

States of Matter

Name:

Date:

INQUIRY

Water in Xuanwu Lake can be ice in winter, liquid in spring, and steam from a Nanjing hot pot. What makes it change?

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Solid	Fixed shape, fixed volume. Particles vibrate in place.
Liquid	No fixed shape, fixed volume. Particles slide.
Gas	No fixed shape or volume. Particles move freely.

Part A — Particle Model

1. Draw particle diagrams for solid, liquid, and gas. Label arrangement, movement, and energy. [3 marks]

2. Explain why gases fill their container but liquids don't, using particle theory. [2 marks]

Part B — Changes of State

3. Name each change: (a) solid→liquid (b) liquid→gas (c) gas→liquid (d) liquid→solid (e) solid→gas. [3 marks]

4. A bowl of hot pot soup (■■) steams when served. Explain what is happening to the water particles. [3 marks]