ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY HIGHER · UNIT 7 · 25 QUESTIONS

Air and Water — 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 cools down. Energy is transferred to the surroundings. What type of change is this?**

- A a neutralisation
- B a chemical change
- C an energy transfer
- D a reversible reaction

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2 **A swimming pool is filled with water. What is the density of water?**

- A about 10 kilograms per cubic metre
- B about 1 kilogram per cubic metre
- C about 1000 kilograms per cubic metre
- D about 100 kilograms per cubic metre, roughly

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3 **An ice cream cone melts in the Sun. What is happening to the particles in the ice cream?**

- A they gain energy and move more
- B they get smaller
- C they lose energy and slow down a lot
- D they stop moving

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4 **A forest absorbs carbon dioxide. Which process does this?**

- A decomposition in the soil
- B respiration in the trees
- C combustion of the wood
- D photosynthesis

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5 **A river is polluted by fertiliser. What grows too fast in the water?**

- A algae
- B trees
- C reeds
- D fish

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6 **A sunflower makes glucose in its leaves. Which gas does it take in for photosynthesis?**

- A nitrogen gas from the air
- B hydrogen gas from the air
- C carbon dioxide
- D oxygen gas from the air

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7 **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 200 kJ
- B -800 kJ
- C 1000 kJ
- D -200 kJ

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8 **Nitrogen is 78 percent of the air. How much nitrogen is there in 1000 litres of air?**

- A 770 L
- B 1560 L
- C 790 L
- D 780 L

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9 **Where did the water in the oceans come from?**

A rain from the clouds in the sky

B water vapour from volcanoes

C ice melting at the poles

D rivers flowing from the land

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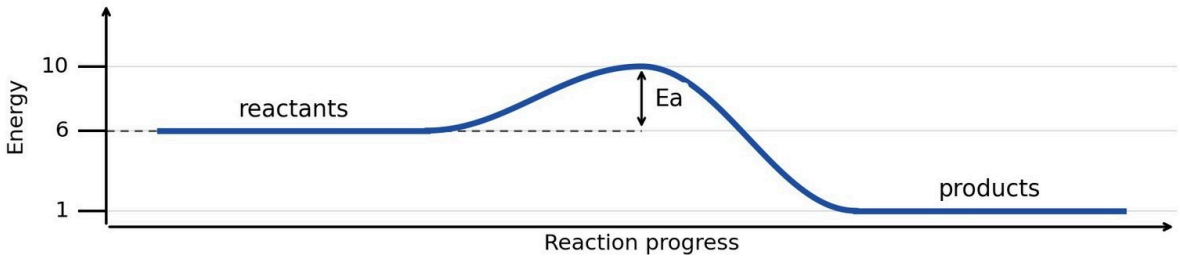
10 **The diagram shows the energy profile for a reaction. The reactants are at energy 6 and the products are at 1. Is the reaction exothermic or endothermic?**



- **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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11 **What does a temperature change experiment measure?**

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

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12 **How is pure water made from sea water?**

- A by chlorination
- B by distillation
- C by filtration
- D by sedimentation

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13 **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 exothermic, more energy is given out

B endothermic, more energy is taken in

C endothermic, more energy is given out

D exothermic, more energy is taken in

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14 **What happens to sea levels as the Earth warms?**

A they disappear

B they fall

C they stay the same

D they rise

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15 **What is the enhanced greenhouse effect?**

A cooling from extra cloud cover

B warming from volcanoes erupting

C warming from the Sun getting hotter over time

D extra warming from human activities

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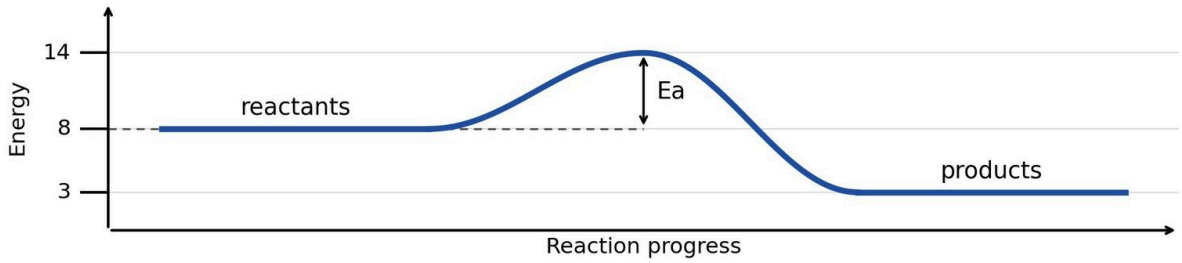
16 **The diagram shows the energy profile for a reaction. The reactants are at energy 8, the peak is at 14 and the products are at 3. What is the activation energy?**



A 22

B 11

C 5

D 6

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17 **Where do particulates in the air come from?**

A photosynthesis in plants

B rain falling from clouds

C evaporation from the sea

D burning fuels and dust

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18 **What is happening to the polar ice caps?**

A they are growing

B they are moving south

C they stay the same size

D they are melting

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19 **What happens in sewage treatment?**

A the water is heated up

B the water is made drinkable at once

C nutrients are added to it

D harmful substances are removed

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20 **A factory emits 10 tonnes of carbon dioxide per day. How much does it emit in one week?**

A 140 tonnes

B 60 tonnes

C 80 tonnes

D 70 tonnes

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21 **What is the main gas in the air today?**

A argon

B carbon dioxide

C oxygen

D nitrogen

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22 **Oxygen is 21 percent of the air. How much oxygen is there in 1000 litres of air?**

A 220 L

B 210 L

C 200 L

D 420 L

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23 **In a reaction, the energy needed to break bonds is 1000 kJ and the energy released making bonds is 1200 kJ. What is the overall energy change?**

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

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24 **What is the main greenhouse gas?**

- A oxygen gas from the air
- B argon gas from the air
- C nitrogen gas from the air
- D carbon dioxide

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25 **What happens to the temperature during an exothermic reaction?**

A it falls

B it falls then rises

C it rises

D it stays the same

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ANSWER KEY

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

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