

1. State the pH value or pH range of the following:

- a) a neutral solution - 7
b) an acidic solution - 0 - 7
c) a basic solution - 7 - 14

2. Describe how you would use litmus paper to determine whether a solution is acidic, basic, or neutral.

Red = Acid
Blue = Base
use both red + blue litmus, if both stay the same, it is neutral

3. a) How can you identify an acid by looking at its chemical formula? H^+

If it has a hydrogen in its formula

b) How can you identify a base by looking at its chemical formula? OH^-

If it has an OH^- group (hydroxide)

4. State whether each of the following describes an acid, base or both.

Taste sour	Acid
Taste bitter	Base
Feel slippery	B
Conduct electricity	Both
Have a pH greater than 7	Base
Produce hydrogen (H^+) ions in solution	Acid

5. Identify the following compounds as acids, bases, or salts, then write their full names.

- a) HF hydrofluoric acid b) NaOH sodium hydroxide
c) $Ca(OH)_2$ Calcium hydroxide d) CH_3COOH Acetic acid
e) H_2SO_4 sulphuric acid f) HNO_2 nitrous acid

6. What is meant by the term acid-base neutralization? type of reaction where an acid + base \rightarrow salt + water

7. Define: a) organic compound

carbon containing (see notes for exceptions)

b) inorganic compound

does not contain carbon (" " ")

8. a) What two elements are present in all hydrocarbon compounds? C, H

b) What are three uses for hydrocarbons? fuel, plastic, heat

9. a) What three elements are present in all alcohols? C, O, H

b) What are three uses for alcohols? solvent, fuel, cleaner

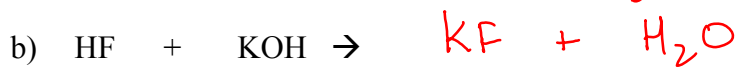
10. If Na_2O is dissolved in water, and bromothymol blue indicator is added, what colour will it be? **BLUE**

11. If CO_2 is dissolved in water, and phenolphthalein indicator is added, what colour will it be? **CLEAR**

12. What is the colour of the indicator after it is added to each of the following solutions? (Use the pH scale and the indicator chart from your notes to answer)

Solution	Indicator Colour
Lemon juice in the presence of indigo carmine indicator	Blue
Milk in methyl red indicator	Yellow
Bleach in phenolphthalein	Pink
Tap water in phenolphthalein	Colourless
Egg white in litmus	Blue

10. Complete and balance the following neutralization reactions.



11. State whether the following is an acid, a base, a salt, or none of these.

a) $\text{HCl}(\text{aq})$ **A**

b) MgCl_2 **S**

c) KOH **B**

d) K_3PO_4 **S**

e) $\text{Sr}(\text{OH})_2$ **B**

f) $\text{H}_2\text{SO}_4(\text{aq})$ **A**

12. Classify each of the following compounds as organic or inorganic by examining their formulas.

a) CH_3OH **O**

b) $\text{Mg}(\text{HC}_2\text{O}_4)_2$ **O**

c) SiC **I**

d) Na_2CO_3 **I**

e) FeBr_3 **I**

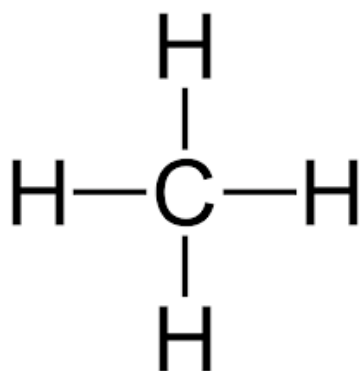
f) CH_4 **O**

g) NH_3 **I**

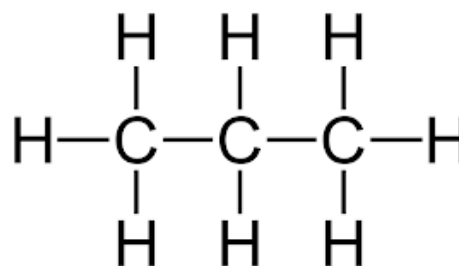
h) CO **I**

13. Draw the structural diagrams for these organic compounds and name them.

a) methane (count the # of carbons + Hydrogens)



b) propane



14. Know about carbonates, and how they help neutralize acid rain. Know that sulphuric acid is part of acid rain.