Name & Surname: _____ Class: _____ Date: _____

The Periodic Table Map



Periods, groups, metals and non-metals

About 50 minutes Level ★★★☆☆

The Table Is a Map

The periodic table is a **map** of all known elements that helps chemists make sense of properties.

- Rows across are called **periods** and columns down are called **groups**.
- Elements are listed in order of increasing **atomic number**.
- Metals sit left of the zigzag line and **non-metals** sit right.
- On the line are metalloids near Groups 13 to 16; Group 1 holds alkali **metals**.

Task A

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Use the notes to write a PEEL paragraph that explains the organisation.

Why is the periodic table more useful than an alphabetical list?

P **Point**
I think the periodic table is more useful because …

E **Evidence**
For example, position shows …

E **Explain**
This shows that …

L **Link**
Therefore, chemists can …

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Across the Period

Explore what changes when you move across the table.

Key words

period: a row running across the table

group: a column running down the table

atomic number: the count that sets the order of elements

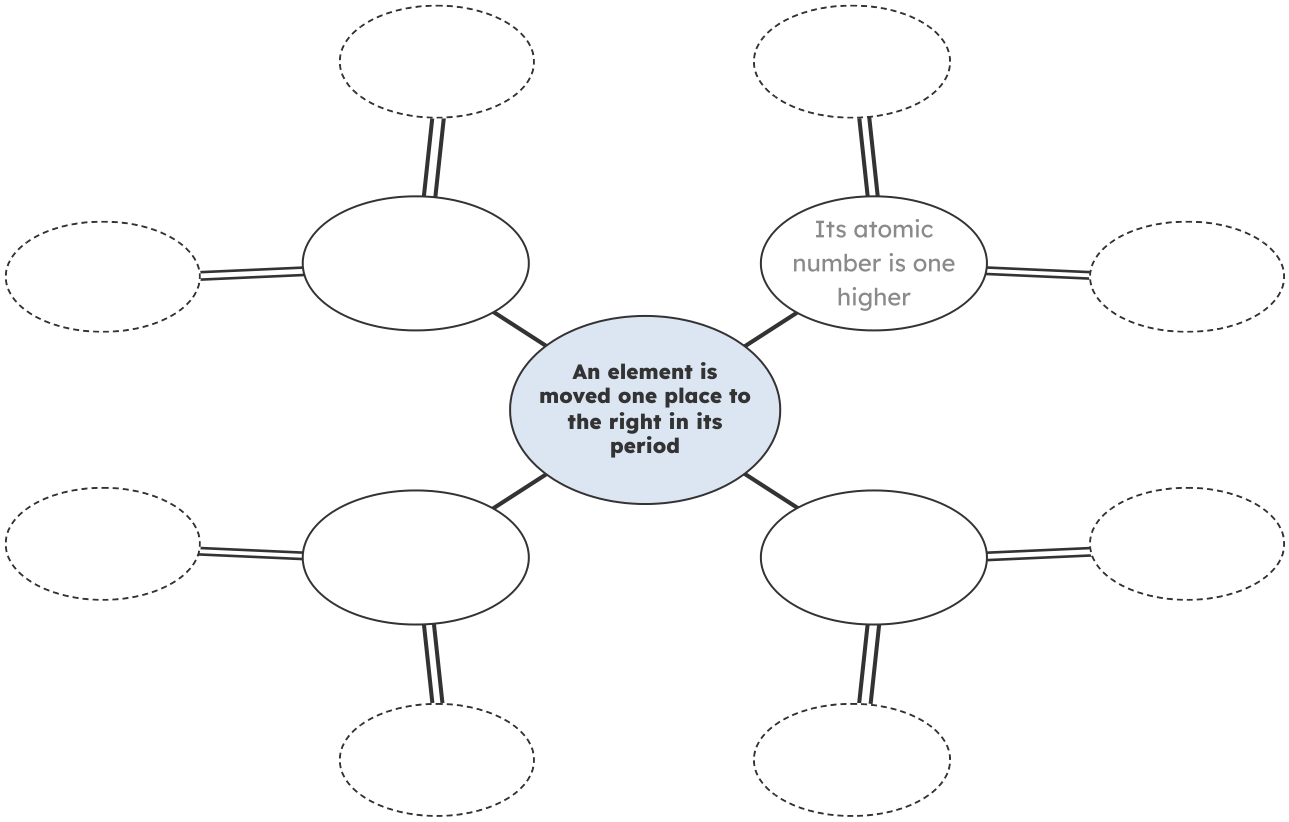
metal: shiny material found left of the zigzag line

non-metal: dull, brittle material found right of the zigzag line

metalloid: element on the zigzag line between metals and non-metals

◎ Task B

Complete the wheel to show effects of moving across a period.



Single lines lead to direct effects; double lines lead to knock-on effects.

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Match Key Terms

Check you know what each key word means.

Task C

Example done for you

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Match each term to its correct meaning.

1	period	◯	the count that sets elements in order
2	group	◯	element on the left of the zigzag line
3	atomic number	◯	element on the right of the zigzag line
4	metal	◯	the elements in Group 1
5	non-metal	1	a row running across the table
6	metalloid	◯	element on the zigzag line itself
7	alkali metals	◯	a column running down the table

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Most Useful Clues

Decide which clues help you place an element best.

✂ Task D

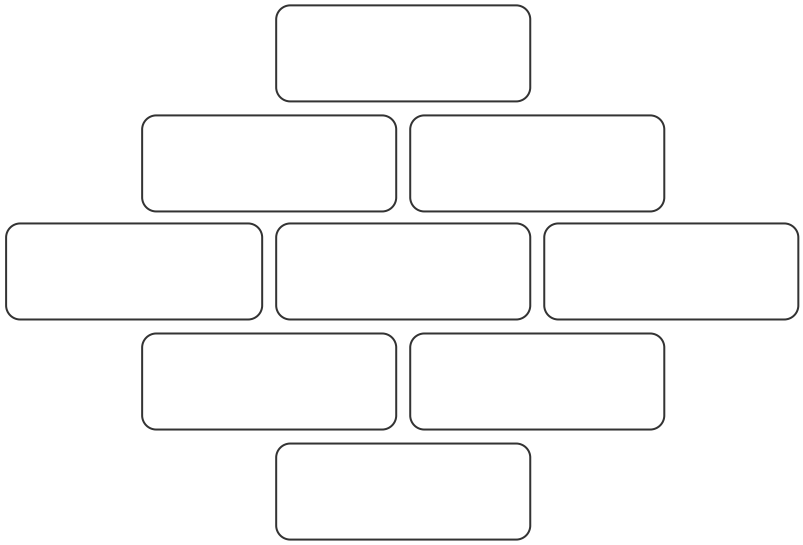
Cut out the cards and rank them in a diamond from most to least helpful.

Which clues best help you place an unknown element?

✂ Cut out the cards.

Row number tells the period	Column number tells the group	Atomic number tells the order
Left of zigzag means metal	Right of zigzag means non-metal	Group 1 means alkali metal
Elements in the same group share similar properties	Your own idea	Your own idea

▲ **Most important**



▼ **Least important**

Why did you put your top card at the top?

.....

.....

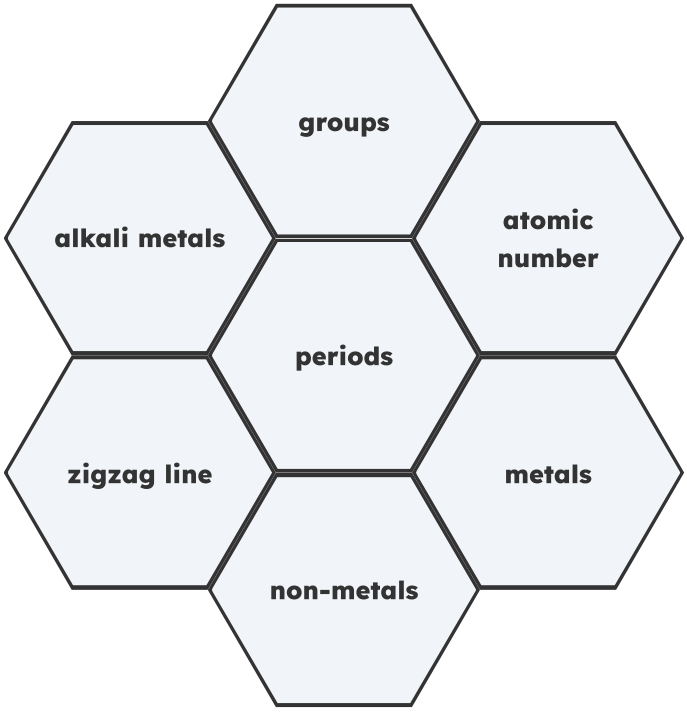
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Link the Ideas

Connect the key ideas and explain the links.

⬡ Task E

Place the hexagons and explain each link where sides touch.



Words that touch	What's the link?

How did I do?

Circle a face for each line.

I can give the period and group for an element. ☹ 😐 ☺

I can describe order by atomic number. ☹ 😐 ☺

I can sort metals and non-metals using the zigzag line. ☹ 😐 ☺

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Answer sheet: The Periodic Table Map

Task A

Example: I think the periodic table is more useful because position shows patterns. For example, rows across are periods and columns down are groups in order of increasing atomic number. This shows that neighbours share patterns and metals stay left of the zigzag line. Therefore, chemists can predict properties from position instead of just reading names in order.

Task B

Answers will vary, e.g. Its atomic number is one higher

Task C

1. period → a row running across the table
2. group → a column running down the table
3. atomic number → the count that sets elements in order
4. metal → element on the left of the zigzag line
5. non-metal → element on the right of the zigzag line
6. metalloid → element on the zigzag line itself
7. alkali metals → the elements in Group 1

Task D

Answers will vary.

Task E

Answers will vary, e.g. periods touch groups because a row and a column together give an element's position; metals touch zigzag line because the line divides metals on the left from non-metals on the right

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