ENGLAND GCSE CHEMISTRY OCR GATEWAY HIGHER · 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 cup of coffee is left for an hour. What happens to its temperature?**

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

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

A the hour

B the day

C the minute

D the second

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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 above normal

B impossible to tell

C below normal

D exactly normal

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4 **A chocolate cake rises in the oven. What makes it rise?**

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

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

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

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

A fat

B protein

C vitamins

D fibre

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7 **In a reaction, the energy needed to break bonds is 1200 kJ and the energy released making bonds is 1400 kJ. What is the overall energy change?**

A -200 kJ

B -1200 kJ

C 1400 kJ

D 200 kJ

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8 **Why does increasing the pressure of a gas increase the rate?**

A particles are closer together

B particles get smaller

C particles move more slowly in the gas

D the temperature falls

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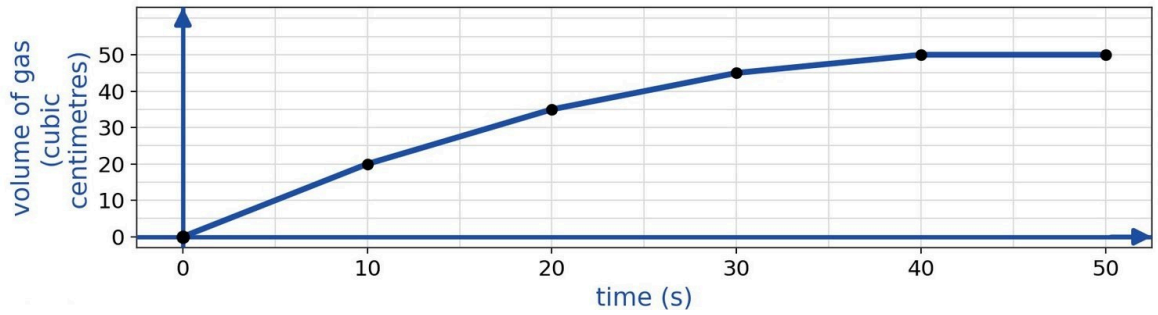
9 **The graph shows the volume of gas made in a reaction. After how many seconds does the reaction finish?**



A 40

B 30

C 20

D 50

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10 **A reaction should make 100 g of product but only makes 90 g. What is the percentage yield?**

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

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11 **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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12 **In an exothermic reaction, are the products higher or lower in energy than the reactants?**

A higher then lower

B higher

C lower

D the same

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13 **In an experiment, 40 cubic centimetres of gas are made in 10 seconds. What is the rate of the reaction?**

A 8 cm^3/s

B 400 cm^3/s

C 4 cm^3/s

D 2 cm^3/s

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14 **In a reaction, the energy needed to break bonds is 1000 kJ and the energy released making bonds is 600 kJ. Is the reaction exothermic or endothermic?**

A endothermic, more energy is taken in

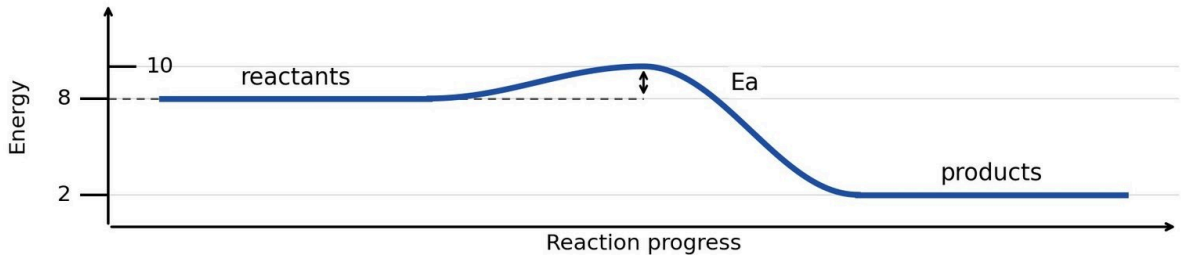
B exothermic, more energy is given out

C exothermic, more energy is taken in

D endothermic, more energy is given out

Understand It with Pulse | Flag a mistake

15 **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 given out

C exothermic, energy is taken in

D endothermic, energy is taken in

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16 **Why is unreacted nitrogen and hydrogen recycled in the Haber process?**

A to cool the reaction down

B to increase the pressure

C to make the catalyst work

D to avoid wasting them

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17 **What happens to the yield of ammonia if more nitrogen is added?**

A it decreases

B it stays the same

C it increases

D the reaction stops

Understand It with Pulse | Flag a mistake

18 **What is the Haber process used to make?**

A hydrogen

B nitric acid

C ammonia

D sulfuric acid

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19 **A reaction makes 1 moles of gas. What volume does the gas occupy at room temperature and pressure?**

A 48 dm^3

B 36 dm^3

C 24 dm^3

D 12 dm^3

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20

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 8.4 kJ

B 84 kJ

C 16.8 kJ

D 0.84 kJ

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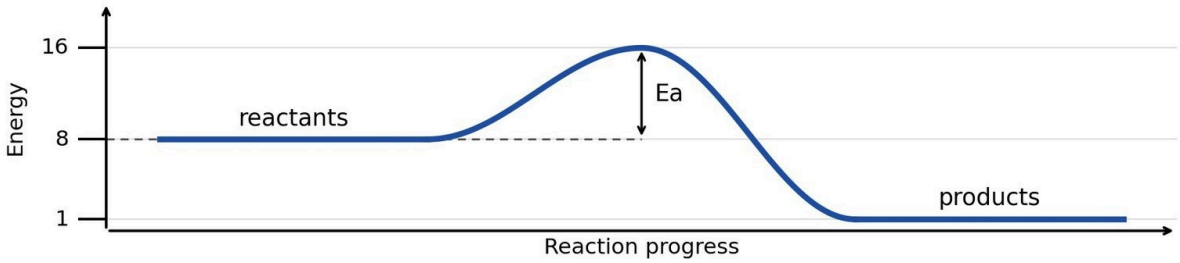
21 **The diagram shows the energy profile for a reaction. The reactants are at energy 8, the peak is at 16 and the products are at 1. What is the activation energy?**



A 15

B 7

C 8

D 24

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22 **Which of these is exothermic?**

A burning a fuel

B photosynthesis

C dissolving ammonium nitrate

D melting ice

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

A 8 mol

B 5 mol

C 4 mol

D 3 mol

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24 **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 -1200 kJ

D 1400 kJ

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

A how long the mixture takes to cool down

B how long the cross takes to vanish

C how long the acid takes to boil

D how long the cross takes to appear

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ANSWER KEY

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

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