

## 4th Grade Science Study Guide - Ch. 5 Interdependence

### Behaviors and Characteristics

**Adaptations** are traits that help living things survive.

#### Types of Adaptations:

- **Physical** – body parts (fur, beaks, shells)
- **Behavioral** – actions (migration, hibernation)

#### Examples:

- Camouflage helps animals hide
- Animals migrate to find food
- Arctic fox changes color to blend in

→ Traits passed from parents to offspring.

#### Examples:

- Eye color
- Fur color
- Plant flower color

👉 Offspring are similar but NOT identical to parents

- **Inherited (Instinct):** born knowing it  
Example: ducklings follow their mother
- **Learned Behavior:** taught or practiced  
Example: parrots talking

## Adaptations

Animals	Both	Plants
<ul style="list-style-type: none"> <li>• Physical Changes                             <ul style="list-style-type: none"> <li>• Fur grows thicker in winter</li> <li>• Camouflage to blend in</li> </ul> </li> <li>• Behavior Changes                             <ul style="list-style-type: none"> <li>• Hibernate in winter</li> <li>• Migrate to warmer area</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Adapt to survive</li> <li>• Adapt to the weather                             <ul style="list-style-type: none"> <li>• Will be endangered if they don't adapt</li> </ul> </li> <li>• Find ways to store food</li> <li>• Ward off predators</li> </ul>	<ul style="list-style-type: none"> <li>• Store water in their stems and leaves</li> <li>• Soft stems bend in wind</li> <li>• Roots grow deep to absorb as much water as possible</li> <li>• Pollinated by wind</li> <li>• Turn toward sun</li> </ul>

<i>inherited</i> <b>TRAITS</b> THINGS THAT AN ORGANISM IS BORN WITH	<i>learned</i> <b>BEHAVIORS</b> A BEHAVIOR AN ANIMAL IS NOT BORN WITH
 eye color  leaf shape  hair type  spines on a cactus	 reading a book  riding a bicycle  cooking  playing sports

Type	Meaning	Example
Inherited Trait	Got it from your parents	Brown eye, hair texture, petal color,
Learned Behavior	Doing it after experience or observing someone doing it	Riding a bike, dogs following commands,
Instinct	Born knowing how to do it	Birds building nests, spiders spinning webs

## 🌍 Food Chains & Energy

- **Producer:** makes its own food (only plants)
- **Consumer:** eats plants or animals
- **Decomposer:** breaks down dead plants and animals
- **Food Chain:** shows how energy moves

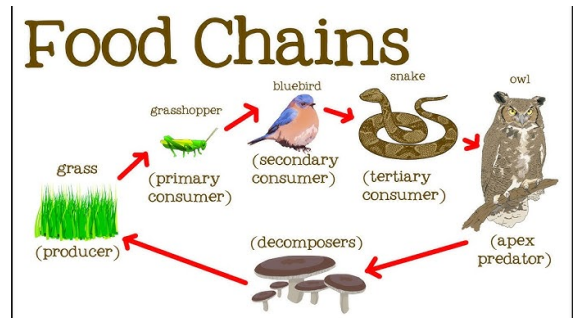
### Energy Flow:

Sun → Plant → Animal → Animal

**Important:** Animals get energy by **eating** other plants and animals, NOT from the Sun directly

### Example:

Sun → mangrove tree → crab → fish → turtle



→ Living things need: Food - Water - Shelter - Space

### Environmental Changes:

- Deforestation → loss of habitat
- Pollution → harms organisms
- Invasive species → disrupt ecosystems
  - Lionfish in Florida → reduce native fish populations

### ⚠️ Human Impact on Environment

- Building land → destroys habitats
- Pollution → harms ecosystems
- Introducing new species → can be dangerous