**GREENWOOD PUBLIC SCHOOL, ADITYAPURAM**

**OUR MOTTO-DEVELOPMENT WITH DELIGHT**

**CLASS-IV SUBJECT- SCIENCE**

**TERM-1 SYLLABUS**

**Lesson - 3**

**Adaptation in Plants**

**New words:**

1. Adjustment
2. Surroundings
3. Habitat
4. Terrestrial
5. Aquatic
6. Conifers
7. Xerophytes
8. Marshy
9. Insectivorous
10. Parasitic

**Glossary:**

1. **Terrestrial plants:** Plants that grow on land.
2. **Aquatic plants:** Plants that grow in water.
3. **Insectivorous plants:** Plants that trap and eat insects.
4. **Xerophyte:** Plants that grow in deserts.
5. **Mangroves:** Trees growing in marshy areas.
6. **Conifers:** Trees having cones instead of flowers.

**Short Answers:**

**Q.1 What are conifers? Give two examples?**

Answer: Trees that bear cones and needle like or scale like leaves that are typically evergreen are called conifers. Ex. Pine, Fir, Redwood, Cedar etc.

**Q.2 What kind of leaves are found in desert plants?**

Answer: The desert plants have very few leaves. The leaves of some plants are modified into spines.

**Q.3 Why do some plants eat insects?**

Answer: Some plants eat insects to fulfil nutrients deficiency as they grow in the soil which is poor in nutrients.

**Q.4 Write some uses of plants?**

Answer:

1. Plants give us wood for making furniture.

2. Plants give us fruits and vegetables.

3. We get fibres from plants like cotton and jute.

4. Plants give us rubber, gum etc.

**Long Answers:**

**Q.1 What is adaptation?**

Answer: The process of adjustment in a particular environment is called adaptation.

**Q.2 What are terrestrial plants? Give two examples?**

Answer: The plants that grow on land are called terrestrial plants. Ex. Mango, Banyan etc.

**Q.3 Why do the roots of mangrove trees grow upwards?**

Answer: Mangrove trees grow in wet mud and clay. As the clay does not allow the roots to breathe, they grow upwards.

**Q.4 How are underwater plants adapted to their habitat?**

1. They have narrow leaves with no pores.

2. They breathe through their body surface.

3. Their roots fix them in the muddy soil.

**Q.5 How do desert plants save water?**

Answer: To save water, desert plants have the following features:

1. They do not have any leaves or have very few of them. Photosynthesis is carried out by the green stems.

2. Most of the plants have thorns.

3. They store water in the stems which become fleshy.

**Differentiate between:**

**Terrestrial plants and Aquatic plants**

|  |  |
| --- | --- |
| **Terrestrial Plants**  -These plants grow on land.  - Ex. Mango, Neem etc. | **Aquatic plants**  - These plants grow in water.  - Ex. Lotus, Tape grass etc. |

**HOTS**

**Q.1 Roots are parts of plant that grow below the ground. Can you think of a place where roots grow above the ground?**

Answer: In marshy areas, the soil is sticky and clayey. In such areas mangrove trees are found. They have breathing roots that grow above the ground. These roots have pores for exchange of gases.

**Activity**

1. **Terrestrial plants**

**Plants of Mountains** **Plants of Plains**

**Plants of Marshy areas** **Plants of deserts**

**Plants of hot and dump climate**

2.

**Aquatic plants**

**Underwater plants** **Fixed plants**

**Floating plants**

**Lesson - 4**

**How plants make food**

**New words:**

1. Chlorophyll
2. Minerals
3. Photosynthesis
4. Factories
5. Leaf blade
6. Vein
7. Stomata
8. Manufacture
9. Starch
10. Food chain

**Glossary:**

**Chlorophyll:** Green pigment present in leaves.

**Stomata:** Small openings in a leaf.

**Photosynthesis:** The process by which the plants prepare their food in the presence of sunlight, and water, carbon di-oxide and chlorophyll.

**Short Answers**

**Q.1 What is the use of chlorophyll in the leaves?**

Answer: Green plants prepare their food with the help of chlorophyll.

**Q.2 Where do plants store their extra food?**

Answer: Plants store their extra food in the form of starch which is stored in the leaf and carried to different parts of a plant such as roots, stems, fruits and seeds.

**Q.3 Why is the leaf called the food factory of a plant?**

Answer: Leaf prepares food for the plant so it is called food factory of a plant.

**Q.4 What are the functions of leaf?**

1. Leaf prepares food for the plant.

2. It helps the plant to breathe through stomata.

3. Some leaves have medicinal value Ex. Tulsi, Neem etc.

**Long Answers**

**Q.1 What is the function of the roots?**

1. The roots absorb water and minerals from the soil.

2. Some roots store food. Ex. carrot.

**Q.2 Explain the flow of energy in the living things?**

Answer: Plants make their own food.

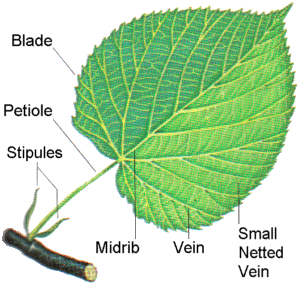
Herbivorous animals use plants for their food.

Carnivorous animals use the flesh of herbivorous animals for their food.

In this way energy is transferred from one organism to another.

**Diagrams**

**1. Parts of a leaf**



**2. Food chain**

**Flower (Producer). Caterpillar (Consumer)**

**Snake (Consumer). Frog (Consumer)**

**Owl (Consumer)**

**Lesson - 5**

**Adaptation in Animals**

**New words**

1.Arboreal

2.Aerial

3.Amphibians

4. Fins

5. Gills

6. Parasites

7. Camouflage

8. Hibernation

9. Migration

10. Extinct

**Glossary**

**Adaptation:** The process of adjustment to a particular environment.

**Habitat:** The home or natural environment of a living thing.

**Migration:** The process of travelling long distances from one place to another in search of food and warmth and then returning to the original place.

**Parasites:** Animals that live on or inside a living body.

**Extinct animals:** Animals that have died out.

**Short Answers**

**Q.1 Why do camels have thick skin?**

Answer: Camels have thick skin to protect themselves from sun’s heat and cold.

**Q.2 How can we group animals according to their food habits?**

Answer: Animals can be grouped as herbivores, carnivores, omnivores and parasites according to their food habits.

**Q.3 How are snakes and crocodiles able to adapt to temperature differences?**

Answer: Snakes and crocodiles are cold blooded animals. They cannot tolerate extreme cold condition so they undergo long winter sleep called hibernation.

**Q.4 Name some extinct and endangered animals?**

Answer:

Names of some extinct animals are: Dodo, Mammoth, Great Auk etc.

Names of some endangered animals are: Asian Tigers, Giant Panda, Gorillas etc.

**Long Answers**

**Q.1 What is hibernation?**

Answer: Some animals like snakes and crocodiles are cold blooded animals. They cannot tolerate extreme cold conditions so they undergo long winter sleep called hibernation.

**Q.2 What is meant by camouflage?**

Answer: Some animals change their skin colour as per the surrounding to protect themselves from their enemies. This property is known as camouflage.

**Activity**

**Animals**

**(On the basis of their habitat)**

**Terrestrial**

**Aquatic**

**Arboreal**

**Aerial**

**Amphibians**

**Lesson - 6**

**Animal Reproduction**

**New words**

1. Mammal
2. Incubation
3. Yolk

4. Embryo

5. Albumen

6. Nymph

7. Moulting

8. Larva

9. Pupa

10. Spawn

**Glossary**

**Reproduction:** The process by which living things produce young ones of their own kind.

**Albumen:** White jelly like substance outside the yolk.

**Incubation:** The process of supplying warmth to the egg so that it develops into a baby.

**Moulting:** The process of shedding the old skin.

**Life cycle:** Various stages of development of a living thing.

**Nymph:** Young ones of an insect resembling the parent.

**Short Answers**

**Q.1 State two ways in which the animals reproduce their own kind?**

Answer:

1. Some animals lay eggs.Ex.Snake, Turtle etc.
2. Some animals give direct birth to their young ones.Ex.Dog, Cat etc.

**Q.2 Describe the various stages in a butterfly’s life cycle?**

Answer: The various stages in a butterfly’s life cycle are,

1. Egg B. Larva C. Pupa D. Adult.

**Q.3 What is meant by parental care?**

Answer: Parents look after their young ones and take care of their needs. This is called parental care.

**Q.4 What are spawns?**

Answer:The eggs of fishes and frogs are known as spawns.

**Long Answers**

**Q.1 Describe the structure of an egg?**

Answer: The structure of an egg consists of ,

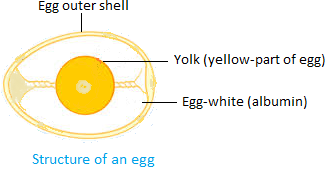
1. **Egg Shell**- A hard protective outer shell.
2. **Yolk**- The yellow part inside the egg which is rich in fat, vitamins and minerals. Inside the yolk,there is an Embryo.
3. **Albumen**- White jelly like substance outside the yolk.It protects Embryo and Yolk.

**Q.2 Describe the life cycle of a frog?**

Answer: Frogs lay eggs in water. Their eggs are called spawn. After few days, frogs egg hatches into a

little black tadpole.The tadpole loses its tail and takes the shape of an adult.

**Diagram**



Outer membrane Inner membrane

**Lesson - 7**

**Food and Digestion**

**New words**

1.Carbohydrates

2.Proteins

3.Fats

4. Vitamins

5. Minerals

6. Contraction

7. Impulses

8. Haemoglobin

9. Roughage

10. Constipation

**Glossary**

**Nutrients:** Food substances that we eat.

**Roughage:** The part of food that helps to push down wastes.

**Saliva:** Digestive juice produced by salivary glands.

**Digestion:** The process of breakdown of food in the body.

**Balanced diet:** A diet that has the right amount of nutrients from all food groups.

**Short Answers**

**Q.1 Name five nutrients needed by our body?**

Answer: The important nutrients needed by our body are Carbohydrates, Fats, Proteins, Vitamins and Minerals.

**Q.2 What happens to the food in the mouth?**

Answer: When we chew food, saliva mixes with the food and the food becomes soft..

**Q.3 Name two organs of the digestive system which make digestive juices?**

Answer: The organs which make digestive juices are Stomach,Liver, etc..

**Q.4 List any three good eating habits?**

1. Wash your hands with soap before and after eating the food.
2. Do not talk while eating.
3. Do not eat uncovered food.

**Long Answers**

**Q.1 What happens to the undigested part of the food?**

Answer: The undigested food gets stored at the end of the large intestine inside the rectum and muscles push the waste out of the body through anus.

**Q.2 Write three uses of water for our body?**

1. Water surrounds tissues and organs and gives protection from shock.
2. It removes waste from our body in the form of sweat and urine.
3. It helps to absorb the nutrients in the body.

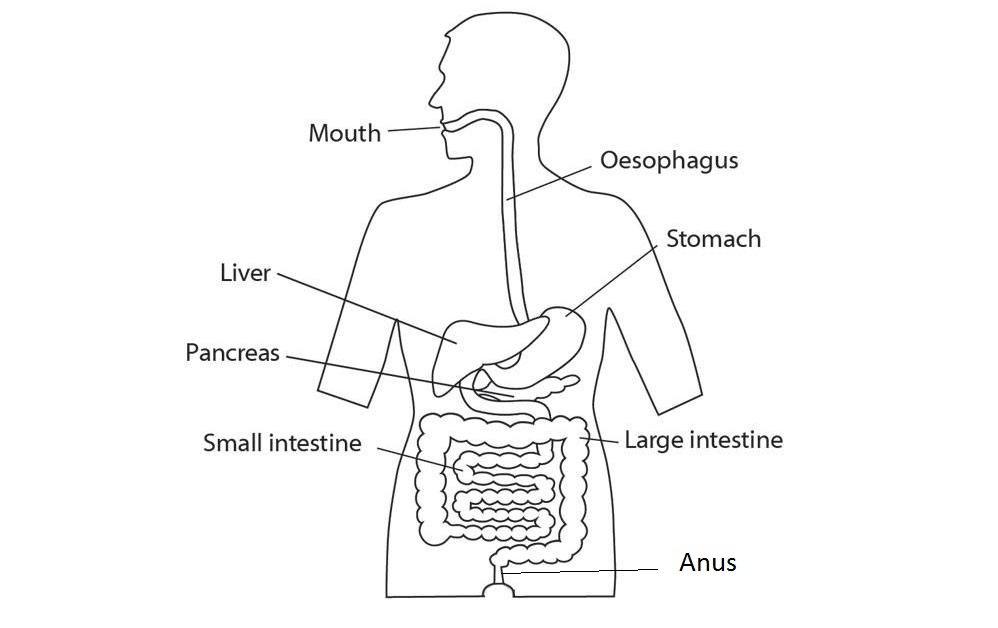
**Q.3 Why do we need proteins?**

Answer: We need proteins because :-

1. It is used for the growth and development of the body.
2. It helps to repair the body cells and tissues.

**Diagram**

**Digestive System**



**Activity**

**Digestion Flow Chart**

**Food Mouth**

**Esophagus/ Food pipe**

**Stomach**

**Small Intestine**

**Large intestine**