

Cambridge IGCSE Chemistry

Topic 11: air and water

Water

Notes





Describe chemical tests for water using cobalt(II) chloride and copper(II) sulfate

- Cobalt(II) chloride:
 - Blue anhydrous cobalt(II) chloride turns pink in the presence of water
- Copper(II) sulfate:
 - White anhydrous copper(II) sulfate turns blue in the presence of water

(Extended only) Discuss the implications of an inadequate supply of water, limited to safe water for drinking and water for irrigating crops

- Water is essential for life
 - Water covers about 2/3 of our planet, but the majority cannot be drunk directly
 - Humans need drinking water with low levels of dissolved salts and microbes
- We also need water for irrigating crops, also essential for life

Describe, in outline, the treatment of the water supply in terms of filtration and chlorination

- Water of the correct quality is essential for life. It must be free of poisonous salts and harmful microbes.
- The methods used to produce potable water depend on available supplies of water and local conditions. In the UK:
 - an appropriate source of fresh water is selected (rain provides water with low levels of dissolved substances and this collects in the ground/rivers/lakes)
 - the water is passed through filter beds to remove different sized insoluble solids (filtration)
 - the water is then sterilised, to kill microbes (sterilising agents include: ozone, UV light or chlorine)

Name some of the uses of water in industry and in the home

- In the home: drinking water, heating, plumbing
- In industry: water acts as a solvent, or a coolant

