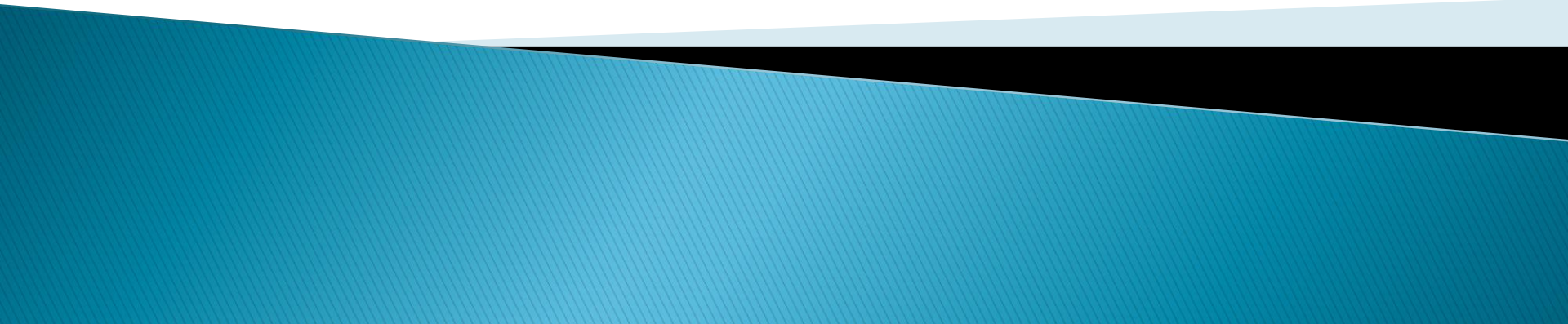
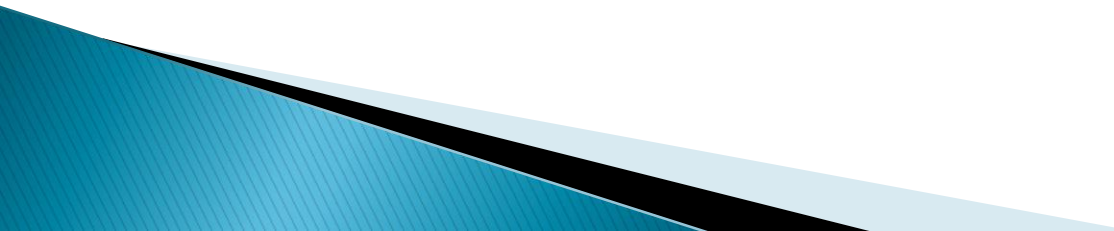


# Food chains and Food webs



# Learning Intentions

- ▶ Understanding predator/prey feeding relationships
  - ▶ Constructing food webs
  - ▶ Understanding of trophic levels in food chains and food webs
- 

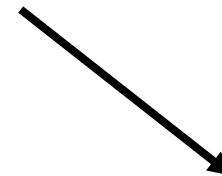
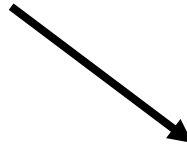
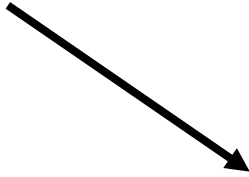
# Food Chain:

Shows how each living thing gets its food. Some animals eat plants and some animals eat other animals.

It is a single sequence of feeding relationships in an ecosystem.



# A Food Chain



# Key Terms

- ▶ Producers – organisms) that make their own organic matter i.e. green plants. They use light energy from the sun to produce food (glucose) from carbon dioxide and water.

Examples.....







# Key Terms

- ▶ Consumers – organisms that eat other organisms to obtain their organic matter
  - Primary Consumer or First Order Consumer
  - Secondary Consumer or Second Order Consumer
  - Tertiary Consumer or Third Order Consumer

Examples.....







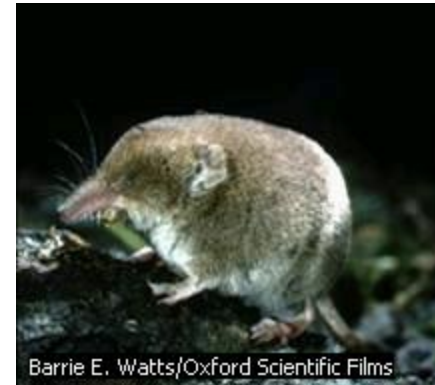
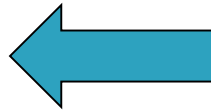


# environments

## food chains and food webs



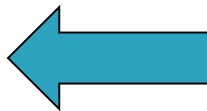
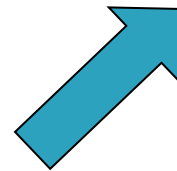
Owl  
Third order  
consumer



Shrew  
Second  
order  
consumer



Earthworm  
First order  
consumer



Leaf  
Producer

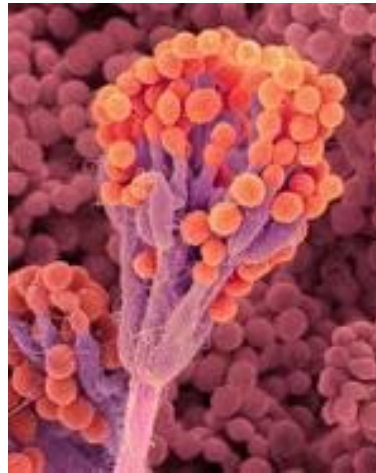
## Decomposers and scavengers

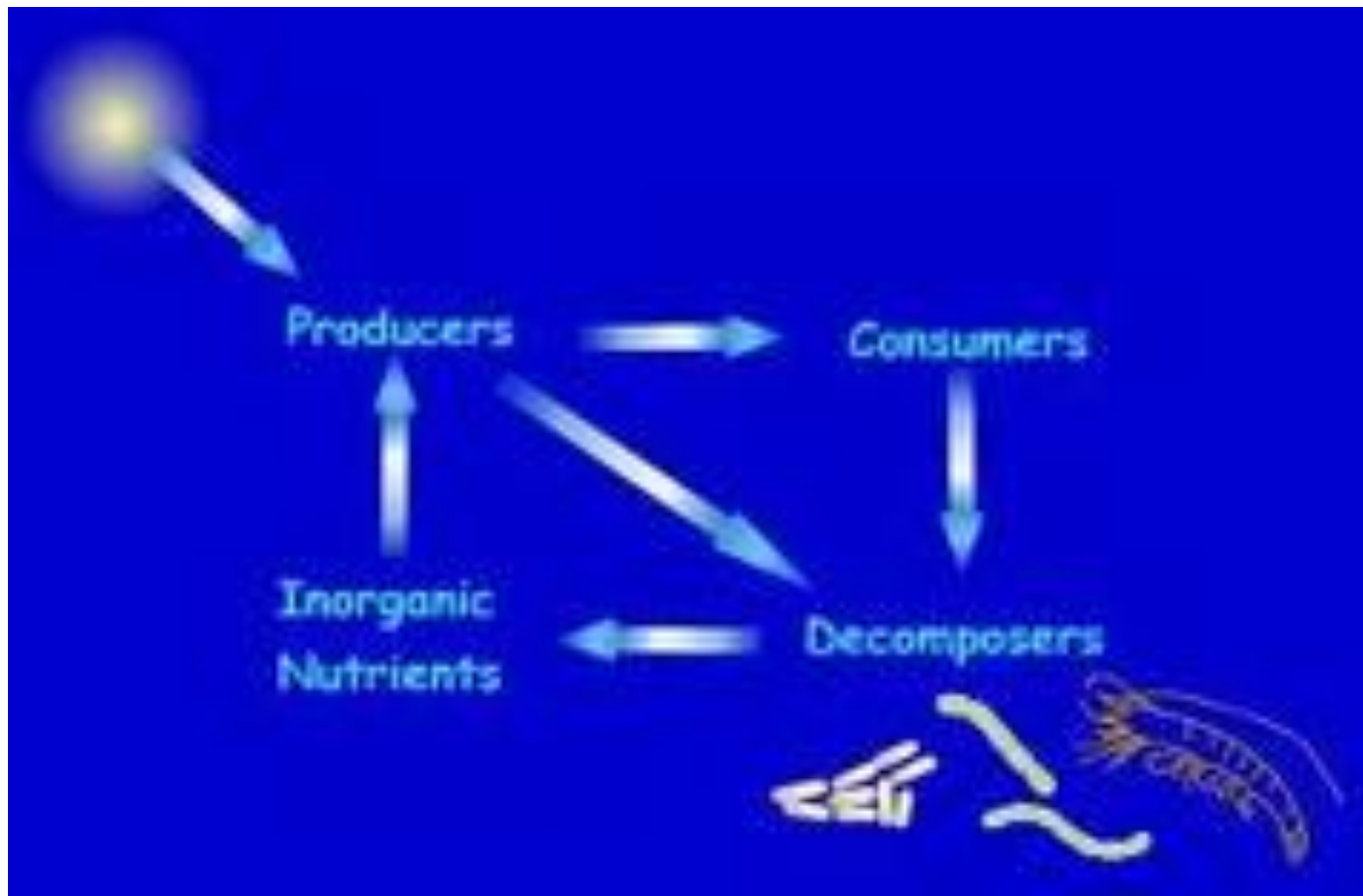
Break down dead animal and plant litter



Examples...

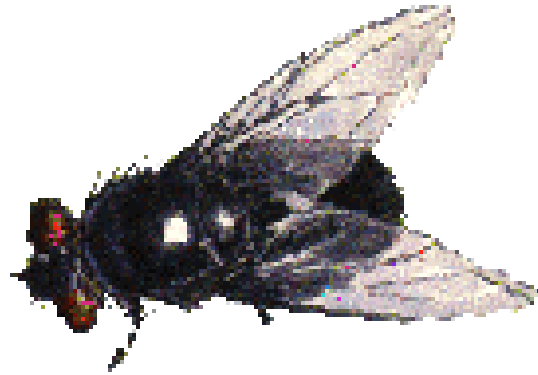
Decomposers can be bacteria, or fungi....







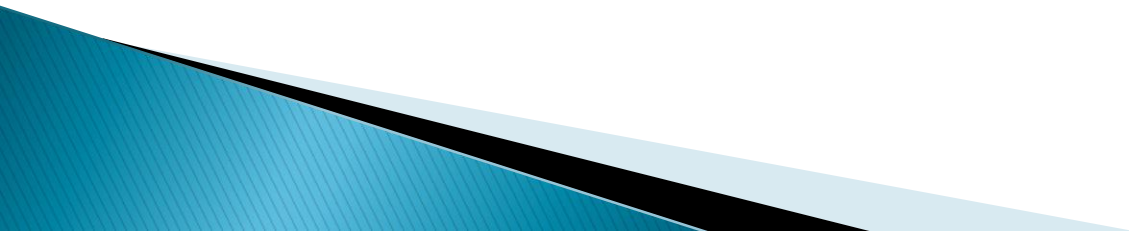
Decomposers that are scavengers are animals....

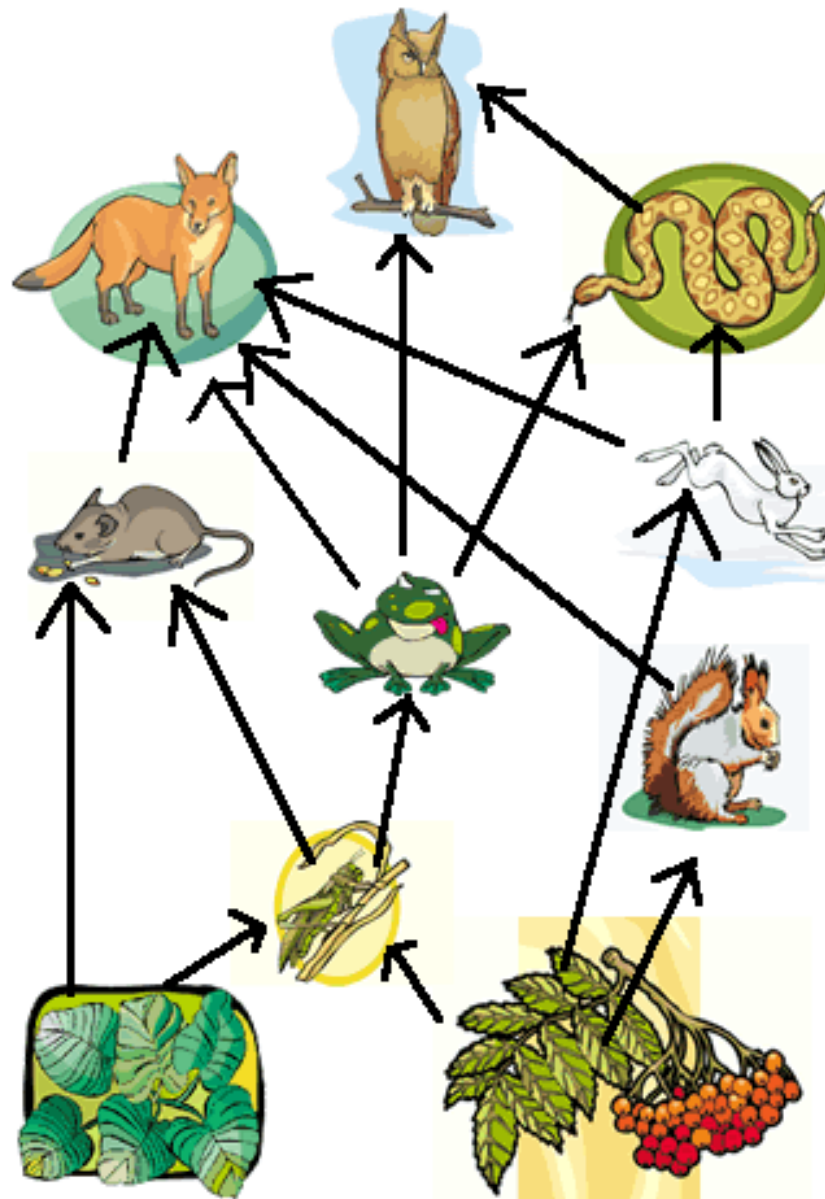


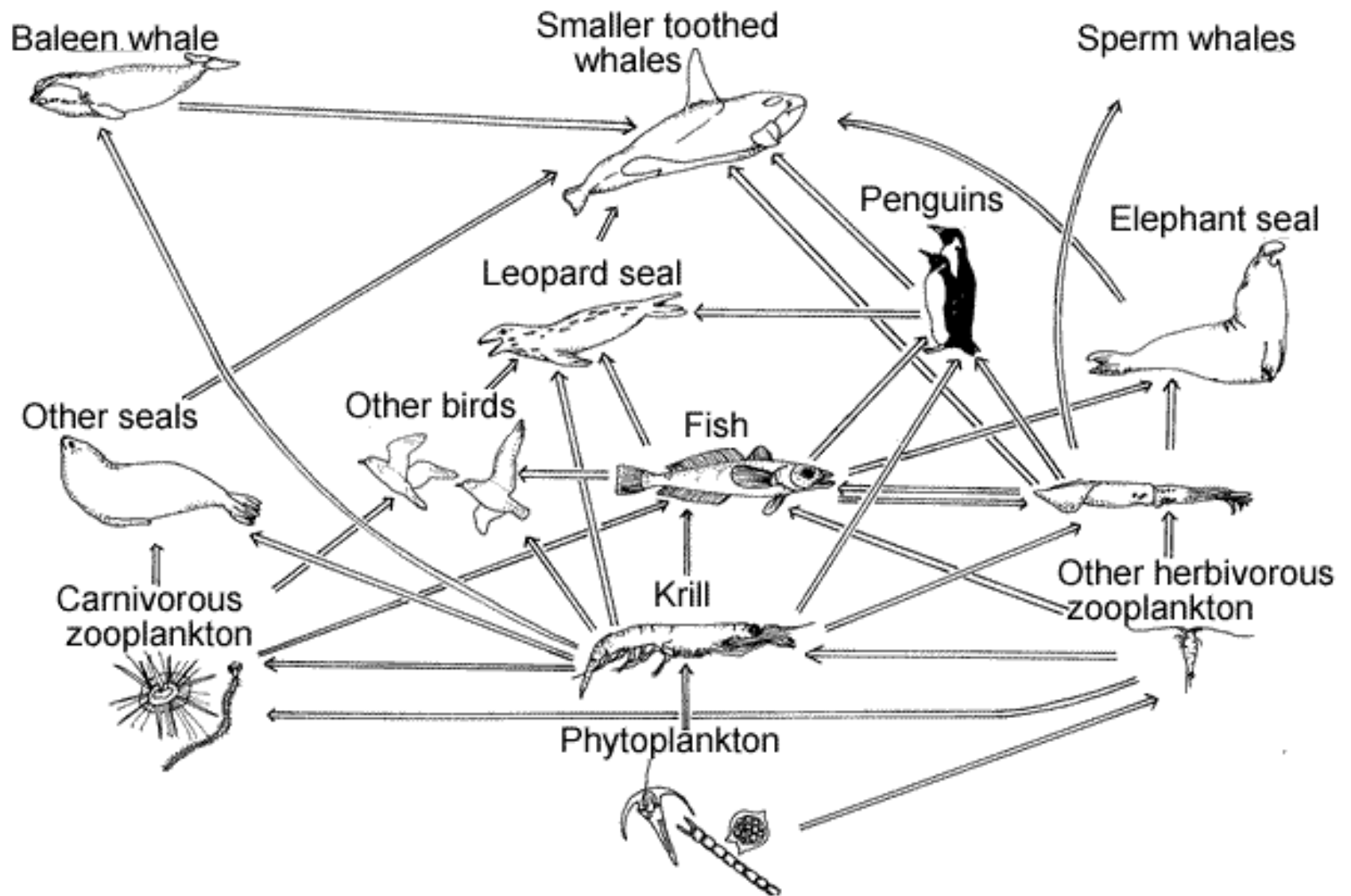
# Food Webs

All the feeding relationships in an ecosystem.

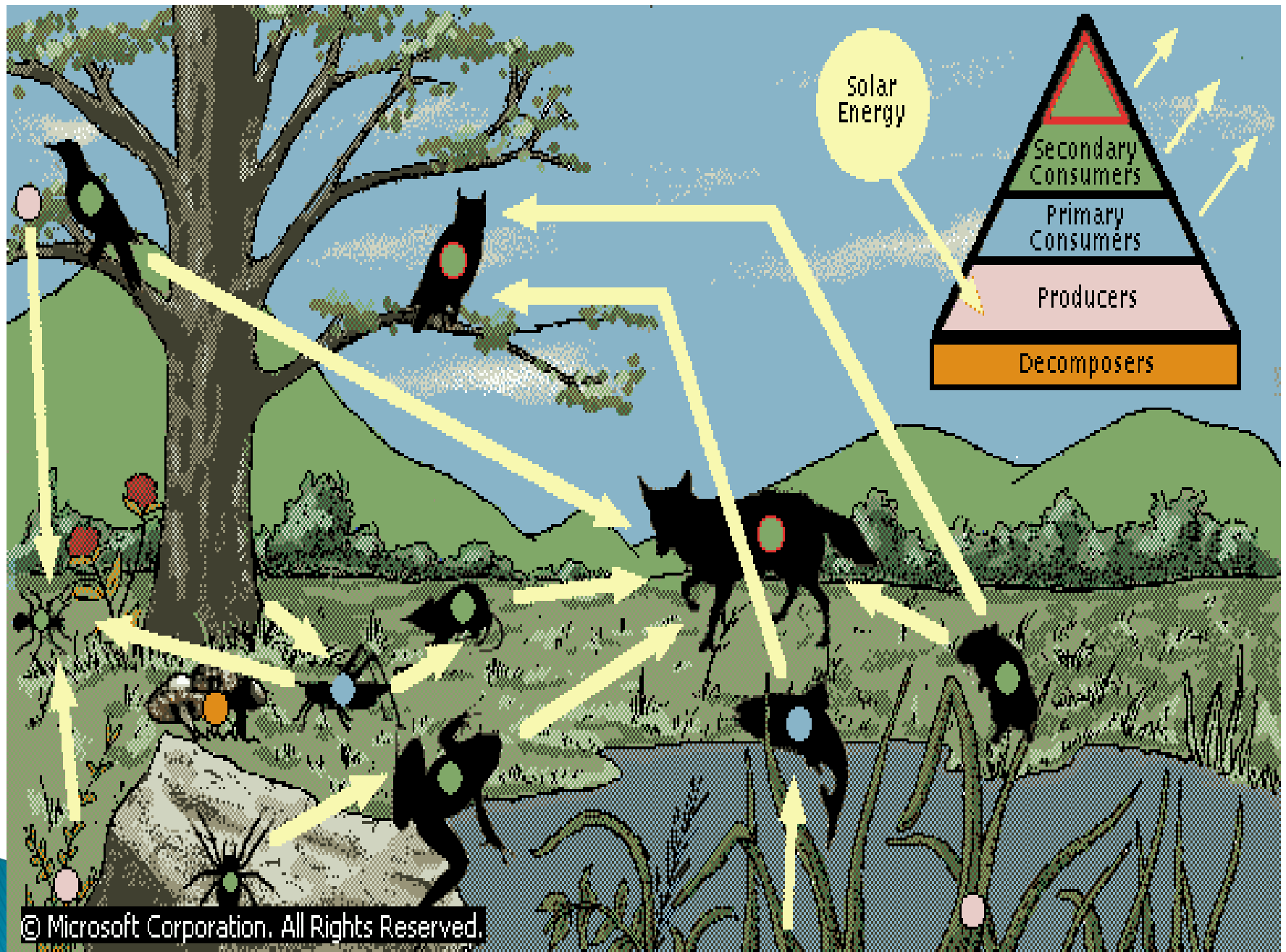
All the interconnected food chains combine to form a food web.













# More Terms



- ▶ Herbivores: feed directly on producers
- ▶ Carnivores: feed only on consumers
- ▶ Omnivores: feed on consumers and producers
- ▶ Detritivores: feed on dead plant and animal matter



Are we the highest level of the food chain.....



**When Tanya Andrews returned from a recent family holiday in Costa Rica, she had no idea she had brought back a gruesome souvenir.**

A month later she developed an extremely painful lump on her head.

At first, she thought she had an abscess, but then it wriggled. At the Hospital for Tropical Diseases they recognised the problem straight away - it was the living maggot (larva) of a botfly.

While Tanya was enjoying her holiday a mosquito had delivered a tiny botfly egg onto the surface of her scalp.

The egg hatched into a maggot and burrowed deep inside.

Incredibly, this happens to thousands of people every year.

As we travel to ever more exotic holiday destinations, we are at the mercy of a whole range of bizarre parasites just waiting to colonise us.



# Key Terms

- ▶ APEX predators – sits at the top of a food chain

Examples.....



# Energy (Trophic) Levels



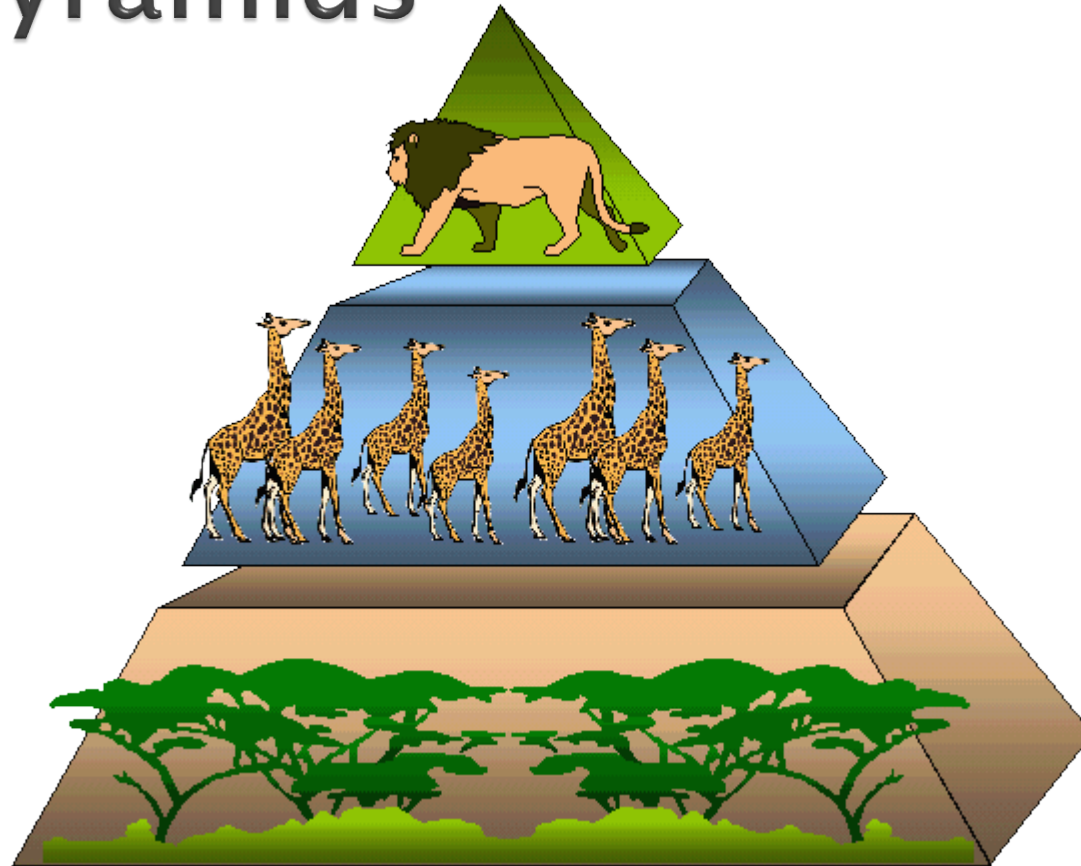
In a food chain, energy is passed from one link to another. When a herbivore eats, only a fraction of the energy (that it gets from the plant food) becomes new body mass; the rest of the energy is lost as waste or used up by the herbivore to carry out its life processes (e.g., movement, digestion, reproduction). Therefore, when the herbivore is eaten by a carnivore, it passes only a small amount of total energy (that it has received) to the carnivore. Of the energy transferred from the herbivore to the carnivore, some energy will be "wasted" or "used up" by the carnivore. The carnivore then has to eat many herbivores to get enough energy to grow.

Because of the large amount of energy that is lost at each link, the amount of energy that is transferred gets lesser and lesser...





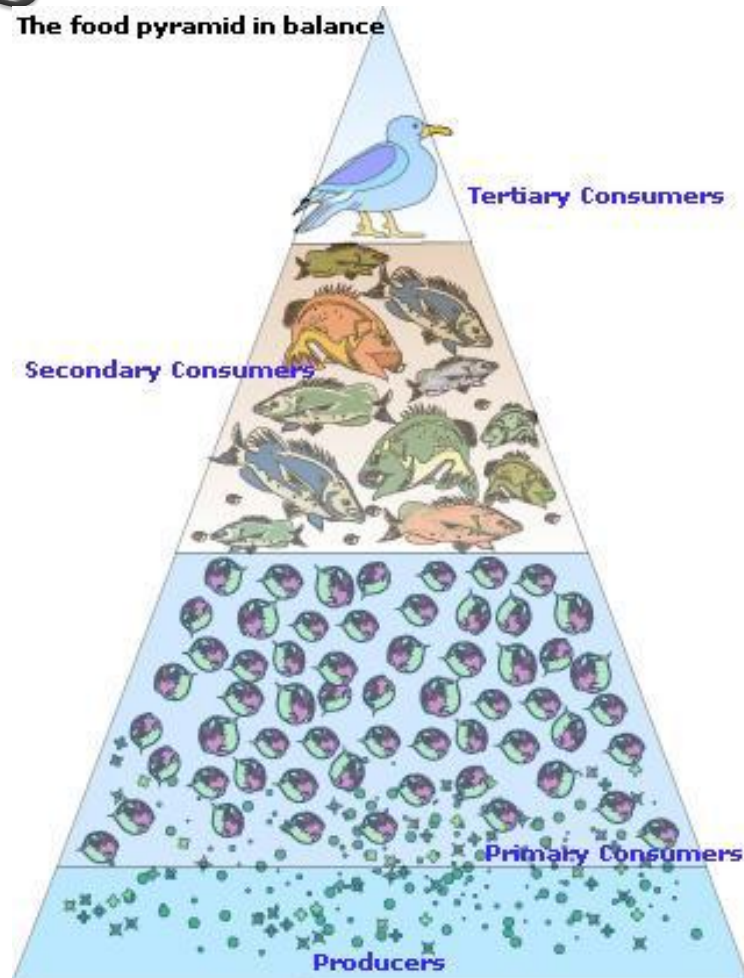
# Food pyramids



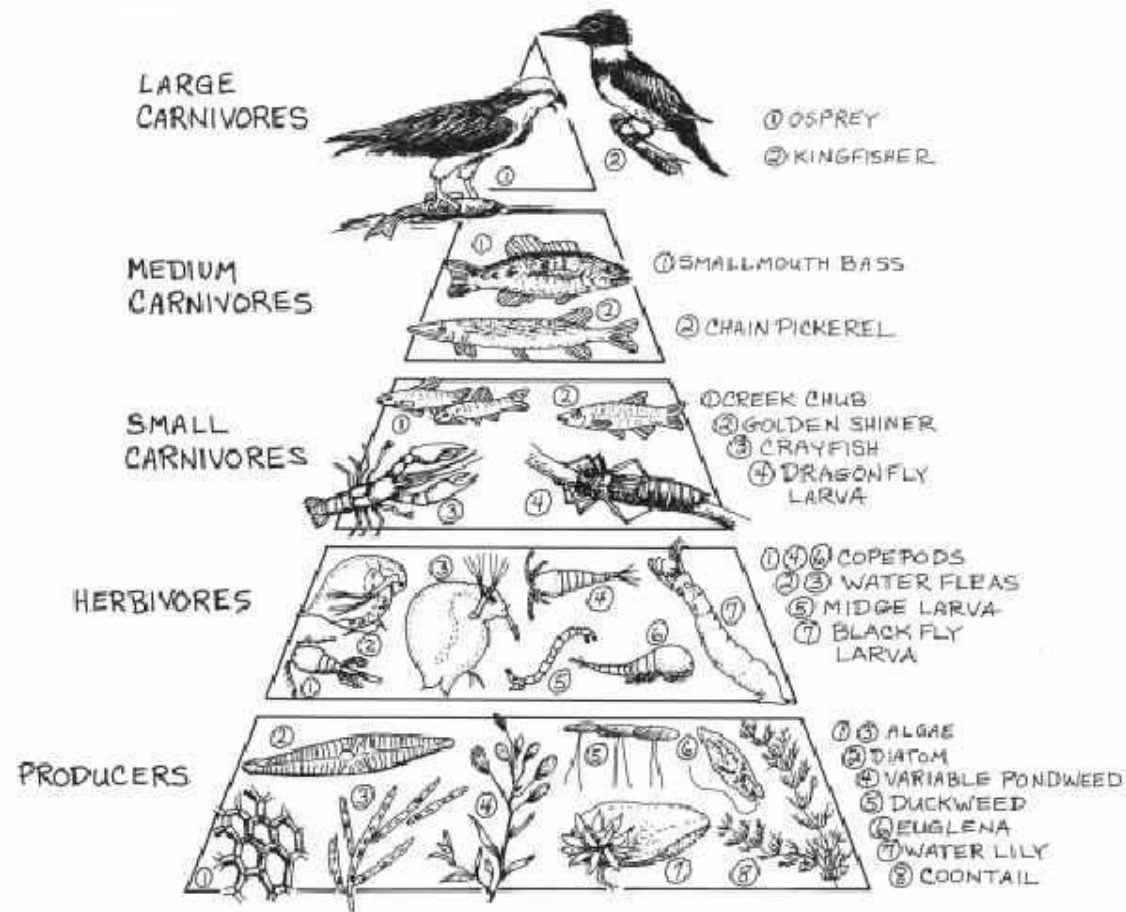
The further along the food chain you go, the less food (and hence energy) remains available.

# Food pyramids

The food pyramid in balance



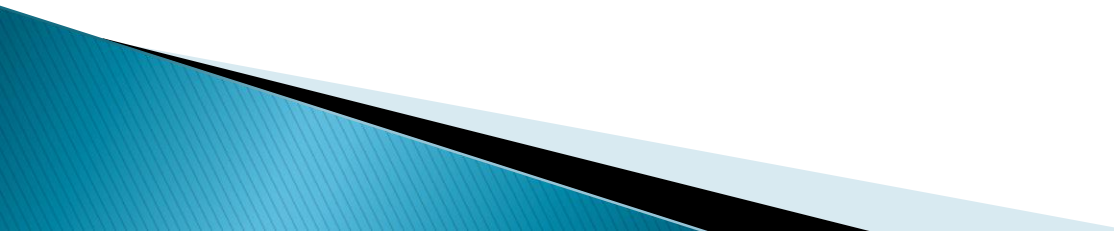
# Food pyramids



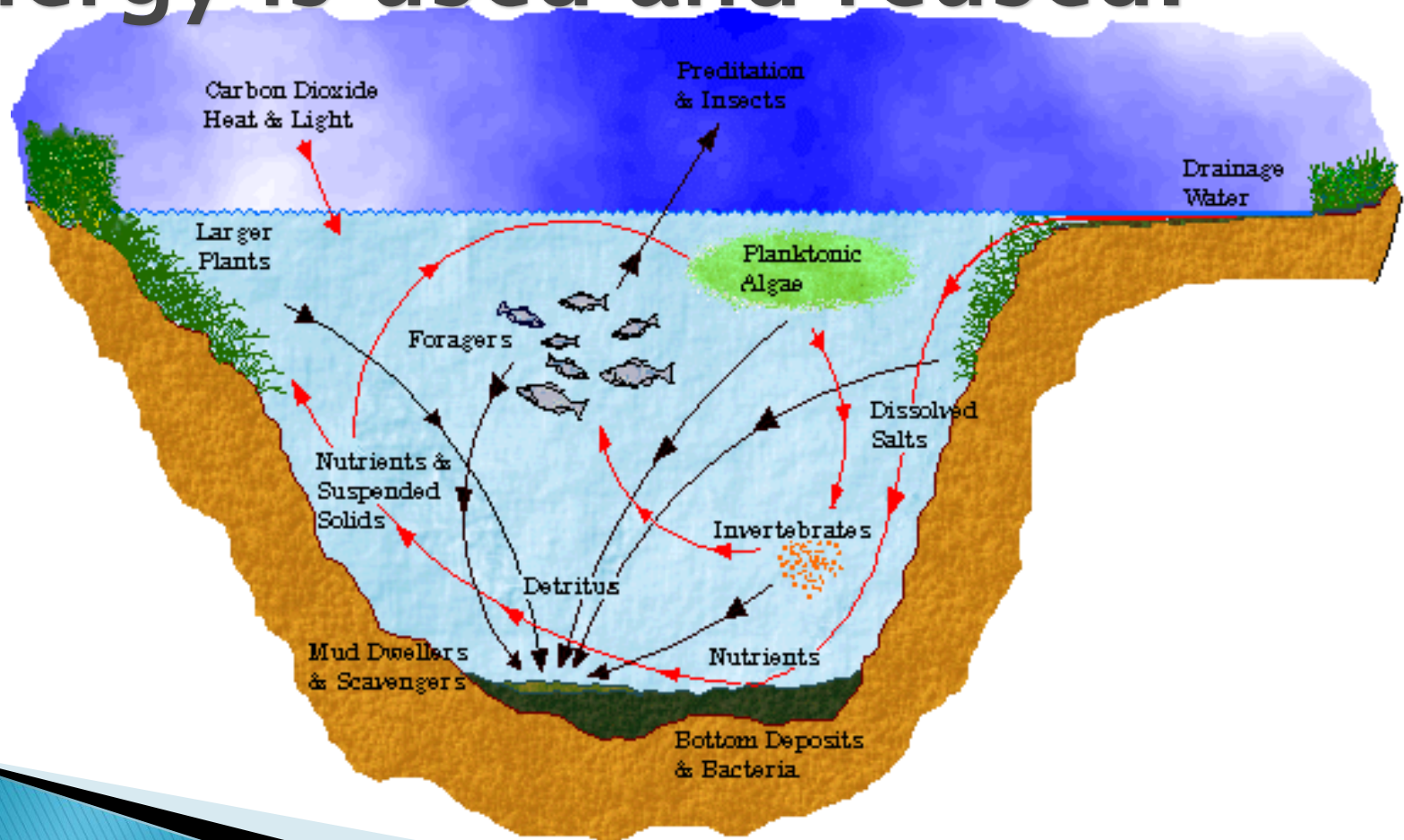
**Most food chains have no more than four or five links.**

There cannot be too many links in a single food chain because the animals at the end of the chain would not get enough food (and hence energy) to stay alive.

Most animals are part of more than one food chain and eat more than one kind of food in order to meet their food and energy requirements.



**Ecosystem takes into account all these interactions and the energy is used and reused.**





# Biozone

*p319 Food Chains*

*pp 321-322 Constructing a  
Food Web*

*p 325 Cave food Webs*

*More complex*

*Pp323-324 Dingo food Web*