

The Periodic Table

Name:

Date:

INQUIRY

Mendeleev left gaps in his table for elements not yet discovered. He predicted their properties — and was right. How?

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Period	Horizontal row. Same number of electron shells.
Group	Vertical column. Same number of outer electrons.
Atomic number	Number of protons (defines the element).

Part A — Reading the Table

1. For sodium (Na): state its group, period, atomic number, and mass number. [4 marks]

2. What do elements in the same GROUP have in common? Why does this matter? [2 marks]

Part B — Patterns

3. Metals are on the LEFT, non-metals on the RIGHT. Where is the dividing line? Name 2 metalloids. [3 marks]

4. Mendeleev predicted 'eka-silicon' before germanium was discovered. German chemist Winkler found it in 1886. Why was Mendeleev's prediction so important for science? [3 marks]