

# Science Worksheet #2/ Term 2

## Explaining Chemical Changes

Name: **Answer key**

Grade **7A**

Date: **/3/2023**

1 - Match each of the acids with its use. Draw lines between the matching pairs.

Sulfuric acid	
Nitric acid	
Ethanoic acid	
Citric acid	
Tannic acid	

This is found in vinegar and is used for pickling foods
This is found in citrus fruits and can be used as a food preservative
This is found in tea.
This can be used in fertilisers and car batteries
This can be used in fertilisers, paints and explosives

2- Identify what each hazard symbol means.



A **Irritant/Harmful** .....

B **Corrosive** .....

b) What precautions would you take when working with an acid labelled with each of the hazard symbols?

A **Care not to spill on skin/use eye protection** .....

B **Great care; wear gloves and eye protection** .....

3- Circle the alkalis from the substances below.



4- Some alkalis are so weak that we can put them on our skin or even take them into our bodies. Other alkalis are too harmful to put directly on our skin or in our bodies.

a) Describe three products that contain alkali that are safe enough to use on our skin or to eat.

**toothpaste**

**soap**

**shampoo**

b) Each of the products below can be dangerous. For each product, decide whether it is **harmful** (caution) or **corrosive**.

- Bleach **harmful**
- Oven cleaner **corrosive**
- Caustic soda **corrosive**
- Bathroom cleaning fluid **harmful**



5- For each of the acids and alkalis, identify the elements that it contains.

Sodium hydroxide, NaOH :

**Sodium / Oxygen / Hydrogen**

Hydrochloric acid, HCl :

**Hydrogen/ Chloride**

Magnesium hydroxide, Mg(OH)<sub>2</sub> :

**Magnesium / Oxygen / Hydrogen**

Sulfuric acid, H<sub>2</sub>SO<sub>4</sub> :

**Hydrogen/ Sulphur / Oxygen**

6- Copy and complete the paragraph using the following words:

What are indicators?

indicator      colour      blue      litmus      red

A substance that can tell us whether something is an acid or an alkali is known as an **indicator**.

Indicators change **colour** in acids and alkalis.

One type of indicator is **litmus**. This turns **red** in acid and **blue** in alkali.

7- Use the information in the table to decide whether each of the unknown substances A, B and C is an acid or an alkali. Write the answer under each diagram

Indicator	Colour in acid	Colour in alkali
beetroot	red	purple
geranium petals	orange-red	blue
red onion	pale red	green

A

**Alkali**

beetroot indicator (purple)

B

**Alkali**

geranium indicator (blue)

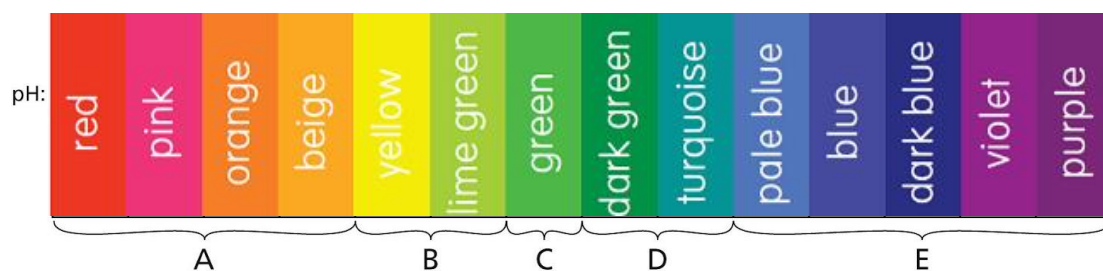
C

**Alkali**

red onion indicator (pale red)

8- The pH scale demonstrates how strong an acid or an alkali is. The colours on a pH colour chart show the colour that universal indicator turns with acids and alkalis of different strengths.

- a) Colour the pH colour chart below to show what colour universal indicator turns with different strengths of acids and alkalis.



- b) Identify the labels A to E, choosing from the words below and write the label against the pointer.

**strong acid    weak acid    strong alkali    weak alkali    neutral**

- A ... **strong acid** .....
- B ..... **weak acid**.....
- C ..... **neutral** .....
- D ..... **weak alkali** .....
- E ..... **strong alkali**.....