ENGLAND GCSE CHEMISTRY OCR GATEWAY FOUNDATION · UNIT 5 · 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 sandwich is eaten. Which enzyme digests the starch in the bread?**

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

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

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

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

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4 **A cup of coffee is left for an hour. What happens to its temperature?**

- A it rises above room temperature
- B it falls to zero degrees
- C it stays the same all day
- D it falls to room temperature

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5 **A chocolate cake is baked. Is baking a chemical change?**

- A yes
- B never
- C sometimes
- D no

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6 **A cheese pizza contains cheese made from milk. What is milk rich in?**

- A calcium
- B iron
- C vitamin C
- D fibre

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

- A 2.5 cm^3/s
- B 1.5 cm^3/s
- C 0.5 cm^3/s
- D 1 cm^3/s

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8

A student heats 200 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 8.4 kJ

B 0.42 kJ

C 42 kJ

D 4.2 kJ

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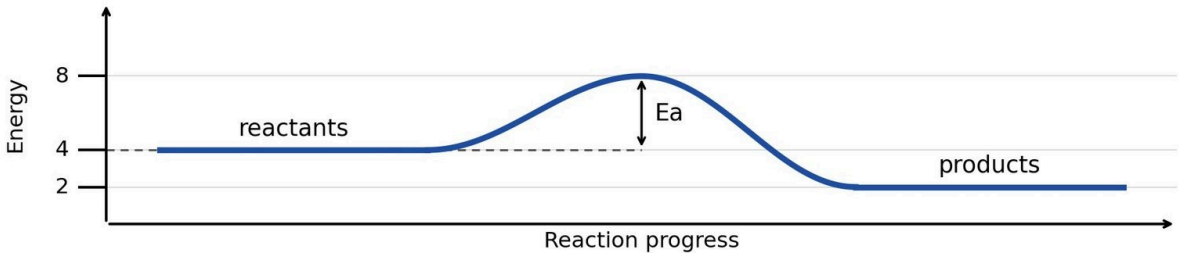
9 **The diagram shows the energy profile for a reaction. The reactants are at energy 4, the peak is at 8 and the products are at 2. What is the activation energy?**



- **A** 6
- **B** 4
- **C** 12
- **D** 2

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10 **In the combustion of methane, the energy needed to break the bonds is 800 kJ and the energy released when new bonds form is 1000 kJ. What is the overall energy change?**

A -800 kJ

B 1000 kJ

C 200 kJ

D -200 kJ

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11 **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 cm^3/s

C 4 cm^3/s

D 2.5 cm^3/s

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12 **A reaction should make 200 g of product but only makes 160 g. What is the percentage yield?**

A 90%

B 70%

C 80%

D 160%

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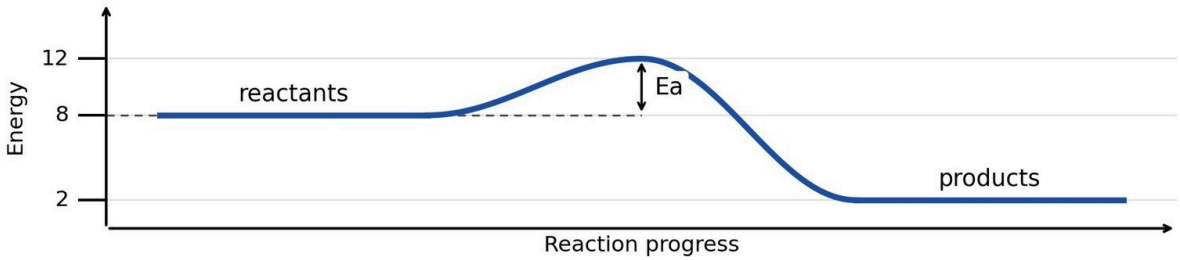
13 **The diagram shows the energy profile for a reaction. The reactants are at energy 8 and the products are at 2. Is the reaction exothermic or endothermic?**



A endothermic, energy is given out

B exothermic, energy is taken in

C exothermic, energy is given out

D endothermic, energy is taken in

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14 **What does a temperature change experiment measure?**

- **A** the rate of a reaction over time
- **B** the pH of the solution at the end
- **C** the mass of product made in total
- **D** the energy change of a reaction

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

- **A** 48 dm^3
- **B** 60 dm^3
- **C** 96 dm^3
- **D** 36 dm^3

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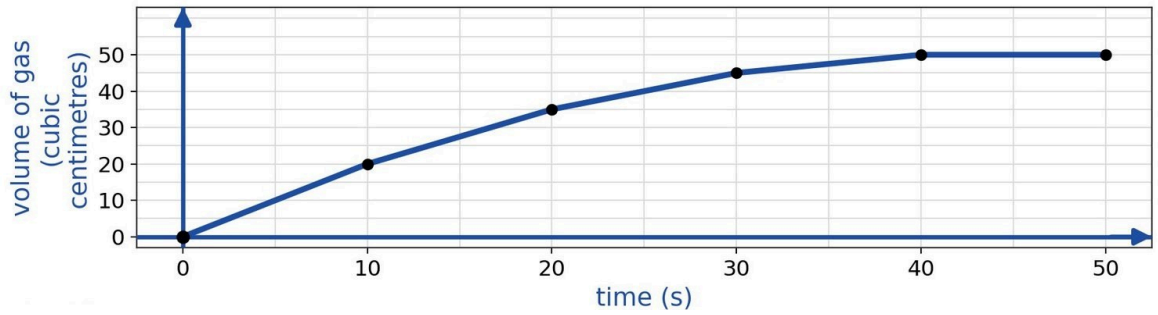
16 **The graph shows the volume of gas made in a reaction. After how many seconds does the reaction finish?**



A 50

B 30

C 20

D 40

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17 **Why does a higher concentration increase the rate?**

- **A** collisions happen more often
- **B** particles get bigger
- **C** the activation energy falls a lot
- **D** particles move faster

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18 **In an experiment, 60 cubic centimetres of gas are made in 10 seconds. What is the rate of the reaction?**

- **A** 12 cm^3/s
- **B** 600 cm^3/s
- **C** 3 cm^3/s
- **D** 6 cm^3/s

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

A the flask gets heavier as it reacts

B the balance shows the temperature

C the mass shows the pH change

D gas escaping makes the mass fall

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20 **A solution has a concentration of 2 mol per cubic decimetre. How many moles are in 3 cubic decimetres of the solution?**

A 7 mol

B 5 mol

C 12 mol

D 6 mol

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21 **Which of these is exothermic?**

A burning a fuel

B dissolving ammonium nitrate

C melting ice

D photosynthesis

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22 **In a second experiment, 50 cm cubed of gas are made in 15 seconds. What is the rate of the reaction?**

A 3.8333 cm^3/s

B 4.8333 cm^3/s

C 2.8333 cm^3/s

D 3.3333 cm^3/s

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23 **In the combustion of methane, the energy needed to break the bonds is 1000 kJ and the energy released when new bonds form is 1200 kJ. What is the overall energy change?**

- A -200 kJ
- B -1000 kJ
- C 200 kJ
- D 1200 kJ

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24 **A reaction produces 40 cm cubed of gas in 20 seconds. What is the mean rate of reaction?**

- A 4 cm^3/s
- B 2 cm^3/s
- C 1.5 cm^3/s
- D 2.5 cm^3/s

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25

A reaction should make 100 g of product but only makes 80 g. What is the percentage yield?

A 80%

B 70%

C 160%

D 90%

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ANSWER KEY

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

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