

12 Hydrogen–oxygen fuel cells are used in electric cars.

Three statements about these fuel cells are listed.

- 1 The process in the cell is called electrolysis.
- 2 Water is broken down in the cell to produce hydrogen, oxygen and electricity.
- 3 Water is the only chemical product formed in the reaction.

Which statements are correct?

- A** 1 and 2 **B** 1 and 3 **C** 2 only **D** 3 only

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15 In a fuel cell, a fuel is oxidised to produce electricity.

Which row describes the fuel and the oxidising agent used?

	fuel	oxidising agent
A	nitrogen	oxygen
B	hydrogen	oxygen
C	nitrogen	water
D	hydrogen	water

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12 Which equation represents the overall reaction in a hydrogen–oxygen fuel cell?

- A** $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- B** $2\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$
- C** $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}_2$
- D** $\text{H}_2\text{O}_2 \rightarrow \text{H}_2 + \text{O}_2$

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12 Hydrogen–oxygen fuel cells can be used to power vehicles.

Which statement about hydrogen–oxygen fuel cells is correct?

- A** The equation for the overall reaction is $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}_2$.
- B** The only chemical products are water and carbon dioxide.
- C** Chemical energy in the fuel is converted into electrical energy.
- D** The hydrogen used in hydrogen–oxygen fuel cells is a fossil fuel.

15 Which statements about hydrogen–oxygen fuel cells are correct?

- 1 They convert chemical energy into electrical energy.
- 2 Hydrogen is reduced in the fuel cells.
- 3 They do **not** produce any atmospheric pollutants.

A 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 3 only