Science 9

Earth Science III

Name:
Date:
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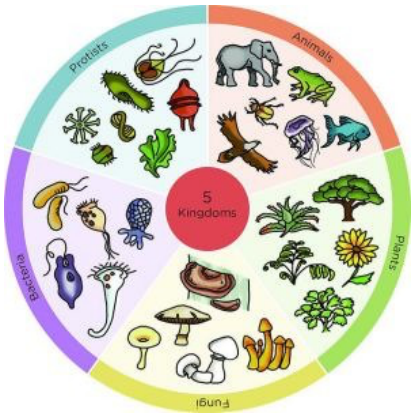
1. **Types of Organisms**
2. **Food Chains, Webs, and Pyramids**

Types of Organisms

An organism is a _____ _____.

- Includes: Plants, animals, micro-organisms, fungi, insects



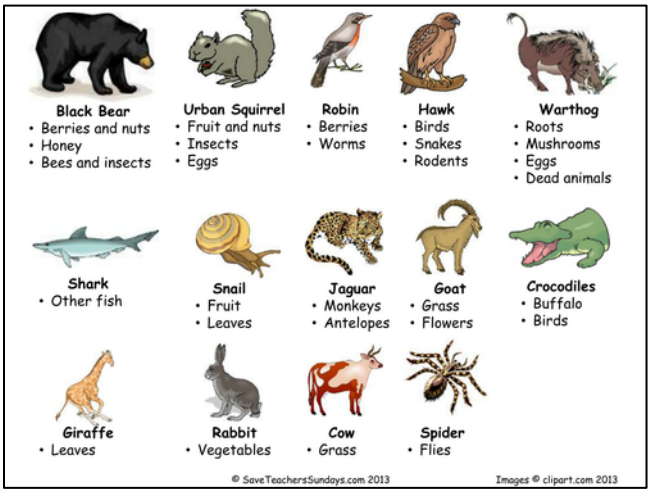
An organism:

1. _____ _____ from the environment
2. _____ _____ to the environment

There are three large categories that we can classify organisms. They are:

1. _____
   a. Living things that can make their own food to get the energy they need. _____ tend to be called 'producers' because they produce carbohydrates from carbon dioxide, water and the sun's energy in a process called _____.
      i. Example: Flowers, trees
2. _____
   a. Living things that _____ _____ or other _____ to get the energy they need. Many animals and insects are consumers.
      i. Example: fish, deer, wolves, spiders
   b. There are three classification of consumers:
      i. _____: those that only eat plants
      ii. _____: those that only eat other consumers
      iii. _____: those that eat both plants and other consumers
3. _____ /_____
      i. Living things that break down _____ and _____ _____ to get the energy they need. We can also classify them as a type of _____. Detrivores feed at every trophic level. Detrivores have their own, separate food chains, and are very numerous
      ii. Example: bacteria, fungi, earthworm

Which is it: herbivore, carnivore or omnivore?

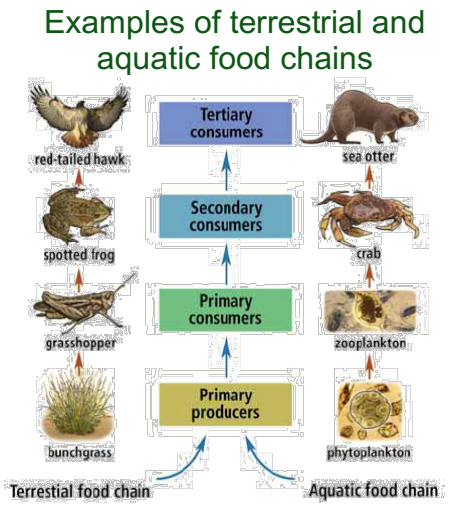


Food Chains, Webs, and Pyramids

There are a variety of ways that we can model how energy flows throughout an ecosystem.

What is a food chain?

_____ _____ show the flow of energy from one living thing to another. Each step on the food chain is called a _____ _____. Every food chain starts with a _____ _____ of _____. The most obvious source of energy is the sun.

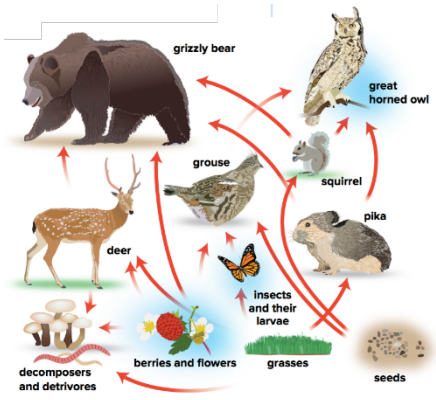


- _____ _____ (1st trophic level) are organisms that can create their own food from the main energy source
- _____ _____ (2nd trophic level) will eat the producers
- _____ _____ (3rd trophic level) will eat the primary consumers
- _____ _____ (4th trophic level) will eat the secondary consumers
- _____ _____ are consumers at the very _____ of the food chain.

In general, only about _____ of food energy is transferred from one organism to another (i.e., about 90% of food energy is lost). Most of the energy transferred from one trophic level to another is lost to the environment as unusable _____, used to support _____ _____ (growth, cellular respiration), and stored in _____. This means that less and less energy is available to each organism in the food chain.

What is a food web?

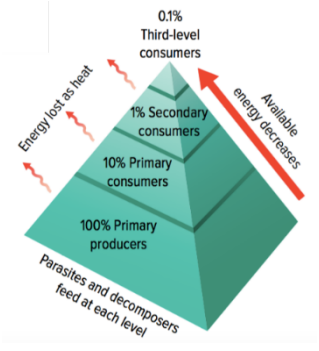
Most organisms are part of a number of food chains. We can use a _____ _____ in order to model the relationships between organisms within an environment.



- A change in the number of one organism could affect several food chains in the food web
- All organisms in an ecosystem are _____ and depend on each other for survival
- In food webs, _____ point from an organism that is eaten to the organism that eats it. These arrows represent the _____ that _____ flows.

What is an energy pyramid?

An _____ _____ is a model that shows the amount of energy available at each level of the food chain.



- A level of the energy pyramid is called a _____ level.
- Each trophic level represents the energy for those organisms.

Each time energy is transferred some of it is lost as unusable heat. The energy that is lost cannot be used by other living things. Therefore, a constant supply of energy is needed to sustain living things in terrestrial and aquatic ecosystems.