

Section 1.6: Waste Materials and the Carbon Cycle

Decay

- That living things take the materials they need (e.g. carbon and nitrogen) from the environment and use them for growth and other life processes.
 - That these materials are returned to the environment in the organism's waste products or when the organism dies.
 - That when an organism dies, its remains are broken down by microorganisms and the elements it contains are returned to the soil where they can be used by new plants.
 - That microorganisms are most active in warm, moist conditions with a good oxygen supply.
 - That a stable community is one in which the materials taken out of the soil and used are balanced by those that are put back in — there's a constant cycle of materials.
 - How to evaluate schemes for recycling kitchen and garden waste.
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The Carbon Cycle

- That the carbon cycle shows how carbon is constantly recycled (from the air, through food chains, and back into the air again).
- That carbon is removed from the air as carbon dioxide when green plants and algae photosynthesise.
- That green plants and algae use the carbon in carbon dioxide to make carbohydrates, fats and proteins.
- That carbon is passed along the food chain when animals eat other organisms and in this way the energy that green plants and algae get from photosynthesis is transferred up the food chain.
- That animals use carbon to make fats and proteins in their body.
- That detritus feeders and microorganisms break down dead organisms and animal waste, which puts compounds back into the soil that can be taken up by plants as nutrients.
- That when green plants, algae, animals (including detritus feeders) and microorganisms respire, carbon dioxide is put back into the air.
- That the burning (combustion) of products made from plants and animals (e.g. wood) and fossil fuels puts carbon dioxide back into the air.