ENGLAND GCSE CHEMISTRY EDEXCEL FOUNDATION · UNIT 7 · 25 QUESTIONS

Rates of Reaction and Energy Changes — 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 kite flies in the wind. Which force holds the kite up?**

- A drag
- B weight
- C thrust
- D lift

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2 **A wristwatch is used to time a race. What is speed calculated from?**

- A distance and time
- B mass and time together
- C distance only, not time
- D time only, not distance

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

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

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

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

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5 **A passenger train carries people around the country. Which part of the blood is like the train, carrying oxygen around the body?**

- A plasma
- B red blood cells
- C platelets
- D white blood cells

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6 **A sandwich contains bread and cheese. Where does digestion begin?**

- A in the large intestine
- B in the small intestine
- C in the stomach
- D in the mouth

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7 **A solution has a concentration of 1 mol per cubic decimetre. How many moles are in 3 cubic decimetres of the solution?**

- A 2 mol
- B 4 mol
- C 6 mol
- D 3 mol

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

A the energy change of a reaction

B the pH of the solution at the end

C the rate of a reaction over time

D the mass of product made in total

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9 **Which of these is endothermic?**

A burning a fuel

B respiration

C neutralisation

D photosynthesis

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10 **Which factor increases the rate of a reaction?**

A a higher temperature

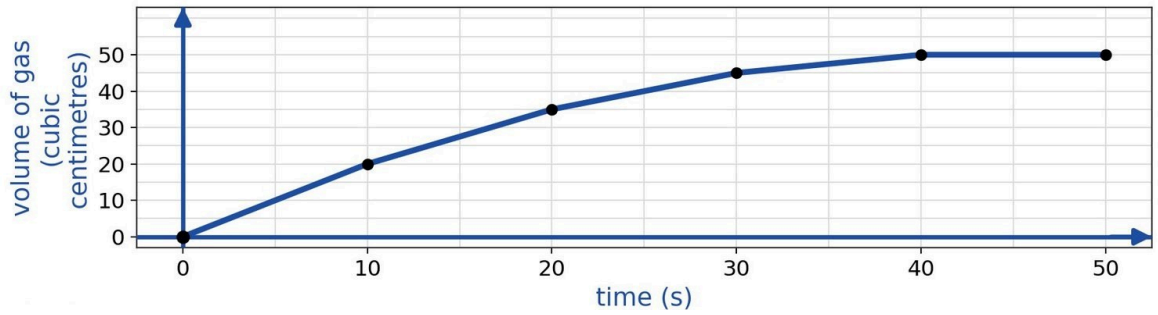
B larger pieces

C a lower temperature

D a lower concentration

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



A 30

B 50

C 20

D 40

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12 **What is the minimum energy particles need to react called?**

A bond energy in the molecules

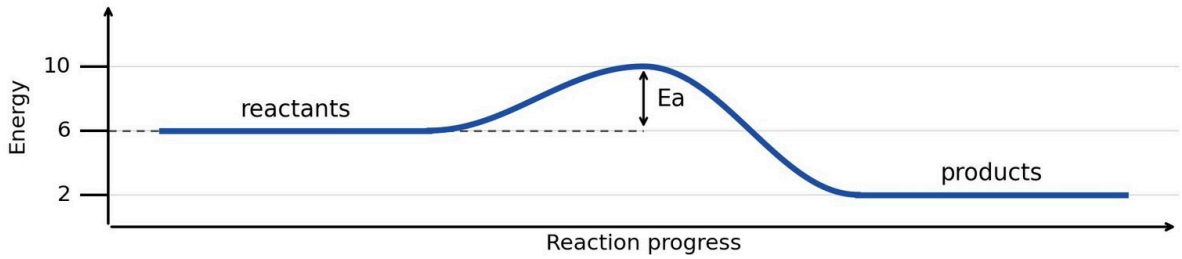
B activation energy

C thermal energy in the mixture

D kinetic energy of the particles

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13 **The diagram shows the energy profile for a reaction. The reactants are at energy 6 and the products are at 2. Is the reaction exothermic or endothermic?**



A exothermic, energy is given out

B endothermic, energy is given out

C endothermic, energy is taken in

D exothermic, energy is taken in

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14 **A cheese pizza provides energy. Which nutrient provides most energy?**

A fat

B fibre

C protein

D vitamins

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15 **A yellow school bus carries children to school. Which blood vessel carries blood away from the heart, like a bus leaving the station?**

A a vein

B a ventricle

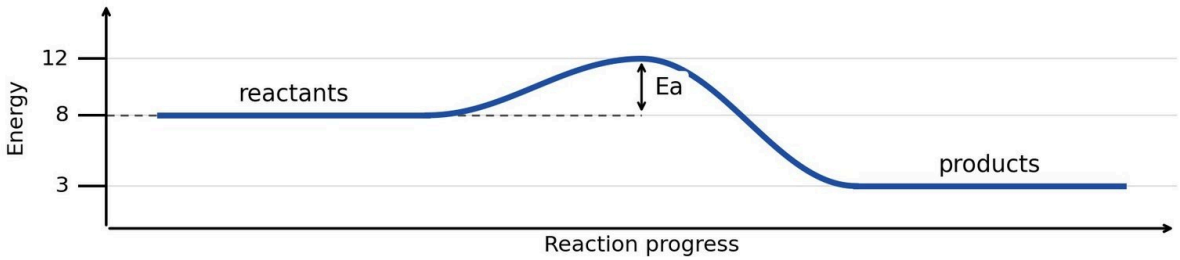
C a capillary

D an artery

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16

The diagram shows the energy profile for a reaction. The reactants are at energy 8, the peak is at 12 and the products are at 3. What is the activation energy?



A 4

B 5

C 9

D 20

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17 **A reaction produces 40 cm cubed of gas in 10 seconds. What is the mean rate of reaction?**

- A 4.5 cm^3/s
- B 3.5 cm^3/s
- C 4 cm^3/s
- D 8 cm^3/s

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18 **In a second experiment, 30 cm cubed of gas are made in 15 seconds. What is the rate of the reaction?**

- A 2 cm^3/s
- B 1.5 cm^3/s
- C 2.5 cm^3/s
- D 3.5 cm^3/s

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

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

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20 **In the combustion of methane, the energy needed to break the bonds is 1200 kJ and the energy released when new bonds form is 1400 kJ. What is the overall energy change?**

- A -200 kJ
- B 200 kJ
- C 1400 kJ
- D -1200 kJ

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

- A 400 cm^3/s
- B 2 cm^3/s
- C 0.5 cm^3/s
- D 1 cm^3/s

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

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

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23 **A reaction should make 200 g of product but only makes 180 g. What is the percentage yield?**

- **A** 80%
- **B** 90%
- **C** 100%
- **D** 180%

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24 **What does a steep graph of gas volume against time show?**

- **A** a fast rate of reaction
- **B** a reaction that has finished
- **C** a reaction with no gas made
- **D** a slow rate of reaction

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25

A student heats 200 g of water. Its temperature rises by 10 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 16.8 kJ

B 84 kJ

C 8.4 kJ

D 0.84 kJ

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ANSWER KEY

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

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