ENGLAND GCSE COMBINED SCIENCE EDEXCEL FOUNDATION · UNIT 15 · 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 cheese pizza provides energy. Which nutrient provides most energy?**

A vitamins

B fibre

C fat

D protein

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2 **A wristwatch measures time. What is the unit of time?**

A the second

B the day

C the minute

D the hour

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3 **A kite flies in the wind. Which force holds the kite up?**

A thrust

B lift

C drag

D weight

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

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

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

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

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

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

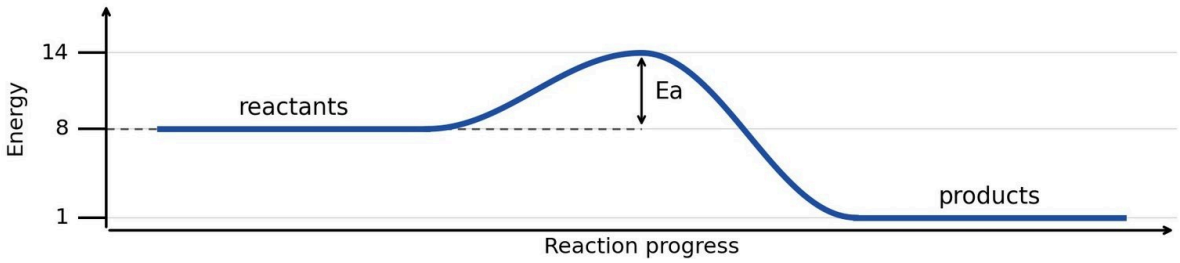
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7 **What does a steep graph of gas volume against time show?**

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

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8 **The diagram shows the energy profile for a reaction. The reactants are at energy 8, the peak is at 14 and the products are at 1. What is the activation energy?**



A 22

B 13

C 7

D 6

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9

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 capillary

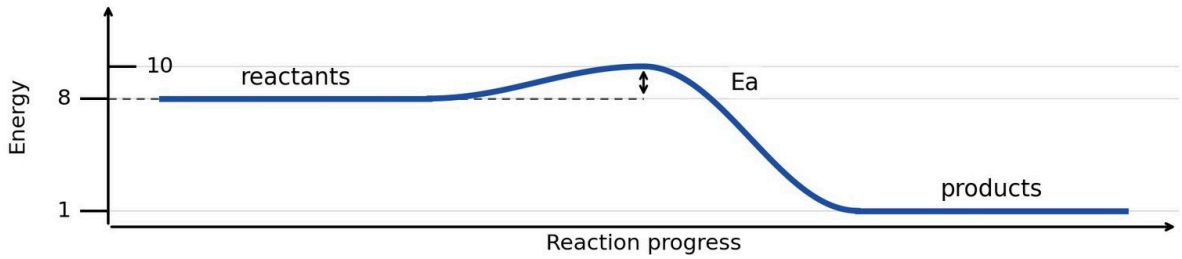
C a ventricle

D an artery

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10 **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 exothermic, energy is given out

B exothermic, energy is taken in

C endothermic, energy is taken in

D endothermic, energy is given out

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

A 40%

B 60%

C 50%

D 100%

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12 **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 0.21 kJ

D 21 kJ

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13 **A thermometer measures temperature in degrees Celsius. What is the freezing point of water on this scale?**

- A 10
- B 100
- C 32
- D 0

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14 **What happens to the temperature during an endothermic reaction?**

- A it stays the same
- B it falls
- C it rises then falls
- D it rises

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

A 1800 cm^3/s

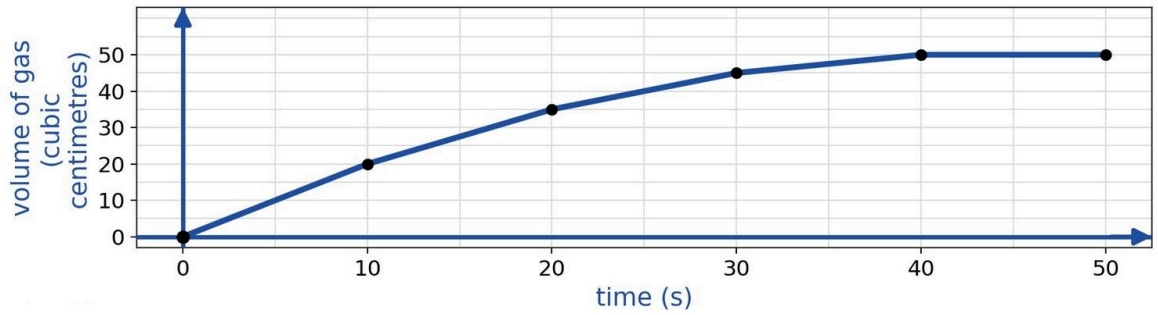
B 1 cm^3/s

C 2 cm^3/s

D 4 cm^3/s

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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 40

B 50

C 20

D 30

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

A thermal energy in the mixture

B activation energy

C kinetic energy of the particles

D bond energy in the molecules

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18 **In the combustion of methane, the energy needed to break the bonds is 1000 kJ and the energy released when new bonds form is 1400 kJ. What is the overall energy change?**

A 400 kJ

B -400 kJ

C -1000 kJ

D 1400 kJ

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

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

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20 **What does the peak of a reaction profile show?**

- A the energy of the products
- B the overall energy change
- C the energy given out
- D the activation energy

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

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

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

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

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

- A a lower temperature
- B a lower concentration
- C larger pieces
- D a higher temperature

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

- A 4.8333 cm^3/s
- B 3.3333 cm^3/s
- C 2.8333 cm^3/s
- D 3.8333 cm^3/s

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25

What type of reaction is in a hand warmer?

A endothermic

B electrolysis

C neutralisation

D exothermic

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ANSWER KEY

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

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