GRADE 6 SCIENCE

Convection Currents

Name: Date:

INQUIRY

Why does the steam from a hot pot (huoguo) always rise upward? Could the same thing happen inside the Earth?

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Convection	Heat transfer through a moving fluid (liquid or gas).
Density	How much mass is packed into a space. Less dense = rises.
Convection current	A circular flow caused by heating and cooling.
Tectonic plate	A large piece of Earth's crust that moves slowly.

Part A — Knowledge

1. Describe what happens to a fluid (liquid or gas) when it is heated. [2 marks]

2. Put these steps in the correct order: (a) Rock cools and sinks (b) Hot rock rises (c) Core heats the mantle (d) Rock spreads sideways at the top. [2 marks]

3. Explain the connection between convection currents and tectonic plate movement. [3 marks]

Part B — Real-World Connections

4. Korean ondol (ondol) is a traditional underfloor heating system. Explain how convection helps warm the entire room, not just the floor. [3 marks]

5. In German apartments, radiators are usually placed under windows. Using your knowledge of convection, explain why this is the best position. [3 marks]

6. Draw and label a diagram showing convection in a pot of boiling water. Include arrows and labels for: hot water, cool water, heat source. [4 marks]

Part C — Inquiry Extension

7. If Earth's core suddenly cooled down and stopped producing heat, what would happen to convection currents? Predict at least three consequences for Earth's surface. [4 marks]