

- 1 Complete the sentences to describe the test for oxygen. Circle one phrase *in italics* in each pair.

Place a *glowing splint* / *lighted splint* into the gas.

If the gas is oxygen, the *splint goes out* / *relights*.

- 2 Which of these reactions needs an input of energy to start it? Tick (✓) the box for the correct reaction.

Hydrochloric acid reacting with sodium hydroxide solution.

Methane burning in air.

Sulfuric acid reacting with copper carbonate.

- 3 Ammonium nitrate is dissolved in water.

Initial temperature = 20°C

Final temperature = 15°C

Complete the sentence below by selecting words from the box.

endothermic	exothermic	decreased	increased
-------------	------------	-----------	-----------

This is an _____ process because the temperature of the surroundings _____.

- 4 Which of these types of reaction is exothermic? Tick (✓) the boxes for all the reactions that apply.

combustion

neutralisation

thermal decomposition

- 5 What type of substance is added to an explosive to ensure there is enough oxygen to react?

- 6 Which of these will explode the quickest? Put a tick (✓) in the box.

a large lump of gunpowder

powdered gunpowder

Explain your answer.

1 Draw lines to link each gas on the left with the correct test to identify the gas.

carbon dioxide

pops a lighted splint

hydrogen

relights a glowing splint

oxygen

turns limewater milky

2 Which of these formulae represent hydrocarbons? Tick (✓) all the boxes that apply.

C₂H₆

C₂H₆O

C₂H₅Br

C₂H₄

3 Ethane burns in air. The word equation is:



a Give the name of a reactant: _____

b Give the name of a product: _____

c Give the name of an element: _____

d Give the name of a compound: _____

4 Which of these reactions need an input of energy to start the reaction?

Hydrogen burning in oxygen.

Hydrochloric acid neutralising sodium hydroxide.

Zinc displacing copper from copper sulfate solution.

5 Complete this sentence.

The reaction between hydrogen and oxygen is exothermic. This means that the energy needed to break the bonds is _____ than the energy released when the new bonds form.