ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · 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 **Paintbrushes are cleaned in water. Why does the paint wash off?**

- A the paint freezes in the water
- B the paint dissolves
- C the paint burns in the water
- D the paint melts in the water

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2 **An ice cream cone is put in a freezer. What happens to the liquid?**

A it condenses

B it freezes

C it evaporates

D it boils

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3 **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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4 **A thermometer shows a patient's temperature is 39 degrees Celsius. Is this above or below normal body temperature?**

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

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

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

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6 **Glass marbles are used to model atoms. What is a limitation of the model?**

- A marbles are too small to see properly
- B marbles are the wrong colour for atoms
- C marbles are much bigger than atoms
- D marbles cannot be counted accurately at all

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7 **What is brass made from?**

- A copper and zinc
- B iron and carbon mixed together
- C copper and tin mixed together
- D zinc and tin mixed together

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8 **What is the test for hydrogen?**

A a glowing splint relights

B limewater turns cloudy

C bromine water turns colourless

D a lighted splint pops

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

A 2

B 0

C 3

D 1

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10 **What is seen when sodium hydroxide is added to copper sulfate solution?**

A a green precipitate forms at once

B a white precipitate forms at once

C a brown precipitate forms at once

D a blue precipitate

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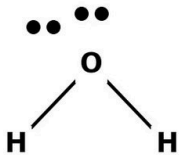
11 **The diagram shows a water molecule. How many lone pairs of electrons does the oxygen atom have?**



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

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12 **What type of bonding is in graphite?**

- **A** intermolecular forces
- **B** covalent
- **C** metallic
- **D** ionic

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13 **Which change of state is endothermic?**

A freezing

B melting

C solidifying

D condensing

Understand It with Pulse | Flag a mistake

14 **Why is flame emission spectroscopy useful?**

A it works without any equipment at all

B it works on solids only

C it can identify very small amounts

D it needs no sample at all

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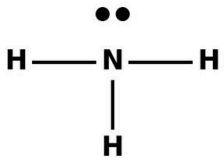
15 **What is a possible risk of nanoparticles?**

- A they make surfaces very rough
- B they stop materials conducting
- C they make materials much heavier
- D they can get into the body

Understand It with Pulse | Flag a mistake

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



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

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17 **In a chromatogram, a spot moves 5 cm and the solvent moves 12 cm. What is the Rf value?**

- A 0.52
- B 0.57
- C 0.83
- D 0.42

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18 **What does an Rf value of 0 mean?**

- A the spot did not move
- B the solvent did not move at all
- C the spot moved with the solvent
- D the spot dissolved completely

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19 **How many covalent bonds does an oxygen atom form in a water molecule?**

A 4

B 2

C 3

D 1

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20 **Lemons contain citric acid. What is the pH of lemon juice likely to be?**

A 12

B 7

C 2

D 14

Understand It with Pulse | Flag a mistake

21 **Which substance has a giant ionic structure?**

- A sodium chloride
- B carbon dioxide, a simple molecule
- C water, a simple molecule
- D methane, a simple molecule

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22 **Why is graphite soft and slippery?**

- A it has strong bonds between its layers
- B its layers slide over each other
- C it has no covalent bonds at all
- D its atoms are joined to four other atoms

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23 **Why is pure gold mixed with other metals for jewellery?**

- A pure gold is too dull in colour
- B pure gold melts too easily
- C pure gold is too hard to shape
- D pure gold is too soft

Understand It with Pulse | Flag a mistake

24 **What is the test for carbon dioxide?**

- A bromine water turns colourless
- B a lighted splint pops
- C limewater turns cloudy
- D a glowing splint relights

Understand It with Pulse | Flag a mistake

25 **What is seen when sodium hydroxide is added to iron(III) chloride solution?**

A a white precipitate forms at once

B a brown precipitate

C a green precipitate forms at once

D a blue precipitate forms at once

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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