

1 Which of the following could be a transition element?

	melting point in °C	density in g/cm ³	colour	electrical conductor
A	114	4.9	purple	no
B	659	2.7	grey	yes
C	1677	4.5	grey	yes
D	3727	2.3	black	yes

2 The table gives information about four elements, P, Q, R and S.

	melting point in °C	electrical conductivity of element when solid	density in g/cm ³	colour of iodide of element
P	98	good	0.97	white
Q	-39	good	13.53	red
R	1410	poor	2.33	colourless
S	1535	good	7.87	green

A P, Q and S **B** Q and S only **C** R and S only **D** S only

3 Osmium is a transition element.

Which row gives the expected properties of osmium?

	melting point	density	compounds formed
A	high	high	coloured
B	high	high	white
C	high	low	white
D	low	high	coloured

4 The table gives information about four elements.

Which element is a transition metal?

	electrical conductivity	density in g/cm^3	melting point in $^{\circ}\text{C}$
A	good	0.97	98
B	good	7.86	1535
C	poor	2.33	1410
D	poor	3.12	-7

5 Which properties of the element titanium, Ti, can be predicted from its position in the Periodic Table?

	can be used as a catalyst	conducts electricity when solid	has low density	forms coloured compounds
A	✓	✓	✓	x
B	✓	✓	x	✓
C	✓	x	✓	✓
D	x	✓	✓	✓

6 Which is **not** a characteristic property of transition metals?

- A** act as catalysts
- B** form coloured compounds
- C** high melting point
- D** low density

7 An element X has the two properties listed.

- 1 It acts as a catalyst.
- 2 It forms colourless ions.

Which of these properties suggest that X is a transition element?

	property 1	property 2
A	✓	✓
B	✓	x
C	x	✓
D	x	x

8 An element melts at $1455\text{ }^{\circ}\text{C}$, has a density of 8.90 g/cm^3 and forms a green chloride.

Where in the Periodic Table is this element found?

The periodic table is shown with the following labels:

- A** is located in the top right corner (Group 18, Period 1).
- B** is located in the top left corner (Group 1, Period 1).
- C** is located in the middle of the table (Group 8, Period 4).
- D** is located in the bottom right corner (Group 17, Period 6).

9 An element has a melting point of $1084\text{ }^{\circ}\text{C}$ and a density of 8.93 g/cm^3 . It's oxide can be used as a catalyst.

In which position in the Periodic Table is the element found?

The periodic table is shown with the following labels:

- A** is located in the middle of the table (Group 5, Period 4).
- B** is located in the middle right of the table (Group 11, Period 5).
- C** is located in the middle right of the table (Group 12, Period 5).
- D** is located in the bottom left corner (Group 1, Period 7).

10 The positions of four elements are shown on the outline of the Periodic Table.

Which element forms a coloured oxide?

The periodic table is shown with the following labels:

- A** is located in the top middle of the table (Group 10, Period 6).
- B** is located in the top left corner (Group 1, Period 2).
- C** is located in the top right corner (Group 18, Period 7).
- D** is located in the middle of the table (Group 5, Period 4).

11 Which element is a transition metal?

	colour of chloride	melting point of element/ $^{\circ}\text{C}$
A	white	113
B	white	1495
C	yellow	113
D	yellow	1495

12 Platinum is a transition metal.

Which statement about platinum is correct?

- A** It does not catalyse reactions.
- B** It forms coloured compounds.
- C** It has a low density.
- D** It has a low melting point.

13 The table gives information about four elements.

Which element is a transition metal?

	colour of element	electrical conductivity of element	colour of oxide
A	black	high	colourless
B	colourless	low	white
C	grey	high	red
D	yellow	low	colourless

14 Which properties of the element titanium, Ti, can be predicted from its position in the Periodic Table?

	can be used as a catalyst	conducts electricity when solid	has low density	forms coloured compounds
A	✓	✓	x	✓
B	✓	✓	✓	x
C	✓	x	✓	✓
D	x	✓	✓	✓

15 An element has the following properties.

- It forms coloured compounds.
- It acts as a catalyst.
- It melts at 1539 °C.

In which part of the Periodic Table is the element found?

- A** Group I
- B** Group IV
- C** Group VII
- D** transition elements

16 Which compound is likely to be coloured?

- A** KMnO_4
- B** KNO_3
- C** K_2CO_3
- D** K_2SO_4

17 An element melts at 1455°C , has a density of $8.90\text{g}/\text{cm}^3$ and forms a green chloride.

Where in the Periodic Table is this element found?

The diagram shows a simplified periodic table. A box is placed above the transition metals. The labels are positioned as follows:

- B** is in the first column of the first row.
- C** is in the 10th column of the third row.
- D** is in the 16th column of the fourth row.
- A** is in the 18th column of the first row.

18 The table gives information about four elements.

Which element is a transition metal?

	colour of element	electrical conductivity of element	colour of oxide
A	black	high	colourless
B	colourless	low	white
C	grey	high	red
D	yellow	low	colourless

19 The sulfate of element F is green.

Which other properties is element F likely to have?

	density	melting point
A	high	high
B	high	low
C	low	high
D	low	low