

## Science & Technology 404

### Worksheet - Electrolytes, pH and Neutralization

1. In a lab, you test the pH of the liquids below. Classify each as acidic (A), basic (B) or neutral (N).

Liquid	pH	Classification	Liquid	pH	Classification
A	6		F	6.8	
B	12		G	0.5	
C	8.2		H	7.0	
D	7.1		I	2.4	
E	5.4		J	10.2	

2. a) Put the acids from question 1 in order from weakest to strongest.
- b) Put the bases in order from strongest to weakest.
- c) Compare liquids C & J. Which is stronger and by how much?
- d) Compare liquids E and I? Which is stronger and by how much?
- e) How would you describe liquid F (acidic, basic or neutral and how strong)?
- f) How would you describe liquid G (acidic, basic or neutral and how strong)?
3. Neutralization is a chemical reaction that takes place between acids and bases. Complete the word equation below.



4. a) You find a bottle containing an unidentified liquid. By using universal indicator paper, you determine that the pH of this liquid is 11. Therefore you have to neutralize it before disposing of it. How would you neutralize the liquid?

b) Which of the following could be the unidentified liquid: KOH, HBr or NaF?

5. You are given the chemical formulae of the aqueous solutions below. Classify each as acidic, basic, salt or other.

Formula	Classification
NaOH	
H <sub>2</sub> O	
NaCl	
NH <sub>4</sub> OH	
HCl	
CaF <sub>2</sub>	
HI	
CO <sub>2</sub>	
Cl <sub>2</sub>	
H <sub>2</sub> S	

6. You are given the incomplete data table below. Which of the following substances would you expect to conduct electricity?

Substance	Formula	Red litmus	Blue Litmus	Reaction to Magnesium	Cobalt chloride	pH
A		Stays red	Turns red	Yes	Turns pink	
B	LiCl	Stays red	Stays blue	No		7.0
C	H <sub>2</sub> SO <sub>4</sub>				Turns pink	
D	C <sub>2</sub> H <sub>5</sub> OH	Stays red	Stays blue		No change	7.0
E				No	Turns pink	8.4
F				Yes	Turns pink	0.6