

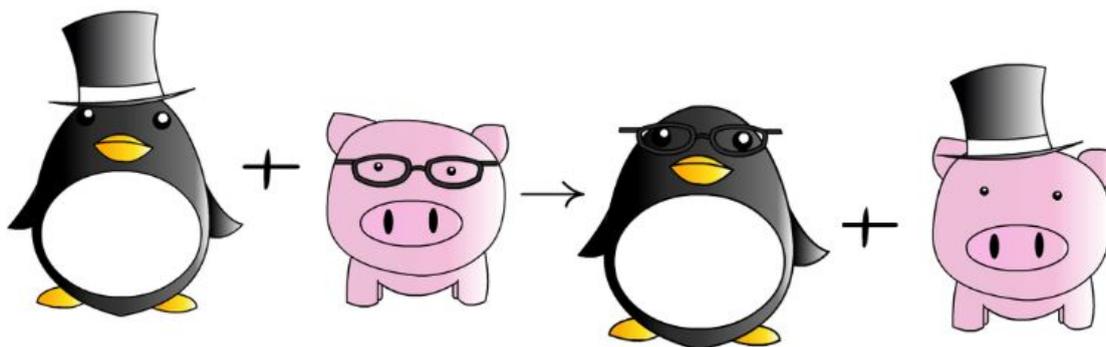
WorksheetCloud: WORKSHEET

Grade 9

Subject: Natural Sciences

Topic: Acids and Bases Exchange Reactions

Activity 1



1. Using the penguin and pig chemical reaction explain how an exchange reaction works.
2. Using the penguin and pig chemical reaction explain how it links with a neutralization reaction.

Activity 2

1. List the properties of acids
2. List the properties of bases
3. State whether the following properties belong to acids, alkalis or both.
 - 3.1. changes the colour of an indicator
 - 3.2. sour taste
 - 3.3. soapy to touch
 - 3.4. soluble in water
 - 3.5. can neutralise bases
 - 3.6. form ions in water
 - 3.7. bitter taste
 - 3.8. form salts with other chemicals
4. What colour will universal indicator be in
 - 4.1. an acid
 - 4.2. an alkali?
5. What products are formed when an alkali neutralises an acid?

Activity 3

Complete the table of common acids

Common Acids:

Name	Formula	Strong / weak	Where it is found
Hydrochloric acid		Strong	In the stomach Regulate pH of water in swimming pools
Sulphuric acid		Strong	Car battery acid As a drying agent
Nitric acid		Strong	In acid rain In fertilizers and explosives
Phosphoric acid		Medium	In acid rain In rust removers
Carbonic acid		Weak	In acid rain In soda water
Acetic acid		Weak	In vinegar
Formic acid		Weak	Found in ants and nettles
Citric acid		Weak	In lemons, oranges, other citrus fruits.

Activity 4

Complete the table of common bases.

Common Bases:

Name	Formula	Where it is used
Sodium hydroxide (caustic soda)		In the home, for removing grease Many uses in industry
Calcium hydroxide		In farms and gardens to neutralise soil acidity
Magnesium oxide		In the home as an anti-acid
Calcium carbonate		In farms and gardens Neutralise acidified lakes
Sodium hydrogen carbonate (bicarbonate of soda)		In the home as an anti-acid medicine, and baking powder
Ammonia		In the home, as a cleaning liquid