Acids & Bases (Chemistry)

Year 7, Autumn Term

You will be taught	*You should know*
to use indicators to classify solutions as acidic, neutral or alkaline and to use the pH scale as a measure of the acidity of a solution	about experiments which test substances with different indicators, including **Litmus paper** and **Full Range** or **Universal Indicator**;
	that substances can be **acidic**, **alkaline** or **neutral**
	how **to make an indicator** out of red cabbage;
	that red litmus goes blue in alkali and blue litmus goes red in acid
	the **pH scale** including pH numbers for strong and weak acids and alkalis and a neutral solution
how metals and bases, including carbonates, react with acids and the products of these reactions	that when an acid and alkali are mixed the reaction is **neutralisation** and a **salt** is formed, e.g. sodium hydroxide + hydrochloric acid -> sodium chloride + water
	that **salts** can also be made by reacting an acid with a metal oxide or metal carbonate, e.g. sulphuric acid + copper oxide -> copper sulphate + water; sulphuric acid + copper carbonate -> copper sulphate + carbon dioxide + water
	that evaporation of the neutral solution leaves behind the **salt crystals**.
about some everyday applications of neutralisations [e.g. *the treatment of acid indigestion, the treatment of acid soil, the manufacture of fertilizer]*	that **indigestion tablets** contain alkalis to neutralise stomach acid
	that alkalis are often put on to fields to **neutralise acid soils**
how acids in the environment can lead to corrosion of metal and chemical weathering of rock [e.g. *limestone]*	that carbon dioxide dissolves in water to form an **acid** and that **rain** is slightly acidic;
	that limestone is “calcium carbonate” and when it is heated it decomposes to calcium oxide (known as quick-lime, which can be mixed with water to make calcium hydroxide (lime), which can be used on fields to reduce the acidity of the soil
	limestone (“calcium carbonate”) reacts **with acid rain** and in this way acid rain damages buildings – known as “**chemical weathering**”
	that **reduction** is when oxygen is removed from a compound, e.g. iron oxide + carbon monoxide ->carbon dioxide + iron
	that **neutralisation** is any reaction that involves an acid changing

http://www.bbc.co.uk/schools/ks3bitesize/science/chemistry/acids_bases_intro.shtml

http://www.chem4kids.com/files/react_acidbase.html

http://www.chemtutor.com/acid.htm

http://www.miamisci.org/ph/default.html

http://sciencespot.net/Pages/kdzchem3.html

http://www.sasklearning.gov.sk.ca/docs/chemistry/mission2mars/contents/chapter3/redcabbage.htm