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# Simple chemical reactions

Test yourself

**1** Tick the changes that are chemical changes.

- ☐ A piece of wood burns.
- ☐ An ice cube melts.
- ☐ Two substances are mixed and bubbles form.
- ☐ Water evaporates from a puddle.
- ☐ Heat is given out when two substances are mixed.
- ☐ Two substances are mixed and the mixture feels cold.
- ☐ Two substances are mixed and the mixture turns green.
- ☐ A mixture of two substances smells revolting.

**2** Draw lines to match the reactants to the gas that is produced when they react.

| **Reactants** | **Gas** |
|---|---|
| hydrochloric acid + zinc metal ● | |
| sulphuric acid + calcium carbonate ● | |
| nitric acid + sodium metal ● | ● carbon dioxide |
| citric acid + sodium carbonate ● | ● hydrogen |
| phosphoric acid + iron ● | |
| tartaric acid + potassium carbonate ● | |

**3** The statements are about making and testing hydrogen gas. Put them in order by writing numbers in the boxes.

- ☐ Wait until the reaction has finished.
- ☐ Put 2 cm depth of hydrochloric acid into a test tube.
- ☐ Hold a burning splint at the mouth of the test tube.
- ☐ Put a bung loosely into the test tube.
- ☐ If the gas burns with a pop, it is hydrogen.
- ☐ Add one piece of magnesium ribbon to the acid.
- ☐ Remove the bung.

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# Simple chemical reactions (continued)

Test yourself

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**4** Write *true* or *false* for each statement.

**a** Hydrogen gas burns with a pop. .....

**b** Carbon dioxide gas burns with a pop. .....

**c** Carbon dioxide gas turns limewater milky. .....

**d** Acids react with metals to make carbon dioxide gas. .....

**e** Acids react with carbonates to make carbon dioxide gas. .....

**f** Acids react with metals to make hydrogen gas. .....

**g** Acids react with carbonates to make hydrogen gas. .....

**5** Complete these sentences by crossing out the wrong words.

Fuels burn in air because air contains **nitrogen/oxygen/other gases**. Fuels need **energy/water** to start them burning.

Charcoal is a **fuel/gas** made from **carbon/hydrogen**. When it burns, the reaction is called **combustion/condensation**. The product of the reaction is **hydrogen/water/carbon dioxide**.

**6** Complete these word equations.

**a** iron + oxygen → .....

**b** magnesium + oxygen → .....

**c** carbon + oxygen → .....

**d** zinc + oxygen → .....

**e** sulphur + oxygen → .....

**f** hydrogen + oxygen → .....

**7** A candle is mainly made of carbon and hydrogen. What two substances will be made when a candle burns in air?

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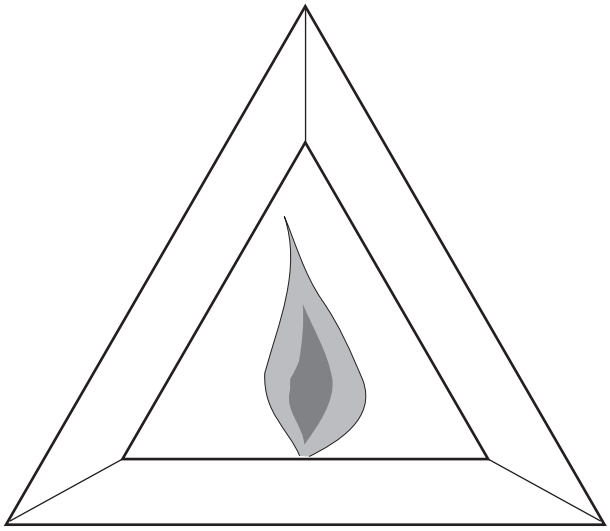
**8** Complete the fire triangle by writing in the three things that a fire needs to keep burning.



**9** Use the fire triangle to write down what has been removed to make these fires go out.

**a** Water is sprayed on a fire. ..... .

**b** Trees are cut down to stop a forest fire spreading.

..... .

**c** A fire blanket is put over a fire. ..... .

**d** A damp cloth is spread over a chip pan fire.

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