

Chemistry Topic 10: Using resources

1. Keywords

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| Finite resources | Resources that will run out |
| Renewable resources | Resources that can be re-grown or will not run out |
| Sustainable development | Building things without depleting natural resources |
| Potable water | Water that is safe to drink |
| Pure water | Water without anything added to it E.g. 100% H ₂ O |
| Desalination | Removing salt by distillation or reverse osmosis |
| Sterilisation | Killing bacteria and microbes (e.g. chlorine, ozone or UV) |
| Distillation | Evaporation followed by condensation, uses a lot of energy |
| Reverse osmosis | A process using membranes to remove the salt. Uses a lot of energy |
| Effluent | Liquid waste sewage discharged into rivers and seas |
| Sludge | Solid sewage waste. Dried and used as fertiliser or burned to generate electricity |
| Life cycle assessments (LCAs) | A way of assessing the impact of the production transport use and disposal of a product on the environment |

2. Waster water treatment

| | Name | Description |
|---|---------------------|---|
| 1 | Screening | Solid waste and grit removed by a metal grid |
| 2 | Primary treatment | Sediments are allowed to settle out from the mixture |
| 3 | Secondary treatment | Bacteria feed on the remaining organic waste. The tank has oxygen bubbled through it so aerobic respiration can occur |
| 4 | Final treatment | Bacteria allowed to settle out. Water is sterilised and ready to drink |

3. Alternative methods of extracting metals (HT ONLY)

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| Phytomining | <ol style="list-style-type: none"> 1. Plants absorb metal compounds 2. Plants are harvested and burnt 3. Ash contains metal compounds |
| Bioleaching | <ol style="list-style-type: none"> 1. Bacteria absorb metal compounds 2. Bacteria excrete a solution of metal called Leachate 3. Displacement can be carried out using scrap iron or electrolysis. |