

8 The Periodic Table – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	Write it 3 times (English)		
Periodic Table	_____	_____	_____
elements	_____	_____	_____
proton number	_____	_____	_____
periods	_____	_____	_____
groups	_____	_____	_____
period	_____	_____	_____
metals	_____	_____	_____
non-metals	_____	_____	_____
group	_____	_____	_____
alkali metals	_____	_____	_____
soft	_____	_____	_____
reactivity	_____	_____	_____
melting point	_____	_____	_____
density	_____	_____	_____

Recall

The **Periodic Table** arranges all the **elements** in order of **proton number**. It is the chemist's map.

- The rows are **periods**; the columns are **groups**.
- Elements in the same group behave alike.

Nothing here is hard – it just reads the table.

New ideas

Read these first, then do the Practice.

■ 1 The layout

- across a **period** (a row): **metals** on the left → **non-metals** on the right.
- in a **group** (a column): elements have the **same number of outer electrons**, so they react in similar ways.

The **group number** equals the charge of the ions: Group I → +1, Group II → +2, Group VII → −1.

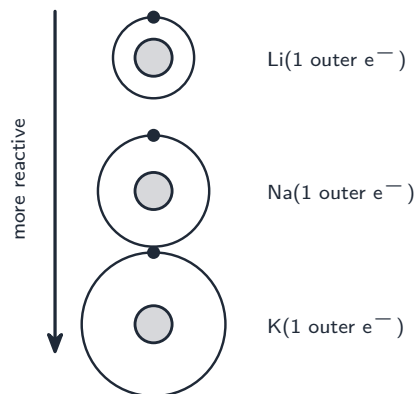
I	II						VIII

metals non-metals

■ 2 Group I – the alkali metals

The **alkali metals** (lithium, sodium, potassium) are **soft** metals with **one** outer electron. Going **down** the group:

Property	Trend down the group
reactivity	increases
melting point	decreases
density	increases



Watch out: elements in a group share properties because they have the **same number of outer electrons** (the group number), not the same total. Group I gets **more** reactive *down* the group – the opposite of Group VII.

Practice

Try these in order.

8.1 In what order are the elements arranged in the Periodic Table? [1]

8.2 What are (a) the rows, (b) the columns called? [2]

8.3 Why do elements in the same group have similar chemical properties? [2]

8.4 What charge of ion does a Group I element form? [1]

8.5 State the trend in reactivity going down Group I. [1]

8.6 **Challenge.** Potassium is below sodium in Group I. Predict whether potassium is more or less reactive than sodium, and explain why in terms of the outer electron. [3]