



# Properties of Matter

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Grade: Grade 5

## Part A: Multiple Choice

Circle the best answer for each question.

1. A student stirs sugar into cold water until no more dissolves. She then heats the water and adds more sugar, which dissolves. What conclusion is best supported?

- A) Heating water creates a chemical reaction that breaks down the sugar molecules.
- B) Increasing the temperature of the solvent allows more solute to dissolve.
- C) The sugar melted from the heat rather than actually dissolving in the water.
- D) Cold water cannot dissolve any sugar, so all the sugar settled on the bottom.

2. A pot of boiling water is left on the stove for a long time and the water level drops. Where did the water go?

- A) The water was destroyed by the heat energy from the stove burner.
- B) The water molecules changed into oxygen and hydrogen gas permanently.
- C) The water evaporated and entered the air as invisible water vapor.
- D) The water was absorbed into the metal of the pot through tiny holes.

3. A glass of ice water is left on a table and water droplets form on the outside of the glass. What caused this?

- A) Water leaked through microscopic cracks in the glass wall.
- B) The cold glass caused water vapor in the surrounding air to condense on its surface.
- C) The ice inside the glass pushed liquid water through the glass by pressure.
- D) Warm air heated the glass and made it sweat like a person exercising.

4. A student wants to dissolve a sugar cube faster without changing the temperature of the water. Which strategy would work best?

- A) Use a larger container so the water has more room to react with the sugar.
- B) Add more sugar cubes so they help each other dissolve more quickly.
- C) Crush the sugar cube into powder to increase the surface area touching the water.
- D) Let the sugar sit longer without stirring because time alone speeds dissolving.

## Part B: Fill in the Blank

Write the correct answer on each line.

1. The ability of a substance to dissolve in another substance is called its \_\_\_\_\_.

2. During freezing, a liquid loses \_\_\_\_\_ energy and its particles slow down enough to form a solid.

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### Part B: Fill in the Blank

Write the correct answer on each line.

1. The ability of a substance to dissolve in another substance is called its solubility.
2. During freezing, a liquid loses thermal energy and its particles slow down enough to form a solid.
3. Crushing a solute into smaller pieces helps it dissolve faster by increasing its surface area.