

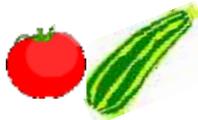
Adaptations

Chapter 3: Study Guide

Textbook Information (pages 130-156)

Review Questions (pages 160-161)

What are the BASIC NEEDS of plants and animals?



Food



Water



Air



Shelter

How do plants and animals MEET their basic needs DIFFERENTLY?

PLANTS

Food – Plants make their own food by using sunlight.

Water – Plants get water from rain and the water in moist soil.

Air – Leaves take in carbon dioxide and make oxygen through photosynthesis. However, the roots use oxygen and release carbon dioxide, like animals.

Shelter – Plants get shelter by using trees, rocks, caves, etc.



ANIMALS

Food – Animals get food by eating plants and other animals.

Water – Animals get water by drinking it from rivers, lakes, streams, etc.

Air – Animals get air by breathing oxygen.

Shelter – Animals get shelter by using caves, trees, rocks, their shells, etc.



What do FOSSILS teach us?

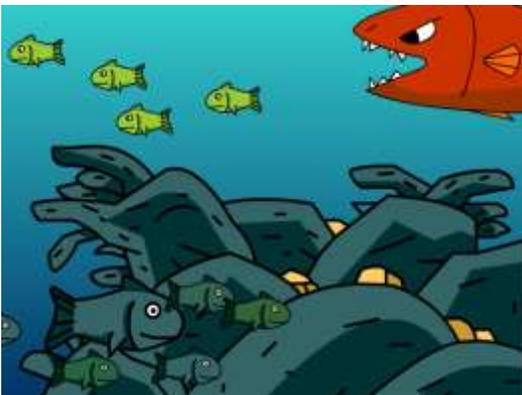
By comparing fossils to animals and plants alive today, scientists can see how those organisms changed over time. For example, turtle fossils show that ancient turtles do not look very different from turtles today. However, fossils of ancient camels show us that some camels used to be the size of rabbits. Over time, the larger camels must have survived (due to natural selection) and increased in the population. Some fossils even give us information about animals that are completely gone, **extinct**, due to their habitat changing and the animal/plants lack of basic needs.



What are the different types of ADAPTATIONS and how do they help them SURVIVE?

Structural Adaptations	Behavioral Adaptations
the way an animal/plant looks What physical features does the animal/plant have?	the way an animal/plant behaves or acts What is the animal or plant doing?
<p>feet/claws/talons</p> <ul style="list-style-type: none"> * catch and tear food * pick up food/twigs/branches * walk, run, or sit * climb or swim 	<p>INSTINCT</p> <p>migration</p> <ul style="list-style-type: none"> * moving from one place to another during the seasons * to find food or a better climate <p>hibernation</p> <ul style="list-style-type: none"> * animals store food in the fall * their heart rate and body temperature lowers <p>web spinning</p> <ul style="list-style-type: none"> * help to catch food * part of their shelter * helps protect itself <p>nest building</p> <ul style="list-style-type: none"> * shelter * place to lay eggs
<p>teeth/beaks</p> <ul style="list-style-type: none"> * tear food * pick up food or objects * build their shelter 	
<p>tail</p> <ul style="list-style-type: none"> * to defend themselves * swat away insects * swing or climb 	
<p>fur</p> <ul style="list-style-type: none"> * keep warm * camouflage (hide from predators) 	
<p>spikes/quills</p> <ul style="list-style-type: none"> * to defend themselves 	
<p><u>PLANTS</u></p> <p>long roots</p> <ul style="list-style-type: none"> * absorbs water in desert 	<p>LEARNED BEHAVIOR</p> <p>hunting</p> <ul style="list-style-type: none"> * to get food <p>flying</p> <ul style="list-style-type: none"> * to get food/shelter/protection <p>Climb trees</p> <ul style="list-style-type: none"> * protection <p><u>PLANTS</u></p> <p>grow towards sun</p> <ul style="list-style-type: none"> * to get sunlight to make food
<p>waxy coating on leaves</p> <ul style="list-style-type: none"> * keep water from evaporating 	
<p>flexible stems</p> <ul style="list-style-type: none"> * allow for plants to move with water current 	

What is NATURAL SELECTION? How does it affect a POPULATION?



Natural selection is when animals and plants that are BETTER adapted to their environment survive. Over time, the population of that organism changes.

The organisms with the favorable traits survive and produce offspring. For example, the fish that are able to camouflage in the picture will survive and produce offspring. The fish, at the top, do not have the favorable adaptations, so they will be eaten by the predator. Over time, more of the gray/green fish will increase within the population.