

Definitions:

- An autotroph is An organism which can make organic compounds from sunlight and inorganic molecules
- A heterotroph is An organism which gets organic molecules by feeding on other
- Habitats are The place where an organism
- Ecosystems are A community of populations and the environment where they
- A community is A group of populations all living in the same
- A trophic level is A feeding level in a food web, e.g.

Energy flows through a food web but only 10% gets to the next trophic level. E.g. **Earthworm** \longrightarrow **Backbird**

Explain how energy is lost because:

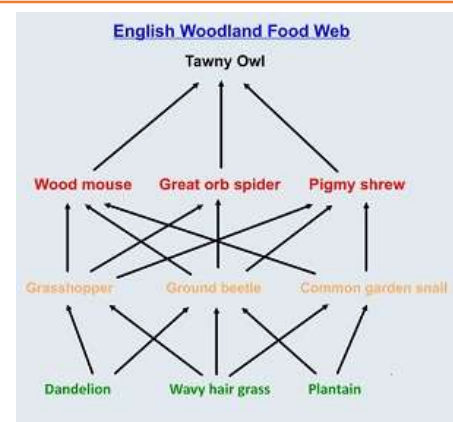
- a) it is not assimilated = Some energy rich molecules are absorbed but then used in
- b) it is not absorbed = Some molecules pass through the digestive
- c) of heat loss = Many of the reactions of metabolism create some waste heat. This may be useful for keeping warm but it is lost from the food

Arrows in a food web show

The flow of

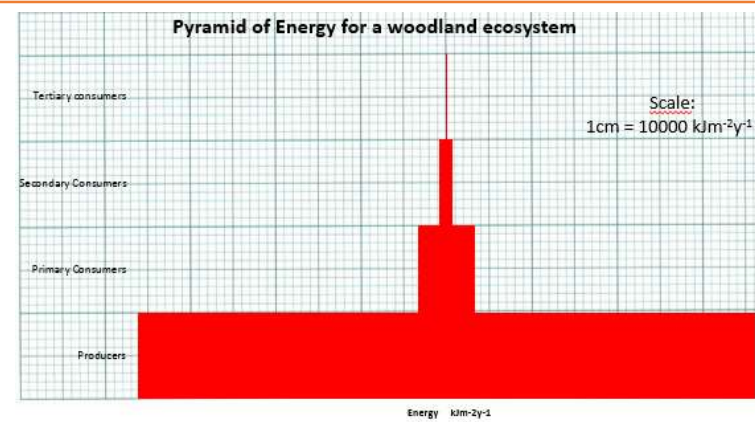
The four trophic levels and the type of nutrition are

1. Producers autotrophic nutrition
2. Primary Heterotrophic
3. Secondary Heterotroph
4. Tertiary consumers Heterotroph



Compare the roles of plantain, grasshopper and wood mouse in the English woodland food web.

Each organism is in a different trophic level, the plantain is a producer and the grasshopper a primary consumer the wood mouse a secondary consumer.
The plantain is an autotroph but the other two are both heterotrophic.



Explain how to draw a pyramid of energy like the one shown on the left.

- First collect data for the amount of energy in each trophic level.
- Work out the scale for the graph.
- Draw the horizontal bar for the producers.
- Centre the next bars in the middle.
- Draw the primary consumers bar, then the secondary and tertiary consumers

Two types of decomposers are fun saprotroph or detritivore

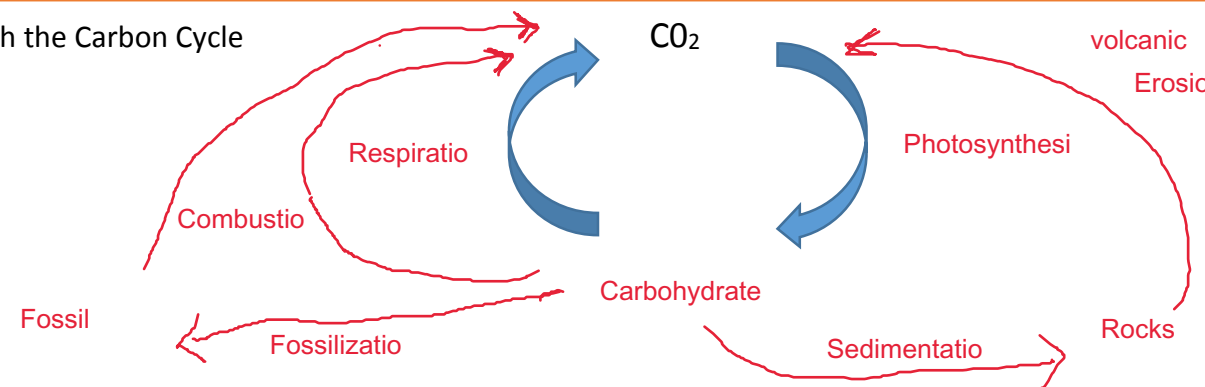
- Explain why nutrients must be recycled. there is a limited supply of nutrients in an
- Why is energy not recycled? energy usually ends up as heat which spreads
- What does $\text{kJ m}^{-2} \text{yr}^{-1}$ stand for?

Carbon cycle processes which release CO₂ into the atmosphere:

1. Respiratio
2. Combustion /
3. Erosio

Carbon flux is the flow of carbon from one reservoir to

Sketch the Carbon Cycle



Label the carbon reservoirs (and processes if possible)

Carbon cycle processes which absorb CO₂ from the atmosphere:

1. Photosynthesi
2. Fossilizatio
3. Dissolving of CO2 in the

A carbon sink is A place where carbon dioxide can be

Climate change:

The most significant greenhouse gases are:

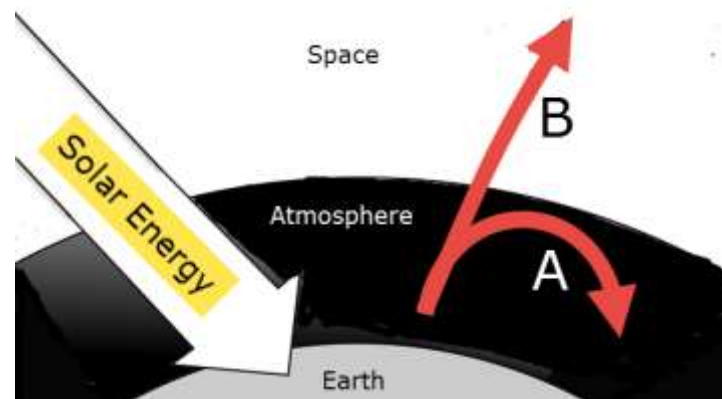
Carbon & methan

Other greenhouse gases are:

Water & ozon

These gases cause climate change because of their ability to absorb

lon - wave radiation & their increasing concentratio



In the greenhouse effect diagram (left)

What do the arrows represent?

- A: long wave radiation (heat) being lost
- B: Long wave radiation trapped by

What is the role of each of the following in climate change?

- Combustion of fossil fuels
Increases the concentration of CO2 in
- Rising atmospheric CO2 conc.
Traps more long wave radiation in
- Coral reefs
remove CO2 from water and form

