

Name \_\_\_\_\_

## The Fantastic Journey of Particle Motion: Solids, Liquids, and Gases

### Open-Ended Response Answer Key

1. Answers may vary but could include examples like ice (solid), water (liquid), and steam (gas) and how they behave in different situations.
2. Temperature influences the motion and energy of particles, leading to phase changes in matter. It plays a crucial role in cooking, weather patterns, and industrial processes.
3. Understanding particle motion is vital in chemistry for predicting chemical reactions, in engineering for designing materials, and in meteorology for studying weather patterns and cloud formation.
4. In solids, particles have minimal energy and vibrate in place; in liquids, they move past each other; in gases, they move independently at high speeds. These differences in motion and energy lead to distinct physical properties in each state.

