

# Science Worksheet #4

## Reviewing the Periodic table, Acids and Alkalis

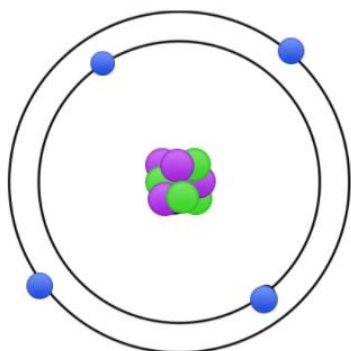


Name: \_\_\_\_\_

Grade 8 ( )

Date: /11/2022

1 – Name the structure below and then answer the following questions about it.



This is an atom

It is the smallest unit of matter that forms a **chemical element**

a- Referring to the periodic table, give the name of the element that this structure represents.

**Berilium (Be)**

b- In which group will you find this element?

**Group #2**

c- What type of element is it?

**Metal**

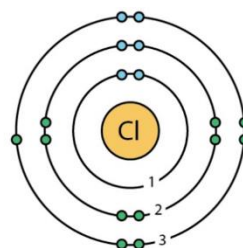
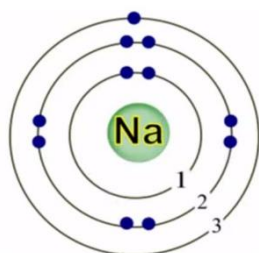
d- Name two other elements that you find in the same group.

**Magnesium – Calcium – Barium – Radium**

e- When this element reacts with Oxygen it forms an oxide that is used in nuclear reactors. Write down the chemical formula for this compound.

**BeO**

f- Draw the basic units for Na and Cl.



## 2- Choose the correct answer.



A solution with a pH 8.6 indicates

- a- a strong acid
- b- a weak acid
- c- a strong alkali
- d- a weak alkali

An indicator turns into dark red when added to an acidic solution. This means that this solution is

- a- diluted
- b- alkaline
- c- neutral
- d- corrosive

When a very strong alkali reacts with the universal indicator it will change into

- a- dark red
- b- blue
- c- green
- d- dark purple

When Hydrochloric Acid reacts with Potassium Hydroxide the salt will be

- a- Sodium Chloride
- b- Potassium Chloride
- c- Potassium Oxide
- d- Potassium Chloride

When Sulphuric Acid ( $\text{H}_2\text{SO}_4$ ) reacts with Sodium Hydroxide ( $\text{NaOH}$ ) the products are

- a-  $\text{H}_2\text{O} + \text{NaOH}$
- b-  $\text{H}_2\text{O} + \text{Na}_2\text{SO}_4$
- c-  $\text{H}_2\text{O} + \text{Na Cl}$
- d-  $\text{H}_2\text{O} + \text{Na}_2\text{O}$

Which of the following is an alkali?

- a- water
- b- orange juice
- c- dishwashing detergent
- d- vinegar

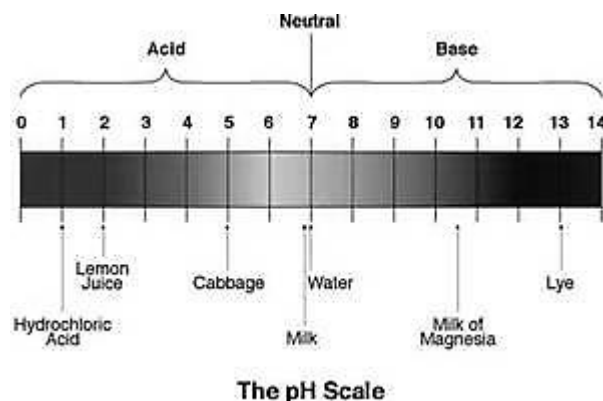
Choose the correct statement

- a- Only acids conduct electricity
- b- Only alkalis conduct electricity
- c- Acids and alkalis don't conduct electricity
- d- **Acids and alkalis conduct electricity**



According to the pH range given in the image, which substance is more acidic than lemon juice?

- a- **HCl**
- b- Milk
- c- Water
- d- Lye



Which of the following is not a base?

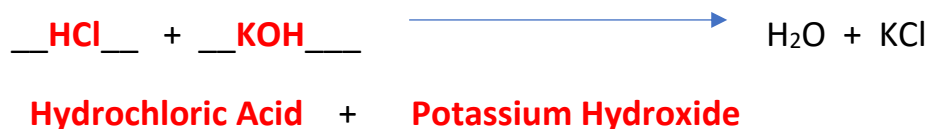
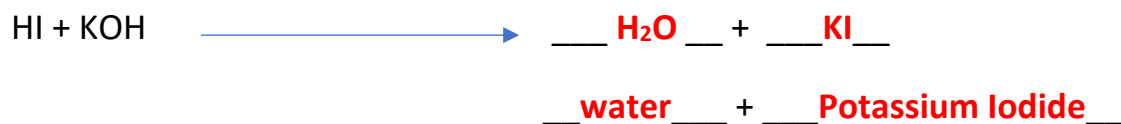
- a- NaOH
- b- NH<sub>4</sub>OH
- c- **HNO<sub>3</sub>**
- d- Ca(OH)<sub>2</sub>

**3 – Estimate the pH for the following substances.**

	Estimated pH
Baking soda	<b>8-9</b>
Lemon juice	<b>2-3</b>
Hand soap	<b>10</b>
Water	<b>7</b>
Bleach	<b>13</b>
Corrosive acid	<b>1</b>



4 – Referring to the periodic table and the table below, complete the following neutralization reactions.



Acid	Chemical formula
Hydrochloric Acid	HCl
Sulfuric Acid	H <sub>2</sub> SO <sub>4</sub>
Nitric Acid	HNO <sub>3</sub>

Alkali	Chemical formula
Sodium Hydroxide	NaOH
Potassium Hydroxide	KOH
Calcium Hydroxide	Ca(OH) <sub>2</sub>