

9.4 Transition Elements

Question Paper

Level	IGCSE
Subject	Chemistry (0620)
Exam Board	Cambridge International Examinations (CIE)
Topic	The Periodic Table
Sub-Topic	9.4 Transition Elements
Booklet	Question Paper

Time Allowed: 23 minutes

Score: /19

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

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

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- 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

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- 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

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

