OCR B GCSE Chemistry

Topic 1: Air and water

How can scientists help improve the supply of potable water?

Notes

1. Describe the principal methods for increasing the availability of potable water, in terms of the separation techniques used, including the ease of treating waste, ground and salt water including filtration and membrane filtration; aeration, use of bacteria; chlorination and distillation (for salt water)

- potable water: it is suitable for drinking so must have:
  - low levels of microbes
  - low levels of contaminating substances
  - it is not the same as pure water but is still safe
- making waste and ground water potable:
  1. sedimentation: large insoluble particles will sink to the bottom of the water
  2. filtration: water is filtered through beds of sand which removes small insoluble particles
  3. chlorination: chlorine gas is put through water to kill microbes
- making sea water potable using distillation:
  1. filter the seawater
  2. boil it (this requires large amounts of energy, making the process very expensive)
  3. water vapour is cooled and condensed
- water used in analysis:
  - must be pure because any dissolved salts could react with the substances you are analysing, leaving you with a false result

2. Describe a test to identify chlorine (using blue litmus paper)

- Chlorine
  - When damp litmus paper is put into chlorine gas the litmus paper is bleached and turns white