

## PRACTICE WORKSHEET 3: EXPERIMENTS WITH WATER | CLASS 5 ENVIRONMENTAL STUDIES

### Multiple Choice Questions

1. What happens when sand is added to water?
    - a. It dissolves completely
    - b. It floats on the surface
    - c. It sinks to the bottom
    - d. It forms a solution
  2. Which substance will float on water?
    - a. A metal coin
    - b. A piece of cork
    - c. A glass bead
    - d. A stone
  3. Which of the following dissolves in water?
    - a. Oil
    - b. Sugar
    - c. Sawdust
    - d. Plastic
  4. Why does warm water dissolve substances faster than cold water?
    - a. Warm water makes substances lighter
    - b. Warm water molecules move faster, helping to mix substances
    - c. Warm water expands the container
    - d. Warm water is denser than cold water
  5. What is a common characteristic of substances that sink in water?
    - a. They are less dense than water
    - b. They are insoluble
    - c. They are denser than water
    - d. They are lighter than water
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### Fill in the Blanks

1. \_\_\_\_\_ substances like sugar dissolve easily in water.
  2. Substances like oil and water do not mix and are called \_\_\_\_\_.
  3. \_\_\_\_\_ is an example of a material that floats on water.
  4. Sand is \_\_\_\_\_ in water, so it settles at the bottom.
  5. Stirring helps substances dissolve \_\_\_\_\_ in water.
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### True or False

1. A metal key will float on water because it is small. (True/False)
  2. Sugar dissolves faster in warm water than in cold water. (True/False)
  3. Stirring does not affect the speed at which substances dissolve. (True/False)
  4. A piece of cork floats because it is less dense than water. (True/False)
  5. Sand is soluble in water. (True/False)
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### Short Questions

1. What happens to insoluble substances like sand when added to water?
  2. How does stirring affect the dissolving process of substances in water?
  3. Why does a cork float on water while a stone sinks?
  4. What is the difference between a solution and a mixture?
  5. How can you separate insoluble substances like sand from water?
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### Long Questions

1. Explain the difference between floating and sinking with examples of materials that float or sink in water.
  2. Describe an experiment to observe the solubility of different substances in water.
  3. Why is understanding solubility and density important in our daily lives? Provide examples.
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### Answer Key

#### Multiple Choice Questions

1. c. It sinks to the bottom
  2. b. A piece of cork
  3. b. Sugar
  4. b. Warm water molecules move faster, helping to mix substances
  5. c. They are denser than water
- 

#### Fill in the Blanks

1. Soluble
  2. Immiscible
  3. Cork
  4. Insoluble
  5. Faster
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#### True or False

1. False
  2. True
  3. False
  4. True
  5. False
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#### Short Questions

1. Insoluble substances like sand do not dissolve in water. Instead, they settle at the bottom due to their weight.
  2. Stirring helps distribute the particles of the substance throughout the water, increasing the rate of dissolving.
  3. A cork floats because it is less dense than water, whereas a stone sinks because it is denser.
  4. A solution forms when a substance completely dissolves in water (e.g., sugar in water). A mixture forms when substances remain separate (e.g., sand and water).
  5. Sand can be separated from water by filtration, using a sieve or filter paper to remove the sand particles.
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### Long Questions

- 1. Floating vs. Sinking:** Floating objects are less dense than water (e.g., cork and plastic). Sinking objects are denser than water (e.g., stone and metal). Density determines whether an object floats or sinks.
- 2. Experiment on Solubility:**
  - Materials: Water, sugar, salt, sand, oil.
  - Steps: Add each substance to water and stir. Observe if the substance dissolves (soluble) or does not dissolve (insoluble).
  - Record: Sugar and salt dissolve, while sand and oil do not.
- 3. Importance of Solubility and Density:**
  - Cooking: Sugar and salt dissolve in water for better taste.
  - Cleaning: Soaps dissolve in water to remove dirt.
  - Recycling: Understanding density helps separate plastics from other materials in water.