

Answer Key

5th Social Second Term model question paper 2

Activity 1

1. Steps to purify river water:

- Filter out large debris.
- Allow sedimentation to settle impurities.
- Pass through multi-layered sieves.
- Disinfect the water to kill bacteria.

2. Total water consumption for a family of four in one day:

- Cooking: $1 \text{ liter} \times 4 = 4 \text{ liters}$
- Drinking: $2.5 \text{ liters} \times 4 = 10 \text{ liters}$
- Total: $4 + 10 = 14 \text{ liters/day}$

3. Ways to reduce water wastage:

- Fix leaking taps and pipes.
- Use water-saving appliances.
- Practice rainwater harvesting.

Activity 2

1. Water as a universal solvent:

- Water dissolves many substances due to its polar nature.
- Examples: Sugar dissolves in water to form a sugar solution; salt dissolves in water for cooking.

2. Predictions for solubility:

- Sugar: Dissolves because it is polar.
- Camphor: Partially dissolves due to its organic nature.
- Coconut oil: Does not dissolve as it is non-polar.

3. Indicators of unsafe water:

- Presence of bacteria.
- Foul odor or color.
- Presence of chemical waste.

Activity 3

1. Seed germination process:

- Seeds absorb water, causing them to swell.
- The radicle grows downward into the soil to form roots.
- The plumule grows upward to form the shoot.

2. Differences between monocot and dicot plants:

- Monocot: Fibrous roots, parallel venation (e.g., grass).
- Dicot: Taproot system, reticulate venation (e.g., mango).

3. Example of plant propagation without seeds:

- **Example:** Rose.
- **Method:** Grown through stem cuttings.

Activity 4

1. Impact of water scarcity:

- Reduces crop yields and affects food supply.
- Leads to drinking water shortages.

Solutions:

- Practice rainwater harvesting.
- Promote efficient irrigation techniques like drip irrigation.

2. Essay on rainwater harvesting:

- Rainwater harvesting involves collecting rainwater in tanks, wells, or check dams.

- Benefits: Reduces dependency on groundwater, prevents waterlogging, and ensures water availability during dry periods.

3. **Environmental impact of overusing groundwater:**

- Depletes water tables.
- Causes land subsidence and affects soil fertility.

Activity 5

1. **Seed dispersal by animals:**

- Birds eat fruits and excrete seeds far from the parent plant (e.g., berries).
- Animals carry seeds stuck to their fur (e.g., burdock seeds).

2. **Adaptation of coconut for seed dispersal:**

- Buoyant due to its fibrous husk.
- Can float in water and travel to distant places.

3. **Bursting seeds example:**

- **Example:** Balsam.
- **Importance:** Ensures seeds scatter over a wide area for better growth opportunities.

Activity 6

1. **Roles of water in plants:**

- Transports nutrients from roots to leaves.
- Maintains plant structure through turgidity.
- Essential for photosynthesis.

2. **Relationship between leaf venation and root system:**

- Plants with parallel venation have fibrous roots (e.g., grass).
- Plants with reticulate venation have taproots (e.g., jackfruit tree).

3. Benefits of hydroponics:

- Requires less space, making it ideal for urban farming.
- Uses nutrient-rich water, reducing soil dependency.

Activity 7

1. How the moon shines:

- The moon reflects sunlight, making it appear bright.

2. Differences between stars and planets:

- Stars are self-luminous, while planets reflect light.
- Stars twinkle, but planets shine steadily.
- Stars are farther from Earth compared to planets.

3. Role of artificial satellites:

- Help in GPS navigation.
- Provide weather forecasts.
- Enable communication networks like mobile phones.

Activity 8

1. Celestial bodies and orbits:

- Planets, moons, and other objects revolve around the Sun or other celestial bodies in fixed paths called orbits.

2. Artificial satellites in weather forecasting:

- Collect atmospheric data to predict weather conditions.
- Example: INSAT satellites used in India.

3. Chandrayaan missions:

- **Chandrayaan-1:** Mapped the lunar surface in 2008.
- **Chandrayaan-2:** Attempted a soft landing in 2019.

- **Chandrayaan-3:** Achieved a successful landing on the Moon's south pole in 2023.