

Answers

Lesson-5: Plant Reproduction

Main Coursebook

Re-KAP

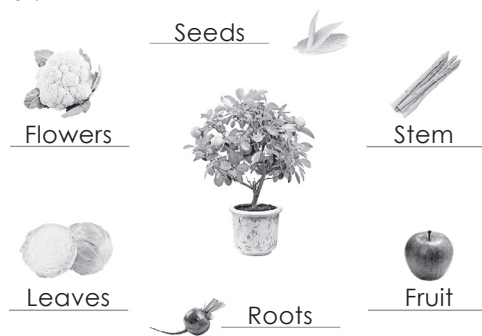
Kinaesthetic:

Accept all relevant responses.

Auditory:

1. Plants use air, water and sunlight to prepare their own food by a process called photosynthesis.
2. Plants take in carbon dioxide for making their food.

Pictorial:



Interacting better:

Accept all relevant responses.

Understanding better: (Page 39)

1. True
2. False

Learning better:

- A. 1. c 2. c 3. b
4. b 5. c
- B. 1. germination 2. water, sunlight
3. dispersal 4. agents of dispersal
5. wind
- C. 1. An embryo is an immature plant that further grows into a new plant under desired conditions.
2. Vegetative propagation.
3. The growth of a new plant from the embryo present inside the seed is known as seed germination.
- D. 1. There are five stages of germination. These are as follows:
Stage 1: Imbibition – A process in which a dry seed absorbs water from the soil and swells up after rehydration.
Stage 2: Metabolism – Upon hydration, metabolic processes such as respiration, enzyme activation (a process in which

chemical reactions speed up) and synthesis of cellular respiration begin. Then, enzymes start to convert stored food into energy.

Stage 3: Growth initiation – This energy helps seedlings to grow. The embryo present within the seed develops. When the embryonic root becomes visible, it is the first visible sign of germination.

Stage 4: Root and shoot – Roots grow in the downward direction. They take water from the ground. Shoots grow in the upward direction, towards the surface of the soil.

Stage 5: Establishment of seedling – As the shoot begins to develop leaves, it shows that the baby plant is now growing into an adult plant.

2. Seed dispersal can take place through various natural factors, such as wind, water, animals and sometimes, by the explosion of fruits. Such factors are called the agents of dispersal. The agents of seed dispersal are as follows:

Dispersal by wind

Seeds of plants, such as cotton, hibiscus and dandelions, have hair or wings and are lightweight. Thus, these seeds are easily dispersed by wind.

Dispersal by water

Plants with spongy parts or fibrous outer covering can float on water. Hence, their seeds get dispersed through water. The seeds of lotus, water lily, coconut and palm are dispersed by water.

Dispersal by animals

Humans and animals consume fruits, such as dates, cherries, mangoes, etc. and throw away their seeds. Some of these seeds have spines, hooks and stiff hair, which sometimes get attached to different animals or birds or even our clothes. As a result, these seeds travel long distances. Whenever the seeds drop, they have a possibility of germination if the conditions are favourable. Some other examples of seeds that are dispersed by animals are sunflower, tomatoes and tamarind.

Dispersal by explosion

Seeds of some plants, such as peas, explode. Such explosions help in seed dispersal which means that the seeds get thrown in different directions. In the availability of favourable conditions, the seeds germinate.

Creating better:

Accept all relevant responses.

Thinking better:

Bryophyllum, also known as the 'mother of thousands', is a plant that can usually reproduce through its leaves. New plants grow from small buds on the edges of the leaves. However, if the leaves were unable to form new plants, the plant could still reproduce in other ways:

1. Seeds: Bryophyllum can produce flowers that make seeds. If the plant flowers and the seeds are spread by wind, animals or water, they can grow into new plants.
2. Stem or Root Cuttings: Bryophyllum can also grow from pieces of its stem or roots. If a part of the plant is cut off and planted in soil, it can grow into a new plant.

So, even without its leaves forming new plants, Bryophyllum can still reproduce through seeds or other parts of its body, like stems and roots.

Choosing better:

1. She should remain honest with herself and not copy the answer.

Students' Worksheets

Worksheet 1

- A. 1. three 2. outermost
3. immature 4. endosperm
5. cotyledon
- B. 1. True 2. True 3. False
4. True 5. True
- C. 1. →b 2. →c 3. →e 4. →d 5. →a

Worksheet 2

- A. 1. young plant or seedling
2. Water
3. sunlight or warmth
4. Air
5. roots

- B. 1. EMBRYO 2. ENDOSPERM
3. SEED COAT 4. COTYLEDON
5. SEEDLING

- C. 1. True 2. False 3. True
4. False 5. False

Worksheet 3

- A. 1. It is the outermost covering of the seed.
2. It is a tissue present inside the seeds that provides nourishment to the young seedling.
3. It is the nutrition-providing part for growing embryo that is found within the seed.
4. Air, water and sunlight.
5. These are various natural factors that disperse the seeds away from the parent plant.

- B. 1. PEA 2. HIPTAGE
3. COCONUT 4. TAMARIND
5. DANDELION

- C. 1. True 2. True 3. False
4. False 5. False

Book of Holistic Teaching

Developing better:

A. English

Humid

- Dry
- Arid

Clean

- Dirty
- Unclean

B. Maths

The cost of 5 kg of grape seeds is ₹436.

C. Social Studies

Plants like mosses and lichens grow in Arctic.

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Making better:

Accept all relevant responses.

Answers

Lesson-6: Animals Around Us

Main Coursebook

Re-KAP

Kinaesthetic:

Accept all relevant responses.

Auditory:

1. Animals that fly are called aerial animals.
2. Bat is the only mammal capable of flying.

Pictorial



- carnivore
 omnivore
 herbivore



- carnivore
 omnivore
 herbivore



- carnivore
 omnivore
 herbivore

Interacting better:

Accept all relevant responses.

Understanding better: (Page 44)

1. False
2. True

Understanding better: (Page 45)

1. True
2. False

Learning better:

- A. 1. c 2. c 3. c
 4. a 5. c
- B. 1. False 2. True 3. False
 4. True 5. False
- C. 1. Insects breathe through small openings, known as spiracles, present on the thorax and abdomen of their bodies. Spiracles are connected to the trachea.
 2. Forelimbs.
 3. Ostriches, penguins and emu.
- D. 1. Microscopic organisms, such as paramecium and amoeba, breathe through their body surface. Insects breathe through small openings, known as spiracles, present on the thorax and abdomen of their bodies. Spiracles are connected to the trachea. Animals, such as earthworms, breathe through their thin and moist skin. Some aquatic animals, such as fishes, prawns and oysters, breathe through their gills. Amphibians, such as frogs, breathe through both their gills and lungs. A tadpole breathes

through gills, whereas an adult frog breathes through lungs on land and through its moist skin in water.

2. The seasonal movement of animals from one place to another is called migration. Animals migrate due to several reasons, such as weather, food, water and shelter.

Some migratory fishes, such as eels, migrate from rivers to seas and lay eggs there.

Creating better:

Accept all relevant responses.

Thinking better:

If animals and birds couldn't migrate from one place to another, it would cause many problems for them and the environment.

1. Lack of food: Many animals and birds migrate to find food. If they couldn't travel, they might not find enough food in the area where they live, and some might not survive.
2. Bad weather: Some animals and birds migrate to avoid cold winters or hot summers. If they couldn't leave when the weather changed, they might not be able to live in that place anymore.
3. Overcrowding: If animals or birds couldn't migrate, too many of them would stay in one place. This could lead to overcrowding, which means there wouldn't be enough space or food for everyone.
4. Disrupting nature: Migration helps balance nature. Animals and birds help spread seeds or pollinate plants while they travel. If they couldn't migrate, plants and ecosystems might not grow and spread the way they should.

Choosing better:

2. She should call an adult for help and ask them to arrange for a veterinarian.

Students' Worksheets

Worksheet 1

- A. 1. breathing 2. water
 3. *Paramecium* 4. Insects
 5. gills
- B. 1. False 2. False 3. True
 4. False 5. True
- C. 1. → e 2. → d 3. → c 4. → a 5. → b

Worksheet 2

- A. 1. four 2. forelimbs 3. hindlimbs
 4. paddle-like 5. webbed
- B. 1. Almost all mammals have four limbs.

2. Birds have wings to fly.
3. Emu is a flightless bird.
4. Humans use their lower limbs to walk.
5. Animals migrate due to food, weather, shelter and water.

- C. 1. False 2. False 3. True
 4. False 5. True

Worksheet 3

- A. 1. wings 2. feathers 3. hindlimbs
 4. flightless 5. plates
- B. 1. AQUATIC 2. INSECTS 3. BIRDS
 4. REPTILES 5. HUMANS
- C. 1. True 2. True 3. False
 4. True 5. False

Book of Holistic Teaching

Developing better:

A. English

1. **Birds:** The birds flew across the sky, chirping happily as they went.

2. **Spiracles:** Insects breathe through small openings, known as spiracles, present on the thorax and abdomen of their bodies.

B. Maths

The decimal form in words is as follows: Five hundred eighteen rupees and fifty paise.

C. Social Studies

Two animals which are found in extreme cold regions are polar bear and huskies.

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Making better:

Accept all relevant responses.