Thursday, 22 October 2020

Acids alkalis and indicators

Strong acid:

Dissociates completely in water to release a lot of h+

Weak acid:

Dissociates only in small extend in water to release a few of of h+

Acid

There are more H+ than OH- in the solution (more H+ lower pH)

Alkali:

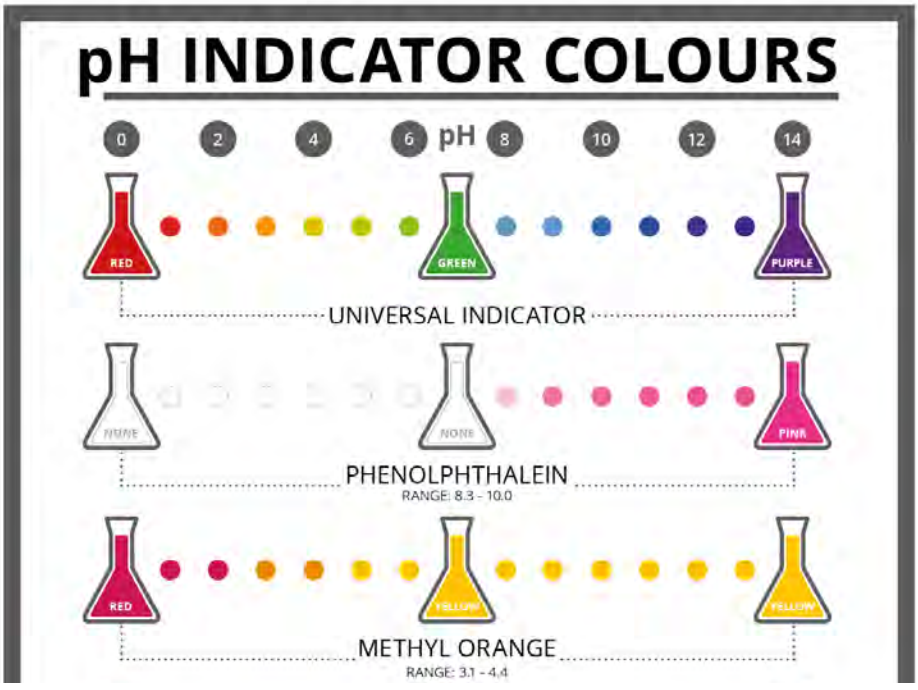
Chemically opposite of acids.There are more OH- than H+ in the solution (more OH- higher pH)

Neutral:

Neither acid nor alkaline eg. Water

Indicators

-A chemical that turns different colour depending on whether is added to an acid or alkaline



Thursday, 22 October 2020

Delocalized electrons in metallic bonding allow metals to conduct heat and electricity.

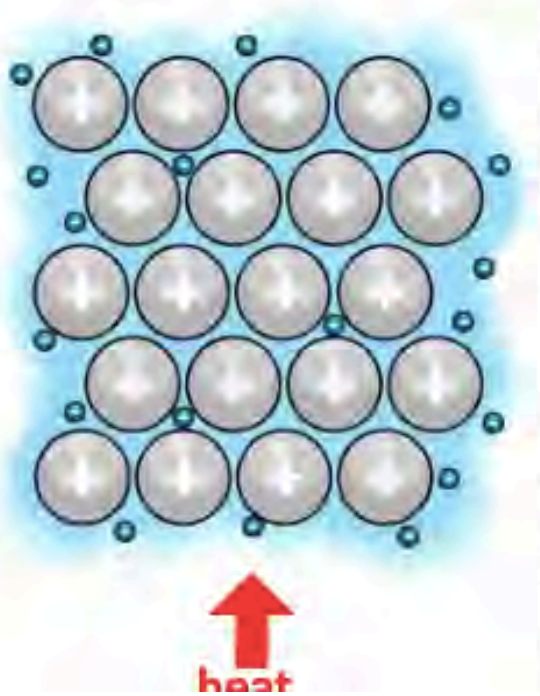
Metals have high melting points

- due to the strong attraction between the positively-charged metal ions and the sea of electrons (metallic bonds).

As a result, a lot of energy is needed to overcome the attractions and separate the ions.

Why do metals conduct heat and electricity?

Delocalized electrons in metallic bonding allow metals to conduct heat and electricity.



When a metal is heated, the delocalized electrons gain kinetic energy.

These electrons then move faster and so transfer the gained energy throughout the metal.

This makes heat transfer in metals very efficient.

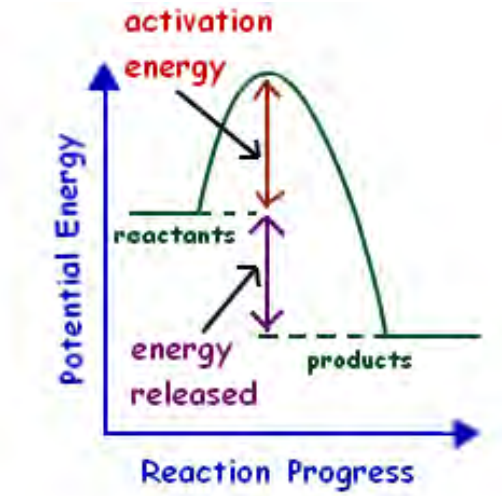
When a potential difference is applied across a piece of metal, the electrons move in one direction. This movement of electrons is electrical current.
Delocalized electrons are able to move and carry charge so the metal can conduct electricity.

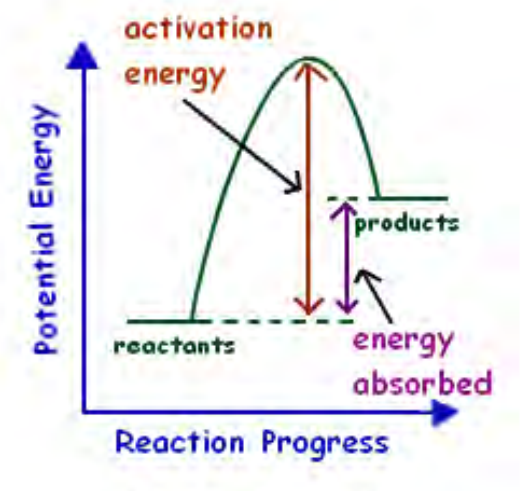
Sunday, 12 December 2021

Sc19a-b Temperature changes

Exothermic reactions
- Temperature of the reaction mixture and surroundings **increase**
- Bond making -> energy is released when bonds are made

Examples of exothermic reactions
1. Combustion reactions
2. Neutralisation reactions
3. Rusting of iron





Endothermic reactions
•Take in heat
•Temperature of reaction mixtures and surroundings **decrease**
•Bond breaking -> energy is needed to break the chemical bonds

Examples of endothermic reactions
1.Melting ice cubes
2.Melting solid salts
3.Evaporating liquid water

Bond energy calculations:
Enthalpy change of reaction(energy) =
sum of bonds broken (reactants) - sum of bonds made (products)

Wednesday, 9 February 2022

Sc24b Polymer properties and uses

Polymer	Properties	Uses
poly(ethene)	Flexible, cheap, good insulator	Plastic bags, plastic bottles
poly(propene)	Flexible, shatter proof, high softening point	Buckets and bowls
PVC	Tough, cheap, long-lasting, good insulator	Window frames, pipes, insulation for electrical wires
Teflon	Tough, slippery, resistant to corrosion, good insulator	Non stick,

Biological polymers

1. Amino acids -> protein
2. Starch -> glucose