of living things by which living things receive a stimulus from their surroundings and respond to it.
3. **Excretion** – The process of passing out waste substances which are of no use for the nourishment of the body is called excretion.
4. **Reproduction** – Reproduction is a process by which living things produce another living thing of their own kind.

Solution 4:

1. True
2. False. To inhale is to take oxygen from the air into the body.
3. False. Human beings grow only during a specific period of their life.
4. True

Solution 5:

1. Amoeba, Paramecium
2. Horse, crow
3. Plants, animals
4. Stone, car
5. Swimming of a fish, flying of a bird
6. Growth of shoot towards light, bending of roots towards a source of water
7. Snake, hen
8. Dog, cat
9. Neem, drumstick

Solution 6.a:

People look up when an aeroplane passes overhead, high up in the sky as it is a response to sound produced by the aeroplane. When an aeroplane is passing overhead, it makes loud noise. This noise acts as a stimulus for people, and they look up to respond to this noise.

Solution 6.b:

Closing of the eyes quickly when a beam of light flashes on the eyes is a response to light. A beam of light acts as a stimulus for the nerves of our eyes. When this beam flashes, we respond to it by closing our eyes quickly to protect our eyes from any possible damage.

Solution 6.c:

A cat pricks up its ears on hearing even the slightest sound as a response to the sound. When there is sound, the sound acts as a stimulus and the cat immediately responds to it by pricking up its ears.

Solution 6.d:

We get startled on hearing shouts as a response to the sound. When somebody shouts from behind, we recognise it as a danger and respond to it by being startled.

Solution 7:

