Chemistry

Chapter 10 continue

Bioleaching

- Bacteria change copper compounds into soluble copper compound
- This solution contains copper ions
- Copper is extracted from leachate by electrolysis or displacement

Photomining

- Plants grow rich in copper with soil
- copper build up in the leaves
- plants are harvested dried burnt
- ash contains copper compound
- copper extracted by electrolysis or displacement
- advantages of new method is they do less damage to environment
- disadvantages are that they are very slow

Recycling

Recycling is important because

- it uses less energy than mining
- It safe finite metals
- it reduces land fill waste

Recycled materials are waste items including plastic metals glass paper and electronics

Recycling metals

- Metals are melted and reshaped

Glass recycling

- It saves energy and reduce waste
- Some glass bottles are reused directly
- Other glass is sorted by color, crushed and they are melted
- They are made into new bottles or insulation materials

Life cycle assessment LCA

What is an LCA

A study that checks the product total environmental impact from start to end

Stages of LCA

Getting raw materials

- Extraction damages lands and uses a lot of energy
- processing raw materials also uses energy and makes the waste

Manufacturing and packaging

- It uses a lot of energy
- it releases pollution
- it produces the waste
- some waste can be harmful and can be turned into useful chemicals

Using the product

- it can harm the environment for example burning fuels and greenhouse gases

- some products are used for long so they create less waste over all

Product disposal

- it can harm the environment
- Example burning fuel such as greenhouse gases
- some products are used for long so they create less waste

Problems with LCA

- Some impact cannot be measured exactly
- LCA a depend on the persons opinion so it can be buyers
- companies make create selective lcate to make their product look good