Energy Transfer and Food Webs

- Energy from the sun is the source of energy for nearly all life on earth.
- Plants use light energy from the sun to make food during photosynthesis. This energy then works its way through the food chain as animals eat the plants and each other.
- Not all the energy that's available to the organism in a trophic level is passed on to the next level – around 90% is lost.
- Some parts of food aren't eaten by organisms so the energy isn't taken in. Some parts of food are indigestible so pass through organisms and come out as waste.
- A lot of the energy that does get taken in is used for processes that keep the animal alive.
- Most of the energy us eventually lost to the surroundings as heat.
- Only about 10% of the total energy available becomes biomass.
- This is the energy that's transferred from one trophic level to the next.

The Carbon Cycle:

- There's only one arrow going down. The whole thing is powered by photosynthesis. Green plants use carbon in CO_2 in the air to make carbohydrates, fats and proteins.
- Eating passes the carbon compounds in the plant onto animals in a food chain or web.
- Both plants and animals respiration while the organisms are alive releases CO_2 back into the air.
- Plants and animals eventually die and decompose, or are killed and turned into useful products.
- When plants and animals decompose, they're broken down by bacteria and fungi. These decomposers release CO_2 back into the air by respiration, as they break down the material.
- Some useful plant and animal products are burned. This also releases CO_2 back into the air.