Biology

Fossils

What are fossils

- **fossils are the remains of animals or plants that lived thousands or millions of years ago**
- **they are found in rocks**
- **fossils help us understand how living things have changed overtime**
- **they show us what old organisms look like and how different or similar they are today's organism**

How fossils form three main ways

Gradual replacement by minerals

- **Hard parts of organisms like teeth bones shells do not decay easily**
- **When they get buried they stay in ground for long time**
- **slowly mineral replace the hard parts**
- **this forms a rock like copy of the original part**
- **the sediments around it also turn into Rock but the Fossil stays clearly inside**

Casts and Impressions

- **Sometimes a dead organisms Falls into soft material like clay**
- **The clay Becomes hard around it**
- **The organism then rots away leaving a shape behind this is called a cast**
- **Burrows Made by animals or roots of plants can also become cast**
- **food prints pressed into soft mud can Harden and become Impressions**

Places where no Decay happens

- **In some places bacteria that cause Decay cannot live**
- **Amber has no air or moisture**
- **tar pits also do not let bacteria to Survive**
- **Glaciers are too cold**
- **Peat bogs are too acidic**

Why we don't know how life started

- **Fossils show how us how living things changed over millions of years**
- **but fossils cannot tell us how the very first life started**
- **scientist have ideas but no one knows for sure**
- **maybe simple molecules formed in early oceans**

- maybe molecule comes from comets in space
- these ideas cannot be proven because
- the first living thing has soft bodies that decade completely
- some fossils were destroyed by Earth's plates moving and crushing rocks

Antibiotic resistant bacteria

How bacteria become resistant

- Bacteria sometimes change their DNA by random mutation
- This may help them survive antibiotics
- bacteria reproduce very very fast
- this help them evolve quickly
- if one bacterium becomes resistant
- it survives while other dies, it will live longer, it makes more bacteria like, soon many bacteria become resistant
- these resistant bacteria dangerous because human do not have immunity to them\ antibiotics will not kill them
- this spread easily between people
- MRSA is a famous superbug it is hard to kill it is common in hospital and can be deadly if it get into the blood