Biology Revision - Fossils

Fossil formation

1) An animal dies in a place where it can be buried by sand and mud (sediment). The remains then either decay or are eaten by other animals until only bones are left.

2) The skeleton of the animal is quickly covered by a layer of sediment before completely decaying. Over millions of years, the skeleton becomes buried by many more layers of sediment until it is deep underground.

3) The weight of the sediment layers cause the particles to cement together, encasing the skeleton in rock. Water seeps through the sediment rock into the bones which are slowly replaced by minerals from the water, turning the bones to rock.

4) The fossil can only be discovered if the layer of sediment it is buried in is raised upwards when the Earth's crust moves. Water, ice or wind must then erode away the layers of sediment above.

Types of fossils

- Petrified shell - Shells of marine organisms, turned to rock.
- Mould fossil - Organism encased in rock dissolves.
- Carbon film - Thin layer of carbon deposited onto rock by decaying organism
- Footprint fossil - Trace fossil. Shows evidence of animal activity rather than remains.
- Dung fossil - Trace fossil. Known as a coprolite. Lump of ancient animal faeces that has become rock.
- Fossil in amber - Sap produced by trees traps insects and hardens.

Fossils can reveal a lot of information about the history of past life on Earth. They are very rare and the process takes millions of years.