The National Orthodox School Shmaisani

Name: Answer key **worksheet: Acids & Alkalis**

Date: _____ **Grade: 6CS**

Question One: *Compare and contrast acids and alkalis by completing the following table.*

	Acids	***Alkalis***
pH range	0 - 6.9	7.1 - 14
What to look for in chemical formula	H	OH
Production of ions	Hydrogen ions (H+)	Hydroxide ions (OH-)
Taste	Sour	Bitter
Examples	Lemon	Bleach

Question Two: *Classify the following examples as acids, bases, or salts.*

HBr – acid

$Mg(OH)_2$ – base

HClO – acid

$Al(OH)_3$ - base

$Ba(OH)_2$ - base

KCl – salt

H_3PO_4 – acid

KNO_2 – salt

HFO_4 – acid

$CaCO_3$ – salt

Question Three: *Name the following acids and alkalis.*

HCl - Hydrochloric acid

HNO_3 – Nitric acid

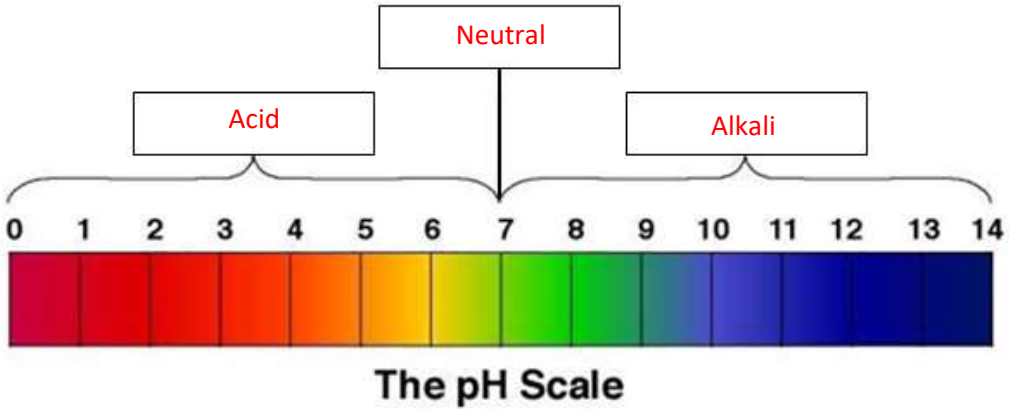
H_2SO_4- Sulfuric acid

NaOH – Sodium hydroxide

KOH – Potassium hydroxide

$Mg(OH)_2$ – Magnesium hydroxide

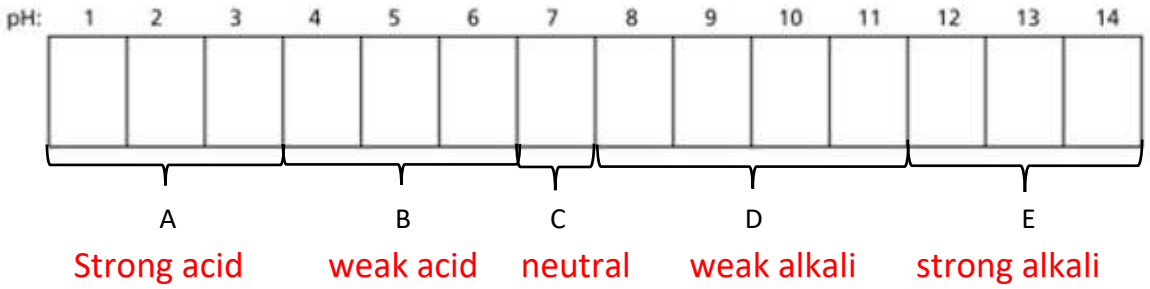
Question Four: *Use the pH scale to answer the following questions.*



1. Fill in the boxes with the correct words.
2. How would you describe a substance with a pH of 6? Weak acid
3. Sodium hydroxide is a very strong base so it would have a pH of 13-14.
4. What pH would you expect a strong acid to have? 0-3
5. Neutral substances would have a pH of 7.

Question Five:

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



a) *Color the pH color chart below to show what color universal indicator turns with different strengths of acids and alkalis.*

b) *Identify the labels A to E, choosing from the words below:*

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

Question Six:

Fill in the table below with the expected results of using ***litmus paper.***

	Acidic solution	Neutral solution	Alkaline solution
Blue litmus paper	Turns Red	No change (Stays blue)	Stays Blue
Red litmus paper	Stays Red	No change (Stays red)	Turns Blue

Question Seven : Complete the following sentences.

a) A neutralization reaction will always produce salt and water.

b) A solution is neutral at pH 7.

c) An alkali is able to "cancel" out an acid. The chemical name for cancelling out the acid is neutralization.

Question Eight: Complete the following neutralization reactions.