>

UNIT 8 Changes to materials

1 Which of the following is a chemical change?

Tick (/) **one** box.

Ice melting. ☐

Iron filings heated with sulfur to produce iron sulfate. ☐

Steam rising from a cooking pan. ☐

Sugar dissolves in a hot drink. ☐

2 Here are some properties of Substance X.

- It is a soft grey solid with a dull surface.
- When cut with a knife, the cut surface is shiny. The surface does not stay shiny for long because substance X reacts with the oxygen in the air to form an oxide.
- It reacts violently with water and gives off the gas hydrogen.
- It has a melting point of 63.5°C.
- It burns with a violet-coloured flame.

a Write down three properties of Substance X, and state whether each property is a physical property or a chemical property.

LIVEWORKSHEETS

>

b. Is Substance X a metal or a non-metal? Give a reason for your answer. **[1]**

Metal or non-metal: _____

Reason: _____

_____

3 Make a list of the equipment and chemicals you would use to find the pH of a soil sample. **[2]**

_____

_____

4 A gas was tested with a lighted splint and it made a popping sound. Which gas was it?

Tick (√) **one** box. **[1]**

oxygen ☐

hydrogen ☐

air ☐

carbon dioxide ☐

5 Complete the following equations:

a zinc + hydrochloric acid →_____+ hydrogen **[1]**

b potassium hydroxide + _____→ potassium sulfate + water **[1]**

LIVEWORKSHEETS

6 Sort these words and statements into the correct column. **[2]**

feels soapy	pH 4	turns litmus blue	turns universal indicator red	potassium hydroxide

Acid	Alkali

7 Complete the equation by adding: **[2]**

a the names of the reactants and product: _____

b the symbols of the product.



..... + ... → .....

8 Draw **one** line between each material and the correct statement. **[2]**

material	statement
metal	found on the left of the Periodic Table
gas	low melting point
alloy	can be compressed
non-metal	a mixture of two or more metals

LIVEWORKSHEETS

>

1 Look at these symbols and formulae.

Na	O_2	Ca	CO_2	NaOH	KCl	$CaCO_3$

a Name **one** of the substances that is a compound. **[1]**

_____

b Name **one** of the substances that is a gas. **[1]**

_____

c Name the **one** substance that contains a metal and carbon. **[1]**

_____

LIVEWORKSHEETS