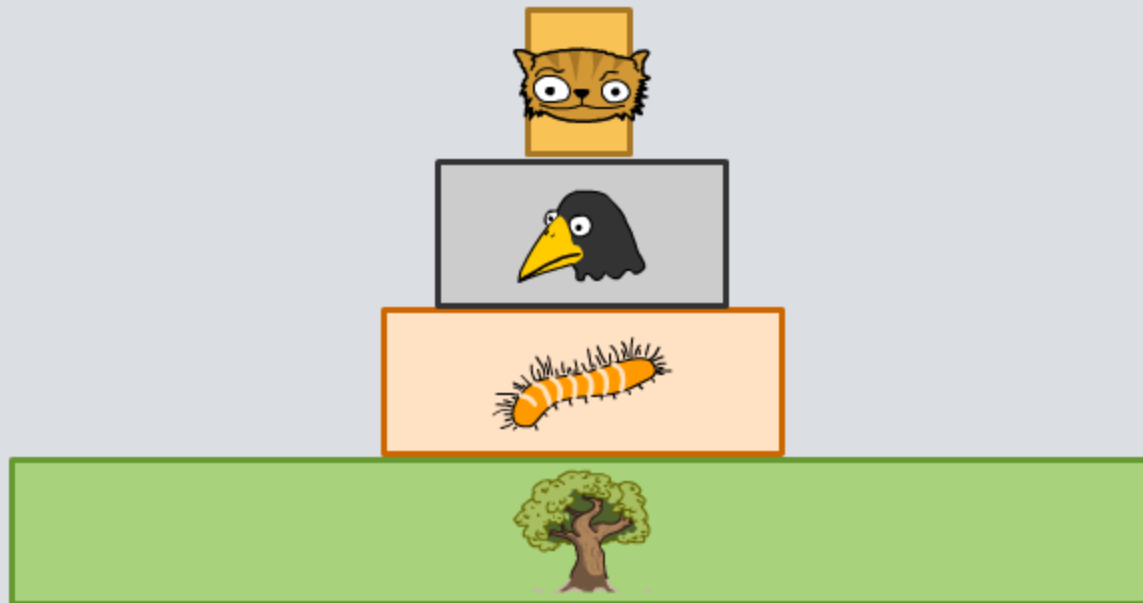


# Pyramids of Numbers and Biomass

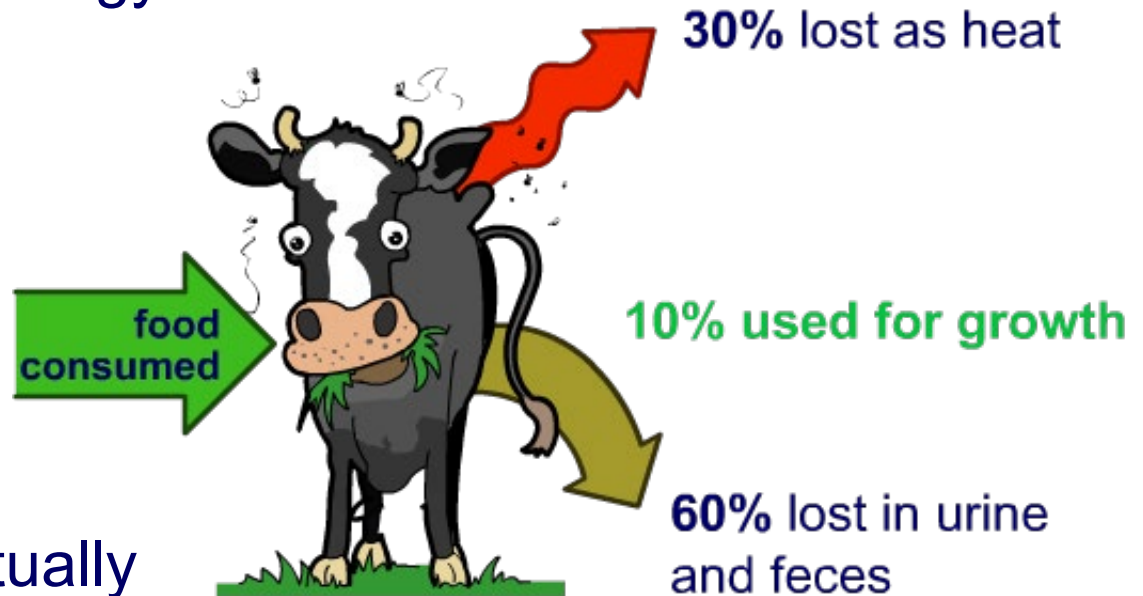


Why do organisms need to feed?

Most animals get their energy from food. If the producers at the bottom of the food chain are small organisms, then the consumers at the top of chain need to eat many of them to gain enough energy.

Much of the energy that prey generate is lost on a daily basis through heat, growth and waste.

Very little energy is actually transferred to the predator.



What can a pyramid of numbers show about energy transfer?



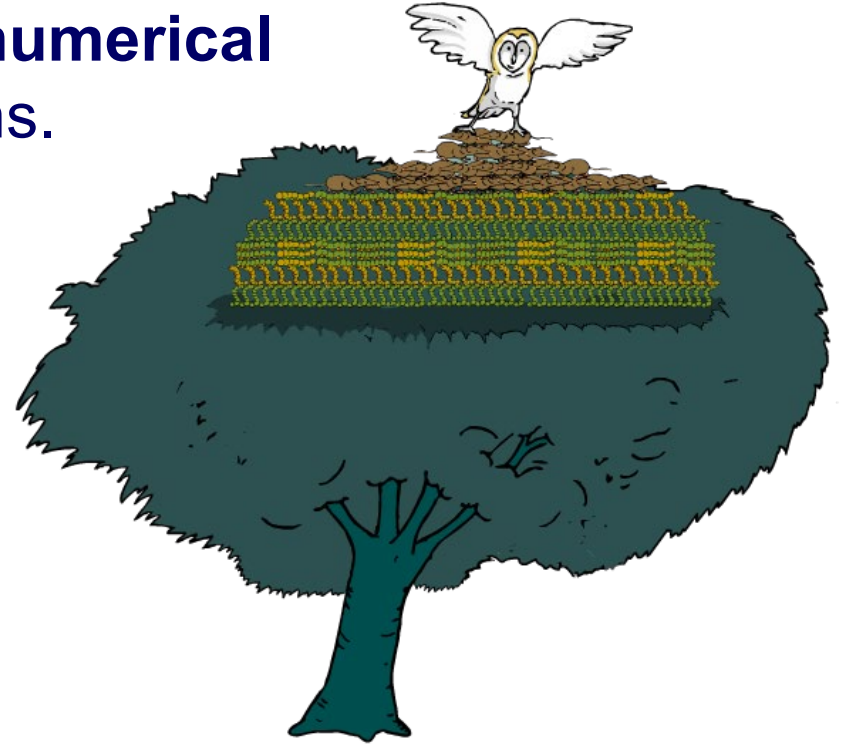
# What are pyramids of numbers?

**Pyramids of numbers** are a **numerical** way of representing food chains.

They record the number of organisms at each level in the food chain.

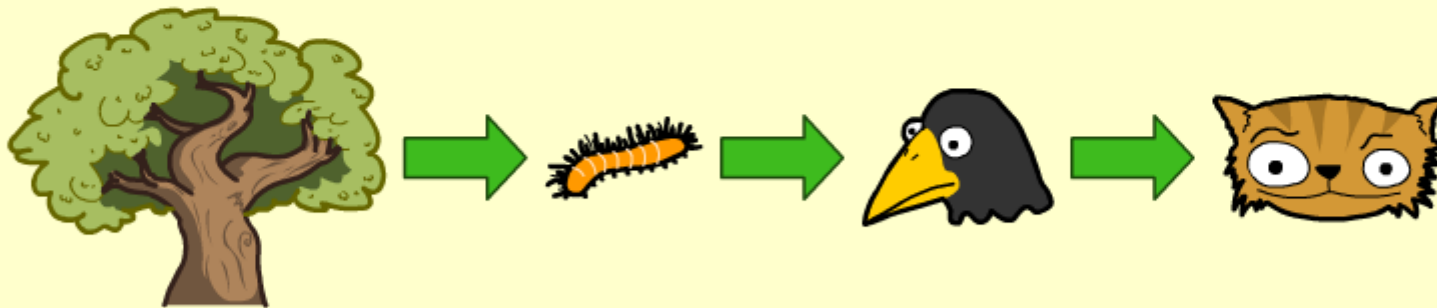
What are the problems with representing food chains in pyramids of numbers?

Pyramids of numbers only give an accurate impression of the flow of energy in a food chain if the organisms are of similar size. Measuring the **biomass** (living material that makes up all organisms) at each level in the food chain can give a more accurate picture.



## Comparing pyramids of numbers and biomass

Click on a type of pyramid below to see how the same food chain can be represented in different quantitative ways.



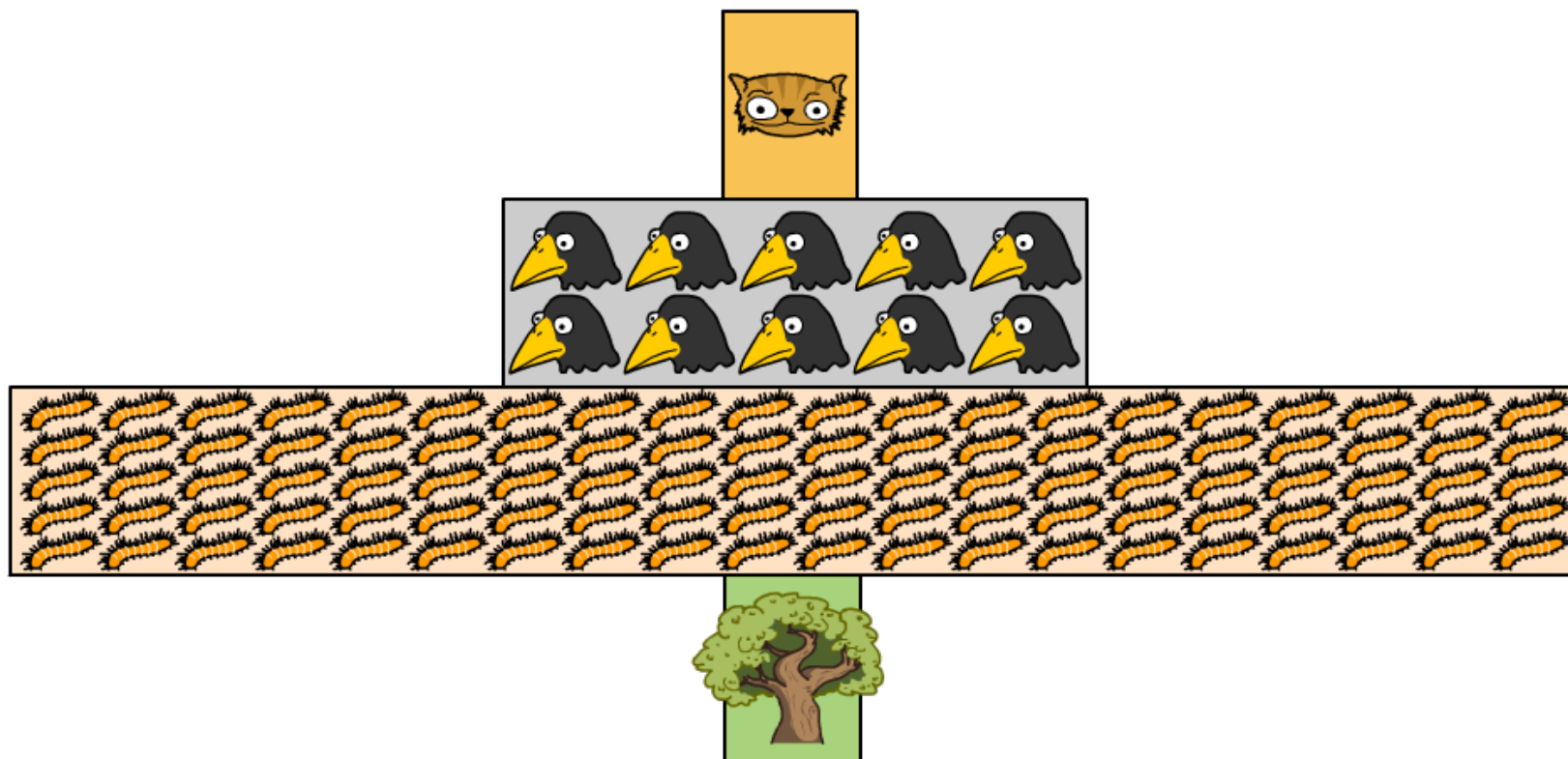
numbers

biomass



# Understanding pyramids of numbers

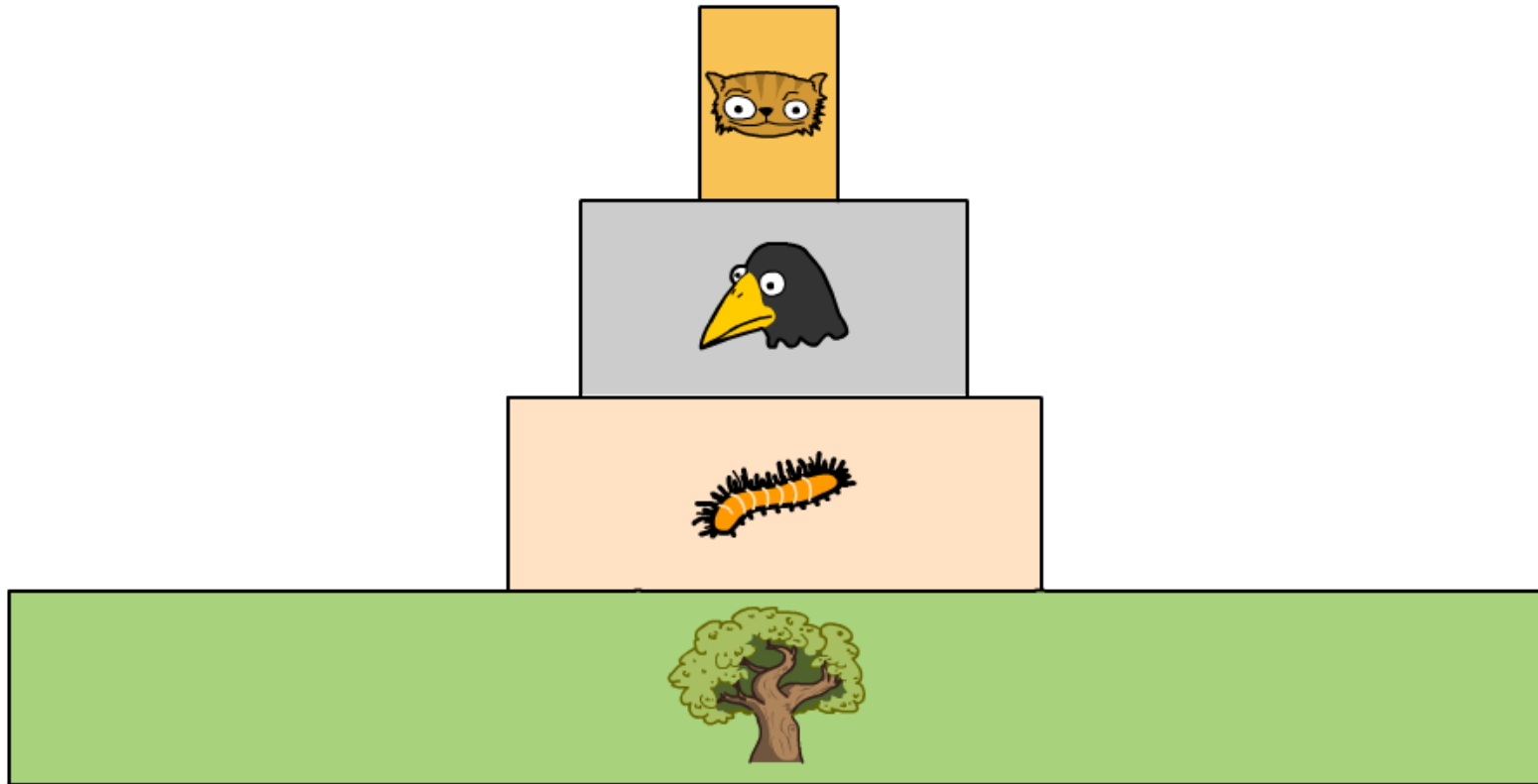
In a pyramid of numbers, the length of each bar represents the **number of organisms** at each level in the food chain.



As a single tree can support many organisms, this food chain produces an unbalanced pyramid.

# Understanding pyramids of biomass

In a pyramid of biomass, the length of each bar represents the **biomass** at each level of the food chain.



At each level, the amount of biomass and energy available is reduced, giving a pyramid shape.

# Death benefits?

When animals and plants die, they are decomposed by microbes.

In this way, the nutrients that were stored in animals and plants are eventually returned to the soil.

The nutrients fertilize the soil, helping producers, such as plants, to grow better.

As the number of producers increases, how will this affect the populations of organisms higher up in the food chain?





## What are the missing words about food chains and pyramids?

1. Biomass is the living material that makes up  .
2. Plants are called  because they make their own food by photosynthesis.
3. Biomass and energy are transferred from one organism to another along food  .
4. A pyramid of  is a scale drawing that represents the number of organisms at each level in



solve

