



SCIENCE SOL 4.5 – **LIVING SYSTEMS**





Animal Adaptations:

Types	Definition	Examples	Illustration
1. Structural	physical attributes helping animals meet a life need	body coverings (scales, feathers, fur, quills), mouth shape, claws or talons	
2. Behavioral	certain types of activities animals perform, which help them meet a life need	migration, hibernation, stalking prey, casting pellets, spraying an odor, hissing	

*Animals use their unique adaptations to protect themselves and to hunt for food; to survive.

*Think on this ... What if you took an owl and placed it in the Atlantic Ocean? What would have to change for the owl to survive? The changes you are thinking about are adaptations!

Animals' homes:

Term	Definition	Example(s)	Illustration
Habitat	the place in which an animal or plant naturally lives	*provides food, water, shelter, and space * size of habitat depends on need 1. fish- coral reef 3. bat- cave 2. monkey- forest 4. dog- house	
Population	living things of the same kind in an environment	a school of fish, a flock of geese, a herd of buffalo	
Community	different populations living together in an environment	(ocean animals) a school of fish + a pod of whales + a herd of dolphins + a bale of turtles + coral reef = a community	
Ecosystem	all living and nonliving things interacting with each other	air + water + sun + soil + rocks + plants + animals = an ecosystem	

Animals' Jobs:





A **niche** is the specific role or function an organism performs in the food web of its community. A niche also includes everything else the organism does and needs in its environment. No two types of organisms occupy the exact same niche in a community.

* For example, eagles hunt for mice during the day. Owls share the eagle's habitat, and hunt for mice. But owls hunt at night. Due to their different hunting habits, eagles and owls have different niches in the same habitat.

* During an animals life cycle (egg to adult) its niche may change – what it eats and what eats it.

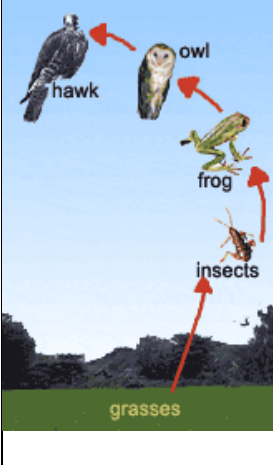
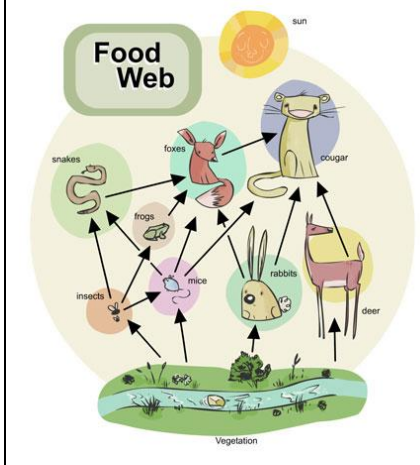
*The interrelated niches define the organization of communities.

What we are:

Term	Definition	Examples	Illustration
Organism	any living thing	all plants and all animals	We are ALIVE! 
Producer	living things which make their own food	all plants: grass, flowers, berries, other fruit and veggie plants	We make it! 
Consumer	living things which eat other living things to get energy	herbivores (plants only), carnivores (meat only), and omnivores (both plants and meat)	We eat it! 
Decomposer	living things which get energy by breaking down dead organisms	mushrooms and bacteria	We break it down! 

- The sun’s energy cycles through ecosystems from producers through consumers and back into the nutrient pool through decomposers.
 - The organization of communities is based on the utilization of the energy within a given ecosystem. The greatest amount of energy in a community is in the producers.
- * Within the community, organisms are dependent on the survival of the other organisms.
- For example, owls eat mice, which eat a seed of a plant. Since owls help keep the mouse population from getting too big, the plant population never dies out. Although if there are too many owls and not enough mice to eat, some of the owls will die.

Let’s Eat:

<p>Food Chain</p>	<p>the path by which energy is passed from one consumer to another</p>		<p>Food Web</p>	<p>shows the relationships between many different food chains in a single ecosystem</p>	
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Do humans have a direct impact on the survival of animals? YES.

Humans have a major impact on ecosystems. Building new roads, homes, and businesses take away pieces of habitats, causing the decline of animal populations. By looking at the food chain and web, you know if one population declines another population will decline. Also the amount of pollution humans create leads to the decline of animal populations. Can you think of other ways humans directly impact ecosystems?