ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY FOUNDATION · UNIT 11 · 25 QUESTIONS

Monitoring and Controlling 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 rises in the oven. What makes it rise?**

- **A** the egg evaporates
- **B** the flour melts
- **C** a gas is made
- **D** the sugar freezes

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2 **A sandwich is eaten. Which enzyme digests the starch in the bread?**

- A pepsin
- B amylase
- C protease
- D lipase

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

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

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4 **A thermometer is placed in hot water. What happens to the liquid inside the thermometer?**

- A it contracts
- B it freezes
- C it evaporates
- D it expands

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5 **A cheese pizza is cooked in an oven. How is energy transferred in the oven?**

- A by radiation and convection
- B by condensation on the oven walls
- C by evaporation from the cheese
- D by conduction only, through the tray

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6 **A wristwatch ticks every second. How many ticks in a minute?**

- A 60
- B 12
- C 100
- D 30

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7 **In an experiment, 20 cubic centimetres of gas are made in 10 seconds. What is the rate of the reaction?**

- A 4 cm^3/s
- B 200 cm^3/s
- C 2 cm^3/s
- D 1 cm^3/s

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8 **Which of these is exothermic?**

A burning a fuel

B melting ice

C photosynthesis

D dissolving ammonium nitrate

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9 **A reaction makes 2 moles of gas. What volume does the gas occupy at room temperature and pressure?**

A 96 dm^3

B 60 dm^3

C 36 dm^3

D 48 dm^3

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10 **Why is the mass of a reaction flask measured on a balance?**

- A the flask gets heavier as it reacts
- B the mass shows the pH change
- C gas escaping makes the mass fall
- D the balance shows the temperature

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11 **What must particles have to react when they collide?**

- A the right colour
- B enough energy
- C the same mass
- D a catalyst with them

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12 **In a second experiment, 50 cm cubed of gas are made in 30 seconds. What is the rate of the reaction?**

- A 1.1667 cm^3/s
- B 1.6667 cm^3/s
- C 3.1667 cm^3/s
- D 2.1667 cm^3/s

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13 **A student heats 100 g of water. Its temperature rises by 5 degrees Celsius. The specific heat capacity of water is 4.2 joules per gram per degree Celsius. How much energy is transferred to the water in kilojoules?**

- A 2.1 kJ
- B 4.2 kJ
- C 21 kJ
- D 0.21 kJ

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14 **In the combustion of methane, the energy needed to break the bonds is 800 kJ and the energy released when new bonds form is 1200 kJ. What is the overall energy change?**

A 1200 kJ

B -800 kJ

C -400 kJ

D 400 kJ

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15 **A reaction should make 200 g of product but only makes 100 g. What is the percentage yield?**

A 100%

B 60%

C 50%

D 40%

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16 **A solution has a concentration of 2 mol per cubic decimetre. How many moles are in 2 cubic decimetres of the solution?**

- A 4 mol
- B 3 mol
- C 8 mol
- D 5 mol

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17 **On a reaction profile, what is the difference between the reactants and the products?**

- A the overall energy change
- B the temperature change
- C the activation energy
- D the rate of the reaction over time

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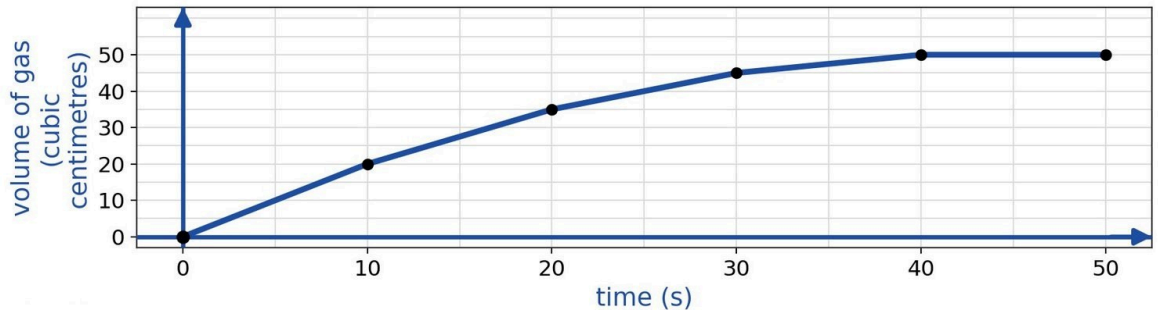
18 **The graph shows the volume of gas made in a reaction. After how many seconds does the reaction finish?**



A 30

B 50

C 40

D 20

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19 **A reaction produces 20 cm cubed of gas in 10 seconds. What is the mean rate of reaction?**

A 1.5 cm^3/s

B 2.5 cm^3/s

C 4 cm^3/s

D 2 cm^3/s

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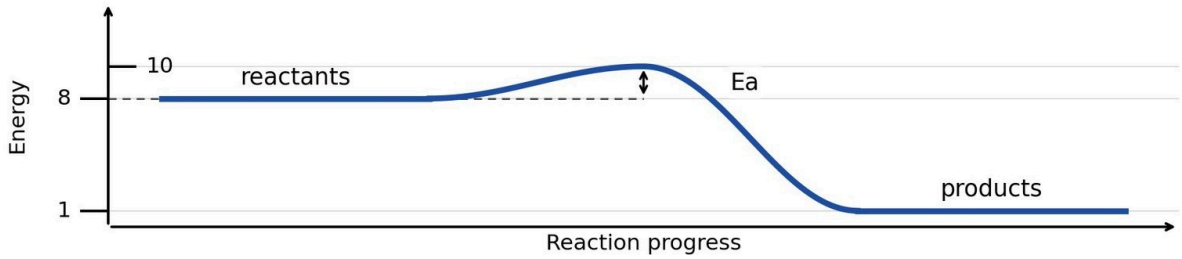
20 **The diagram shows the energy profile for a reaction. The reactants are at energy 8 and the products are at 1. Is the reaction exothermic or endothermic?**



A endothermic, energy is taken in

B exothermic, energy is taken in

C endothermic, energy is given out

D exothermic, energy is given out

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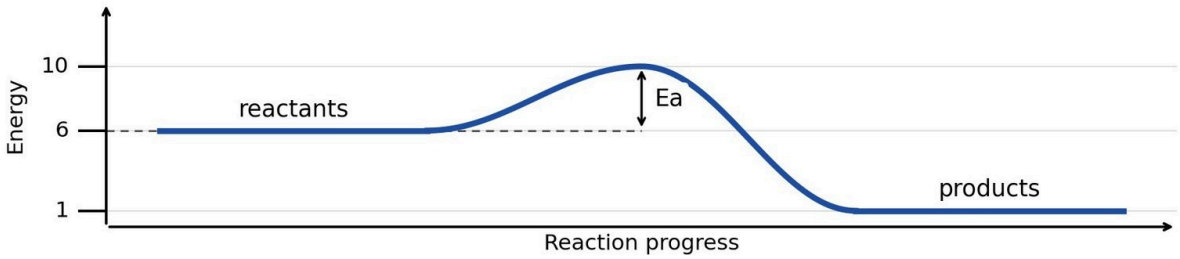
21 **The diagram shows the energy profile for a reaction. The reactants are at energy 6, the peak is at 10 and the products are at 1. What is the activation energy?**



A 5

B 9

C 16

D 4

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22 **In an experiment, 60 cubic centimetres of gas are made in 30 seconds. What is the rate of the reaction?**

- A 4 cm^3/s
- B 1 cm^3/s
- C 1800 cm^3/s
- D 2 cm^3/s

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23 **Which of these is endothermic?**

- A neutralisation
- B photosynthesis
- C burning a fuel
- D respiration

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24 **A reaction makes 3 moles of gas. What volume does the gas occupy at room temperature and pressure?**

- A 144 dm^3
- B 60 dm^3
- C 72 dm^3
- D 84 dm^3

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25 **In the disappearing cross experiment, what is timed?**

- A how long the cross takes to appear
- B how long the cross takes to vanish
- C how long the acid takes to boil
- D how long the mixture takes to cool down

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ANSWER KEY

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

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