ENGLAND GCSE CHEMISTRY OCR GATEWAY HIGHER · UNIT 2 · 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 used with paint. What is paint an example of?**

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

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2 **Glass marbles in a tray are used as a model for particles in a solid. What do the marbles show?**

- A particles move freely through space
- B particles vibrate in fixed positions
- C particles flow past each other easily
- D particles are far apart from each other

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3 **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 above normal
- D exactly normal

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4 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

- A Ag
- B Si
- C S
- D Sv

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5 **Lemons contain citric acid. What do acids make with metals?**

- A a salt and oxygen gas
- B water only, nothing else
- C a salt and hydrogen
- D a salt and water, never hydrogen

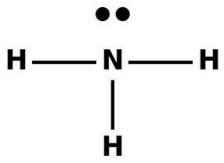
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6 **A hot air balloon is filled with hot air. Why does it rise?**

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

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




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

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

A it has no covalent bonds at all

B it is made of ions not atoms

C its atoms are too far apart

D it has no free electrons

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

A covalent

B ionic

C metallic

D intermolecular forces

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10 **Which of these is a use of nanoparticles in medicine?**

A making tablets much bigger

B blocking X-rays in scans

C carrying drugs to cells

D cooling the body down quickly

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

A 2

B 3

C 0

D 1

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**12** **In a chromatogram, a spot moves 4 cm and the solvent moves 12 cm. What is the Rf value?**

- A 0.33
- B 0.48
- C 0.43
- D 0.67

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**13** **Which of these is a simple covalent molecule?**

- A $CaCl_2$
- B $CO_2$
- C NaCl
- D MgO

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14 **In chromatography, what is the stationary phase?**

A the solvent

B the spots

C the paper

D the ruler

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

A a brown precipitate

B a blue precipitate forms at once

C a green precipitate forms at once

D a white precipitate forms at once

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16 **What is chromatography used for in the food industry?**

A keeping food cold longer

B heating food more quickly

C making food taste better

D checking dyes in food

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17 **What is bronze made from?**

A copper and tin

B copper and zinc mixed together

C copper and aluminium mixed together

D iron and carbon mixed together

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

A freezing

B melting

C solidifying

D condensing

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

A limewater turns cloudy

B a lighted splint pops

C a glowing splint relights

D bromine water turns colourless

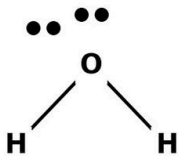
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**20** **Which substance has a giant ionic structure?**

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

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




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

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

A it can identify very small amounts

B it needs no sample at all

C it works on solids only

D it works without any equipment at all

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23 **An ice cream cone melts. What is the melting point of the ice cream?**

A around 100 degrees Celsius

B around 37 degrees Celsius

C around 0 degrees Celsius

D around minus 20 degrees Celsius

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24 **Why is diamond a good material for cutting tools?**

A it melts at a low temperature

B it is very hard

C it conducts electricity very well

D it is soft and easy to shape

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25 **What type of bonding is in water?**

A intermolecular forces

B covalent

C metallic

D ionic

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# ANSWER KEY

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

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