Year 11

Chemistry booklet

Topic 2 – Using resources

Name: _____

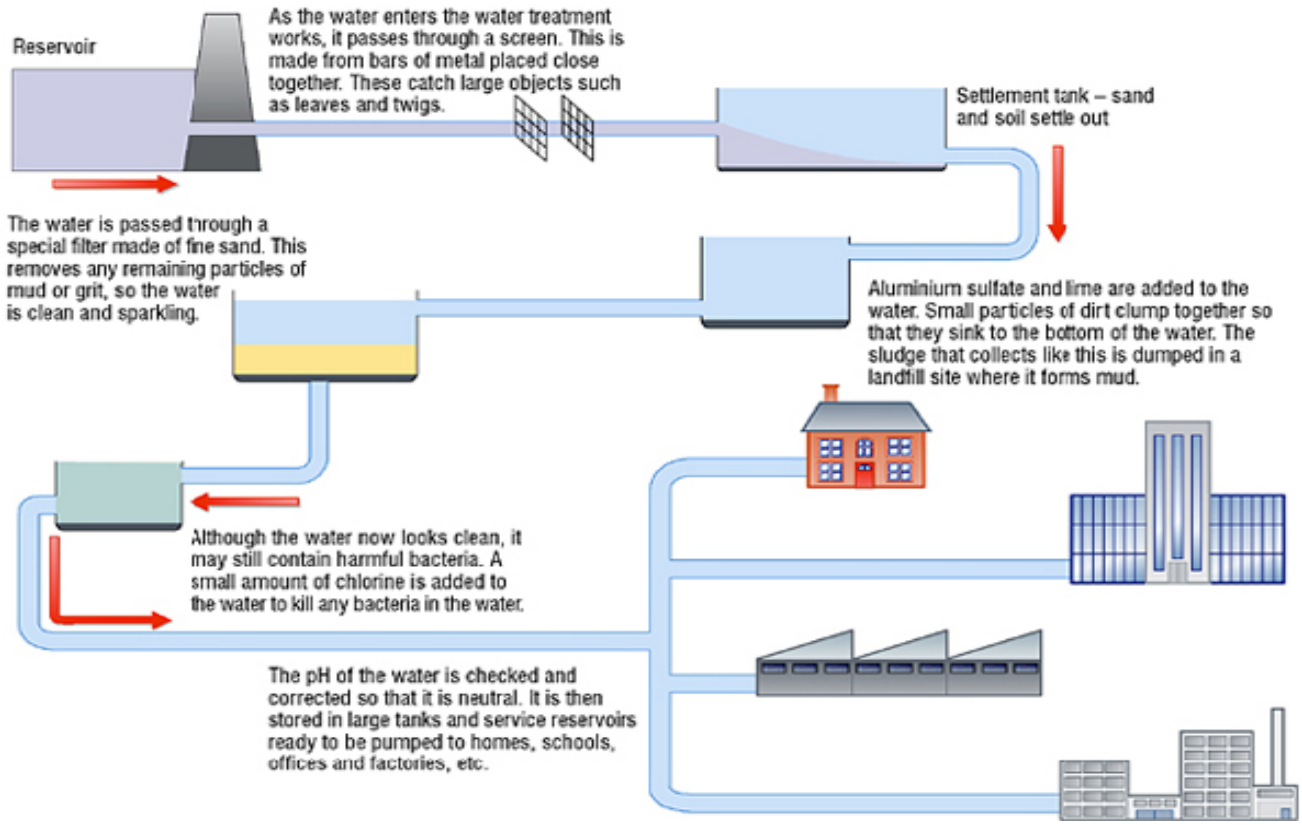
Using resources

Give a definition for each of these key words:

Natural	
Synthetic	
Finite	
Renewable	
Potable water	
Electrolysis	
Electrolyte	
Anode	
Cathode	
Half equation	
Life cycle assessment	
Resources	
Recycling	

Purifying water

	True or false?	Explanation / info
Water taken from the environment contains many sorts of bacteria		
Water collected from the environment is treated to change it into water that is safe to drink		
Leaves, twigs and rubbish are allowed to float into the tanks where water is stored		
Alum and lime are added to remove mud and silt		
A big sieve is used to trap any dirt as water flows through		
Lime is added so that every house has clean water		
Clean, sterile water is kept in a storage tank then passed to houses and businesses		



Electrolysis

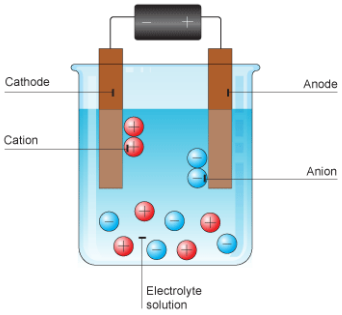
Electrolysis is the process of splitting an ionic compound using electricity

Anode = positive electrode. Attracts negative ions (anions). These ions lose electrons and are oxidised.

$X^- \rightarrow X + e^-$ (Often $2X^- \rightarrow X_2 + 2e^-$ as many non-metals are diatomic)

Cathode = negative electrode. Attracts positive ions (cations). These ions gain electrons and are reduced.

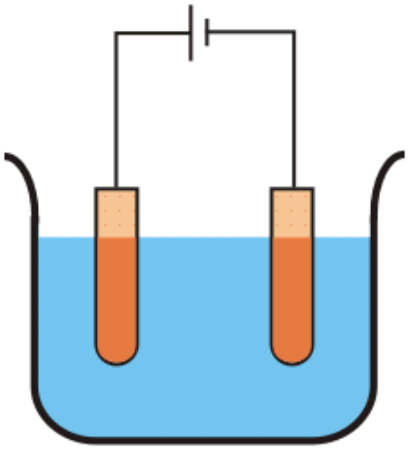
$M^+ + e^- \rightarrow M$



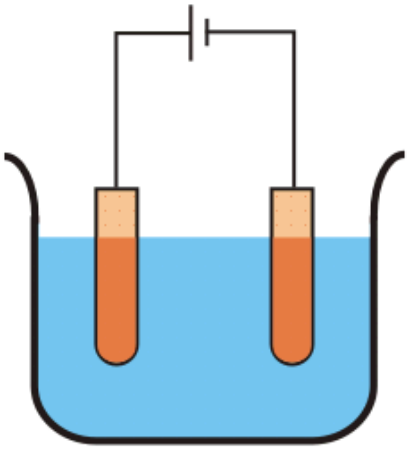
Electrolyte = the liquid used in electrolysis. An ionic compound which is either molten or dissolved, so the ions are free to move.

Label the following diagrams in as much detail as possible:

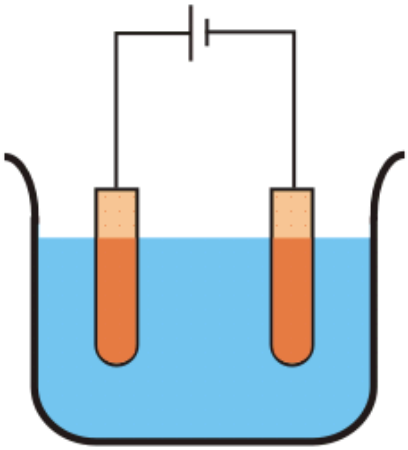
1. Electrolysis of molten lead bromide



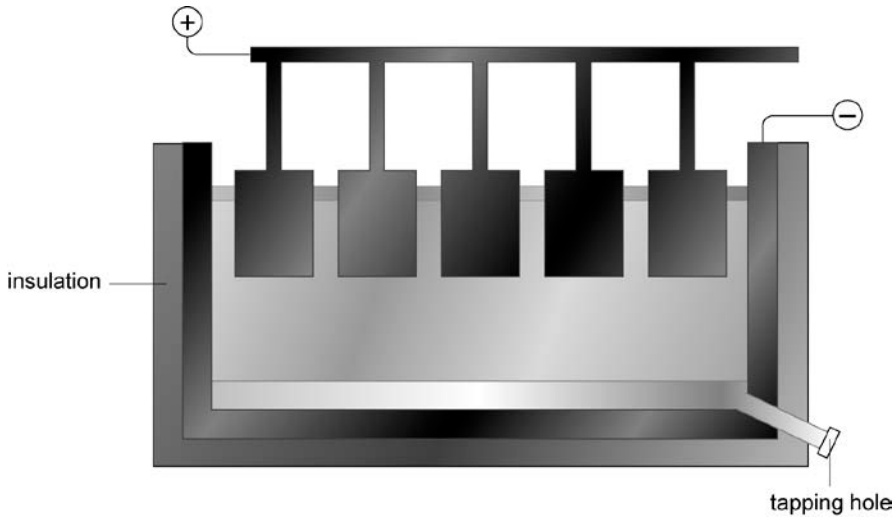
2. Electrolysis of molten copper chloride



3. Electrolysis of copper sulfate **solution**



4. Electrolysis to produce aluminium



Life cycle assessments

Produce a life cycle assessment for a plastic bottle – you need to include information about energy use and environmental impact at each stage of the bottles 'life'