ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · UNIT 9 · 10 QUESTIONS

Chemical Reactions — 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 **A chocolate cake is made from flour, sugar and eggs. Which ingredient provides protein?**

- A water
- B eggs
- C sugar
- D flour

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2 **A cup of coffee is hot. How is energy transferred to the air?**

- A by evaporation only, from the top
- B by condensation on the cold cup
- C by conduction and convection
- D by radiation only, from the surface

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3 **A solution contains 3 moles of solute in 2 cubic decimetres of solution. What is its concentration in moles per cubic decimetre?**

- A 3 mol/dm³
- B 0.75 mol/dm³
- C 1.5 mol/dm³
- D 4.5 mol/dm³

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

- A 7
- B 12
- C 2
- D 14

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5 **Which acid makes a sulfate salt?**

- **A** sulfuric acid
- **B** ethanoic acid
- **C** hydrochloric acid
- **D** nitric acid

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6 **What is the half equation for chlorine forming at the anode?**

- **A** $2Cl^- \rightarrow Cl_2$
- **B** $2Cl^- + 2e^- \rightarrow Cl_2$
- **C** $Cl_2 + 2e^- \rightarrow 2Cl^-$
- **D** $2Cl^- \rightarrow Cl_2 + 2e^-$

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7 **What is one advantage of a hydrogen fuel cell over a petrol engine?**

A it uses petrol more efficiently

B it makes no carbon dioxide

C it never needs refuelling

D it is cheaper to build

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8 **How many moles of gas occupy 96 cubic decimetres at room temperature and pressure?**

A 8

B 4

C 3

D 5

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9 **What is made when an acid reacts with a carbonate?**

- **A** water only and nothing else at all
- **B** a salt and oxygen gas from the air
- **C** a salt and hydrogen gas from the acid
- **D** a salt, water and carbon dioxide

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10 **The maximum possible mass of product is 50 g. A student makes 20 g. What is the percentage yield?**

- **A** 50%
- **B** 80%
- **C** 40%
- **D** 30%

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ANSWER KEY

1. B
2. C
3. C
4. C
5. A
6. D
7. B
8. B
9. D
10. C

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