ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY FOUNDATION · UNIT 8 · 25 QUESTIONS

Elements, Compounds and Mixtures — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button so it can be fixed.

1 **Silver coins are made of a metal. Which property do metals have?**

- **A** they conduct electricity
- **B** they do not conduct electricity at all
- **C** they are brittle
- **D** they dissolve in water

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2 **A thermometer shows a patient's temperature is 39 degrees Celsius. Is this above or below normal body temperature?**

- A impossible to tell
- B below normal
- C exactly normal
- D above normal

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3 **Glass marbles are shaken in a tray. What does this model?**

- A particles freezing into place
- B particles bonding together
- C particles disappearing completely
- D particles gaining energy

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4 **Paintbrushes are used with paint. What is paint an example of?**

- A a pure substance
- B a compound
- C a formulation
- D an element

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5 **An ice cream cone melts in the Sun. What is happening to the particles in the ice cream?**

- A they lose energy and slow down a lot
- B they get smaller
- C they gain energy and move more
- D they stop moving

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6 **Lemons taste sour. What does sour taste show?**

- A a salt is present
- B a metal is present
- C an alkali is present
- D an acid is present

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7 **Why does diamond not conduct electricity?**

- A it is made of ions not atoms
- B it has no covalent bonds at all
- C it has no free electrons
- D its atoms are too far apart

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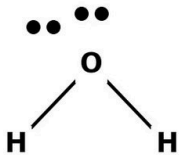
8 **The diagram shows a water molecule. How many lone pairs of electrons does the oxygen atom have?**



- **A** 1
- **B** 3
- **C** 4
- **D** 2

Understand It with Pulse | Flag a mistake

9 **A hot air balloon is filled with hot air. Why does it rise?**

- **A** hot air has no mass
- **B** hot air is less dense
- **C** hot air is colder
- **D** hot air is heavier than cold air

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10 **Which of these has a giant covalent structure?**

A diamond

B sodium chloride

C carbon dioxide

D water

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11 **In a chromatogram, a spot moves 5 cm and the solvent moves 8 cm. What is the Rf value?**

A 0.72

B 1.25

C 0.62

D 0.78

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12 **What is seen when sodium hydroxide is added to iron(II) sulfate solution?**

A a green precipitate

B a brown precipitate forms at once

C a white precipitate forms at once

D a blue precipitate forms at once

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13 **What type of bonding is in diamond?**

A covalent

B metallic

C intermolecular forces

D ionic

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14 **What does adding carbon to iron do?**

- **A** it makes it melt more easily
- **B** it makes it softer and weaker
- **C** it makes it harder
- **D** it makes it conduct less heat

Understand It with Pulse | Flag a mistake

15 **What is the formula of methane?**

- **A** C_2H_4
- **B** CH_3
- **C** CH_4
- **D** CH_2

Understand It with Pulse | Flag a mistake

16 **Why can metals be drawn into wires?**

A their layers can slide

B their electrons hold them rigid

C their bonds break very easily

D their atoms are far apart

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17 **How does sodium form an ion?**

A it gains one electron

B it loses one electron

C it shares one electron

D it loses two electrons

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18 **What is the test for chlorine?**

A damp litmus paper is bleached

B a lighted splint pops with a squeak

C a glowing splint relights brightly

D limewater turns cloudy in the gas

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19 **Which of these is a formulation?**

A oxygen

B water

C paint

D salt

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20 **Why do different dyes have different Rf values?**

- **A** they are all the same colour
- **B** they have the same solubility in the solvent
- **C** they dissolve differently in the solvent
- **D** they move at the same speed

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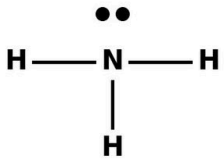
21 **The diagram shows an ammonia molecule. How many covalent bonds does the nitrogen atom form?**



- **A** 3
- **B** 4
- **C** 1
- **D** 2

Understand It with Pulse | Flag a mistake

22 **How many atoms of sodium are there in one molecule of sodium chloride?**

A 0

B 2

C 1

D 3

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23 **Why is graphene strong?**

A it has weak forces between its atoms

B its atoms are joined in a strong layer

C its layers slide over each other easily

D it is made of metal ions in a lattice

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24 **In which state are the particles closest together?**

- A liquid
- B solid
- C plasma
- D gas

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25 **In a chromatogram, a spot moves 2 cm and the solvent moves 8 cm. What is the Rf value?**

- A 0.25
- B 0.35
- C 0.5
- D 0.4

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ANSWER KEY

1.	A	**10.**	A	**19.**	C
2.	D	**11.**	C	**20.**	C
3.	D	**12.**	A	**21.**	A
4.	C	**13.**	A	**22.**	C
5.	C	**14.**	C	**23.**	B
6.	D	**15.**	C	**24.**	B
7.	C	**16.**	A	**25.**	A
8.	D	**17.**	B		
9.	B	**18.**	A		

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