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.

_____

LIVEWORKSHEETS

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.

- ☐ C_2H_6
- ☐ C_2H_6O
- ☐ C_2H_5Br
- ☐ C_2H_4

3 Ethane burns in air. The word equation is:

ethane + oxygen → carbon dioxide + water

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.

LIVEWORKSHEETS