

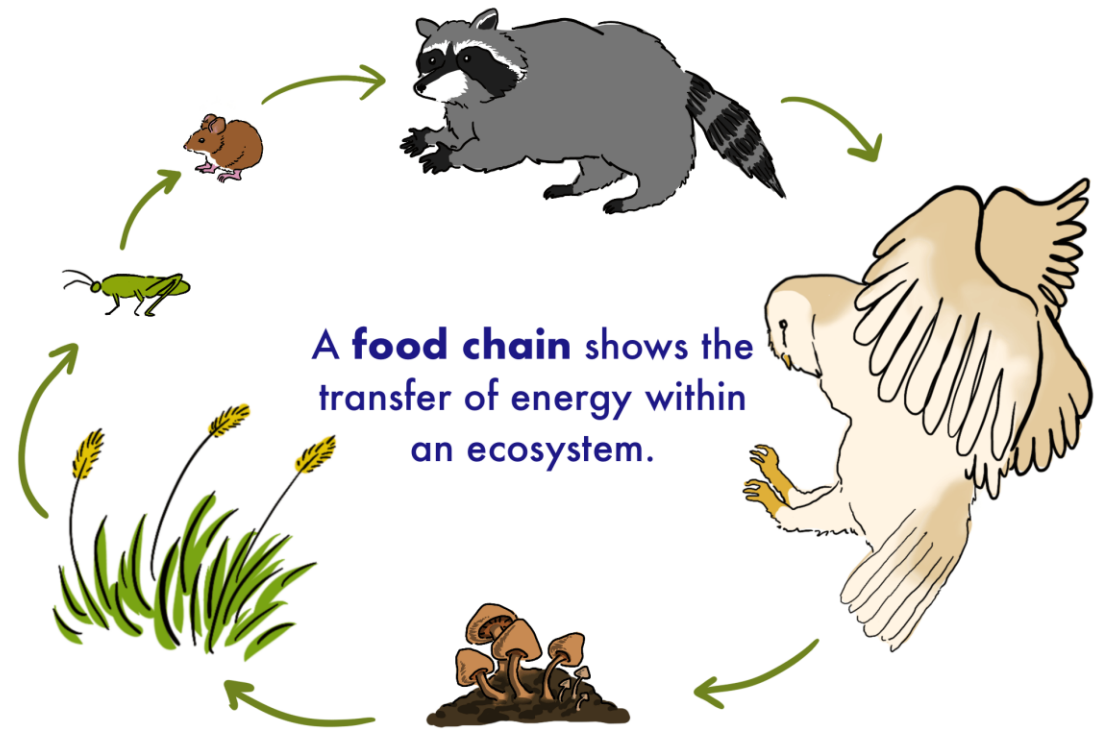


# Earth in Balance

2nd Science

Curragh Post Primary

# Food chain



A **food chain** shows the transfer of energy within an ecosystem.

Energy is transferred between organisms when one organism eats another. A food chain is a simple, linear series of steps while a **food web** is more complex.

*Gavin Edwards*

- Only a fraction of the food eaten by an organism is actually used as a raw material for growth.
- Most food is either turned into carbon dioxide and water during respiration or gets eliminated as solid and liquid waste (faeces and urine)

# Flow of Matter

- Figure 30.1 shows a simplified look at the flow of matter through a food chain.
- Herbivores - an animal that feeds on plants
- Carnivores - an animal that feeds on other animals
- The mass of herbivores is much less than the mass of producers. This is because there is so much mass lost as waste

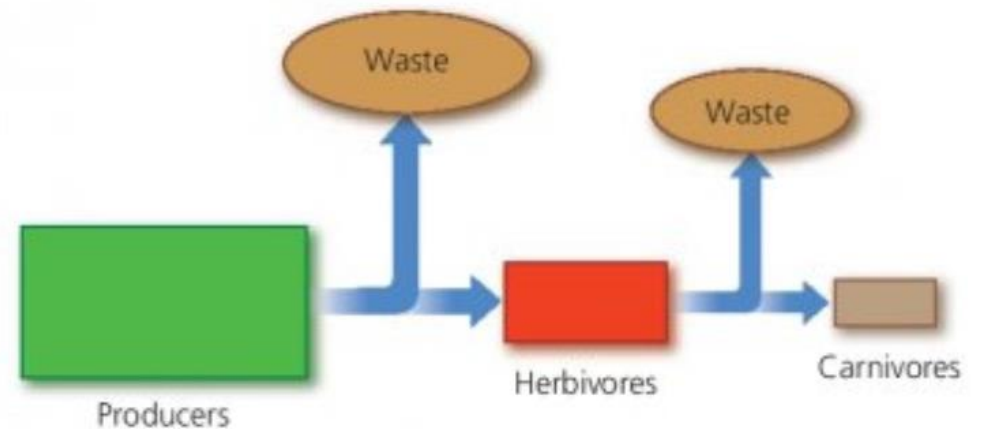
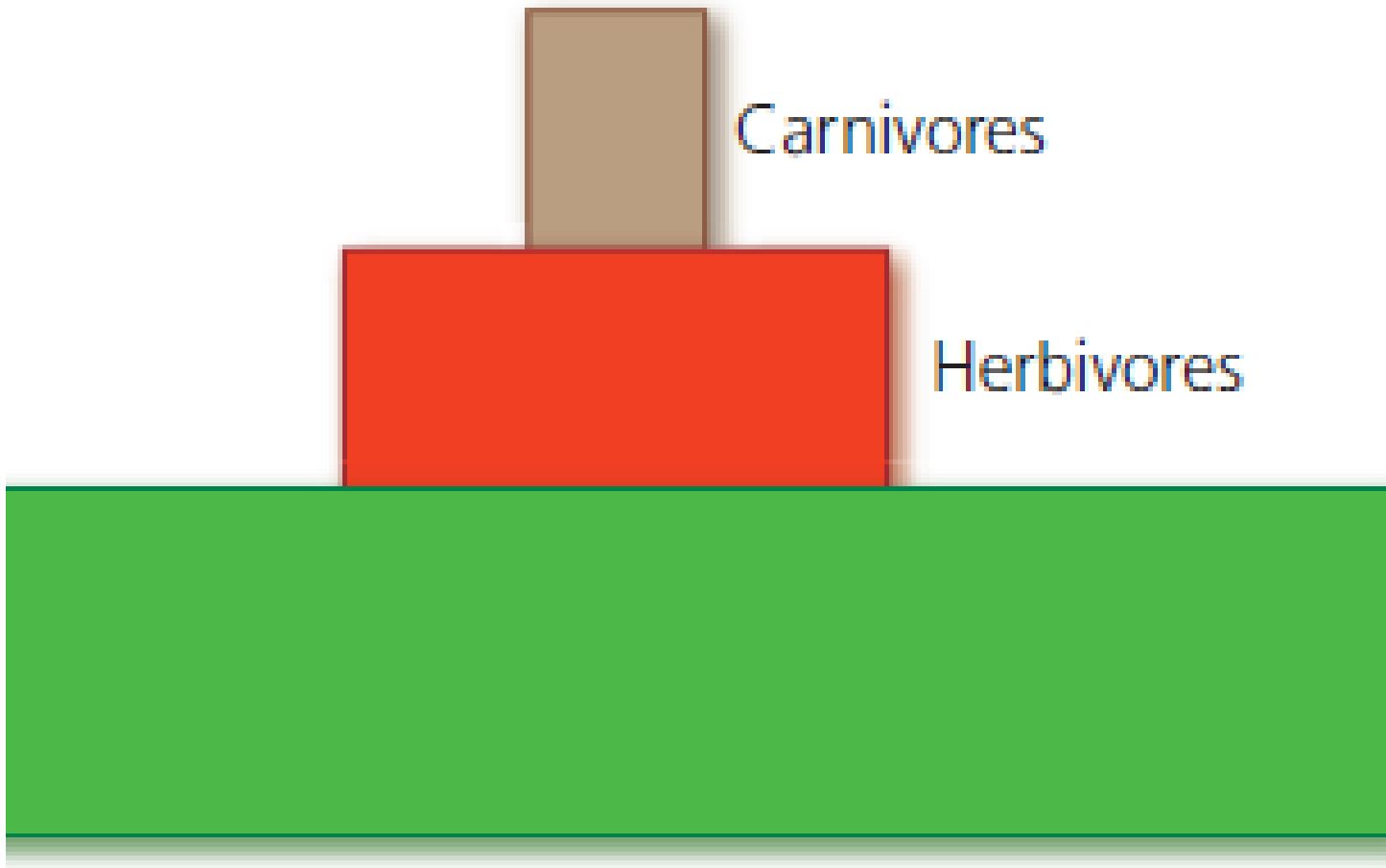


Fig 30.1 Flow of matter.



- The total mass or organisms keeps getting smaller as you go along the food chain.
- This is why the food chain is never very long, and so can be represented by a pyramid.

food chain can be represented as a pyramid.

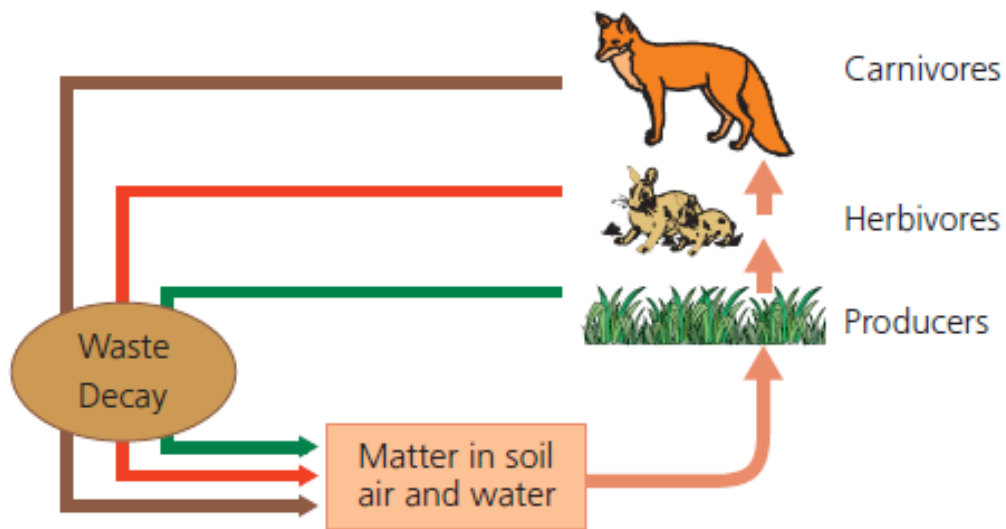


Fig 30.3 The matter cycle.

- The role of decomposers in the flow of matter through the environment is hugely important.
- They break down waste and dead organisms, converting them into gas that is released into the atmosphere, releasing minerals in the process.
- Some substances are brought back into the cycle by bacteria.

# The Carbon Cycle

- All living things are made of carbon.
- When the organisms die, carbon is recycled by decomposers as part of the **Carbon Cycle**.
- The carbon cycle explains how carbon is recycled through the Earth.

# The Carbon Cycle



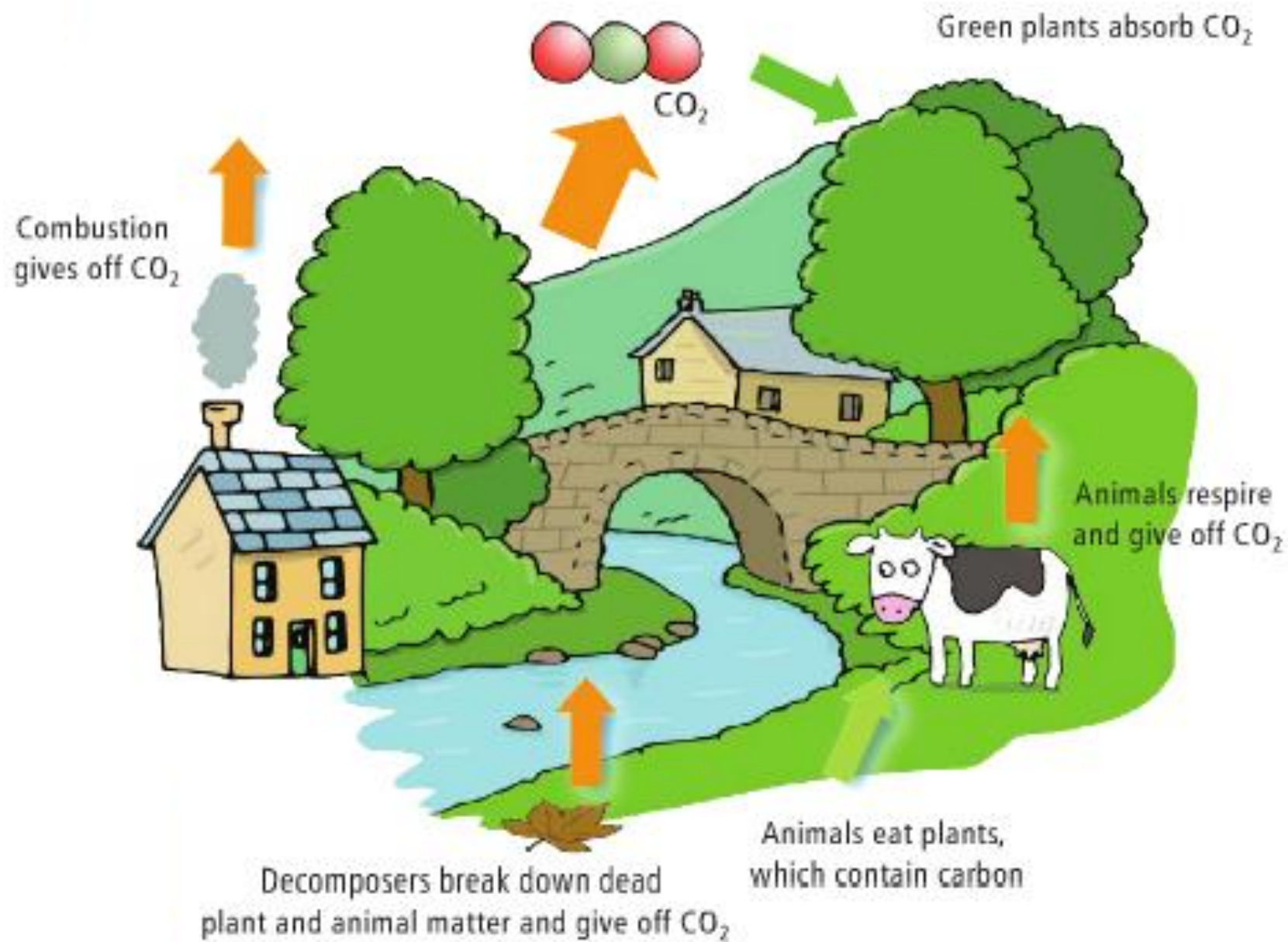
- Anything that takes carbon out of the atmosphere is known as **carbon sink**.

Plants take carbon out of the atmosphere as Carbon Dioxide( $CO_2$ ) during photosynthesis

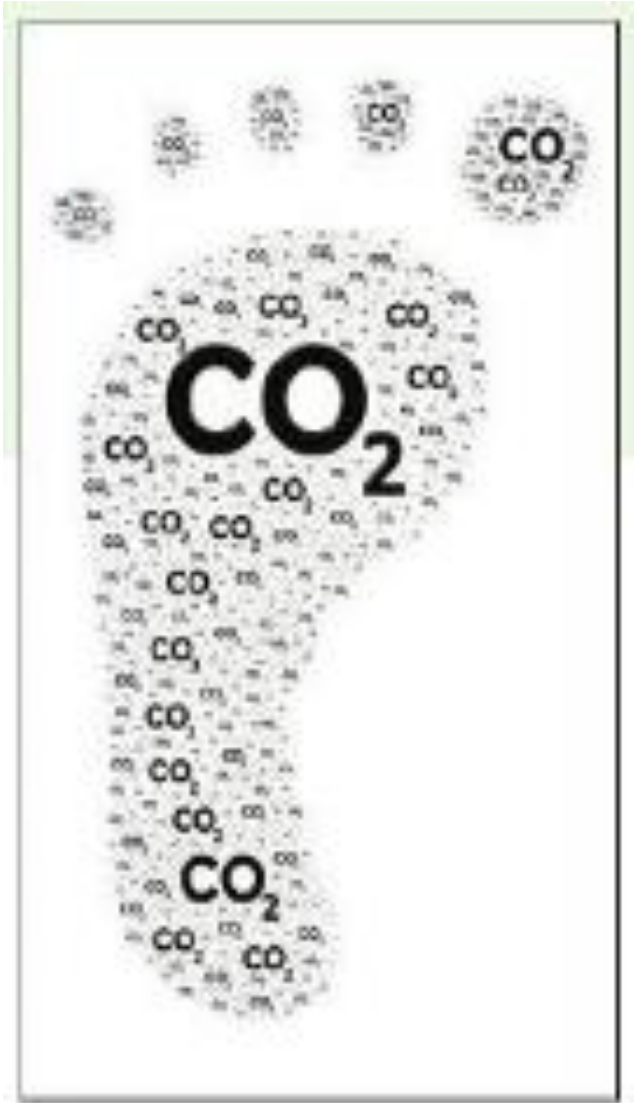
- Anything that releases carbon into the atmosphere is known as **carbon source**.

All living things release Carbon into the atmosphere as Carbon dioxide during respiration









The terms '**carbon budget**' and '**carbon footprint**' are often used by the media to report on the causes and effects of changing carbon levels in our atmosphere