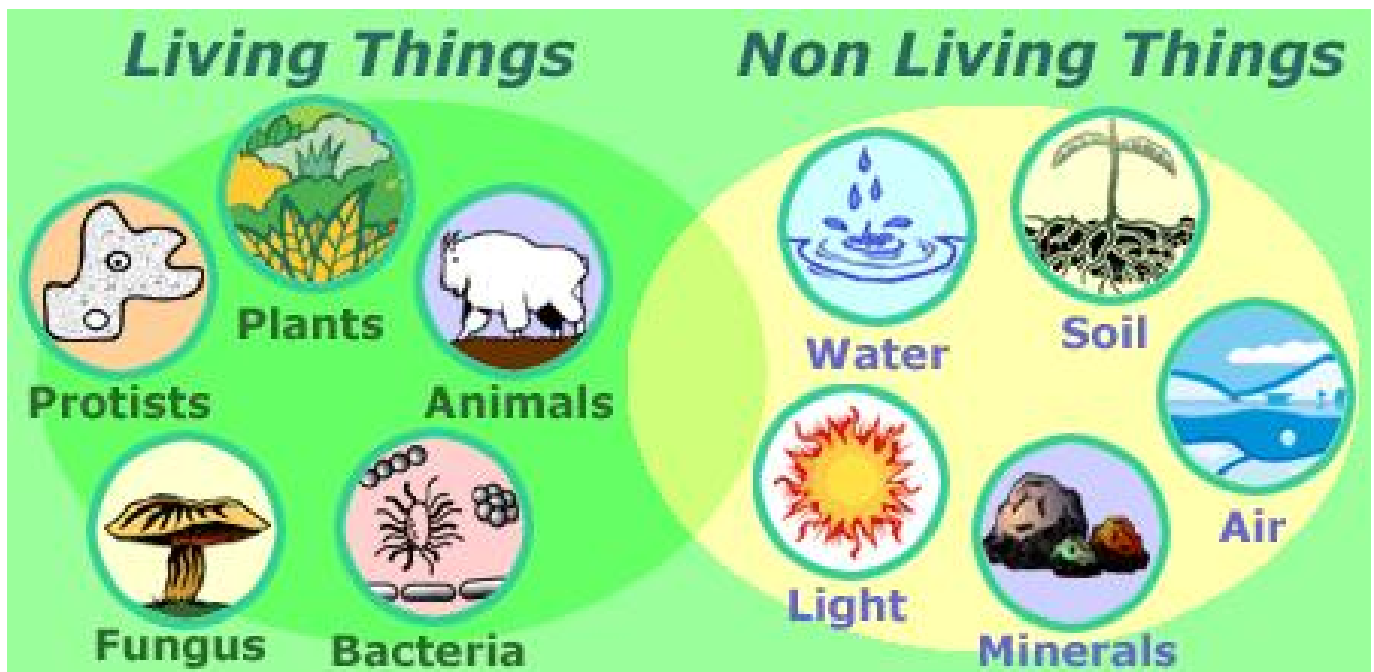


Introduction to Biology

What is Biology? _____

What does Bio mean? _____

What does -ology mean? _____



Characteristics of Life

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Ecology Guided Notes

- *Ecosystems* are: _____

Biotic Factors	Abiotic Factors
Definition:	Definition:
Examples:	Examples:

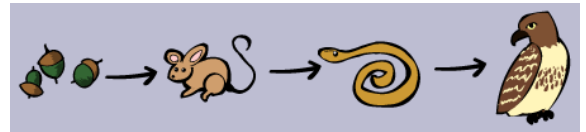
Levels of Organization:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____ - _____
9. _____ - _____
10. _____ - _____
11. _____ - _____
12. _____ - _____

Energy Transfer

Food Chain	Food Web

Arrows ***always*** point in the direction of the _____ flow.



The Food Chain

- Autotrophs (producers):
- Heterotrophs (consumers):
- Decomposers:

All energy originates from the _____!

- Food Chains and food webs show how _____ originating in the _____ travels through each organism.
- The energy that travels from the sun is called _____.
- Plants use _____ to convert radiant energy into _____.

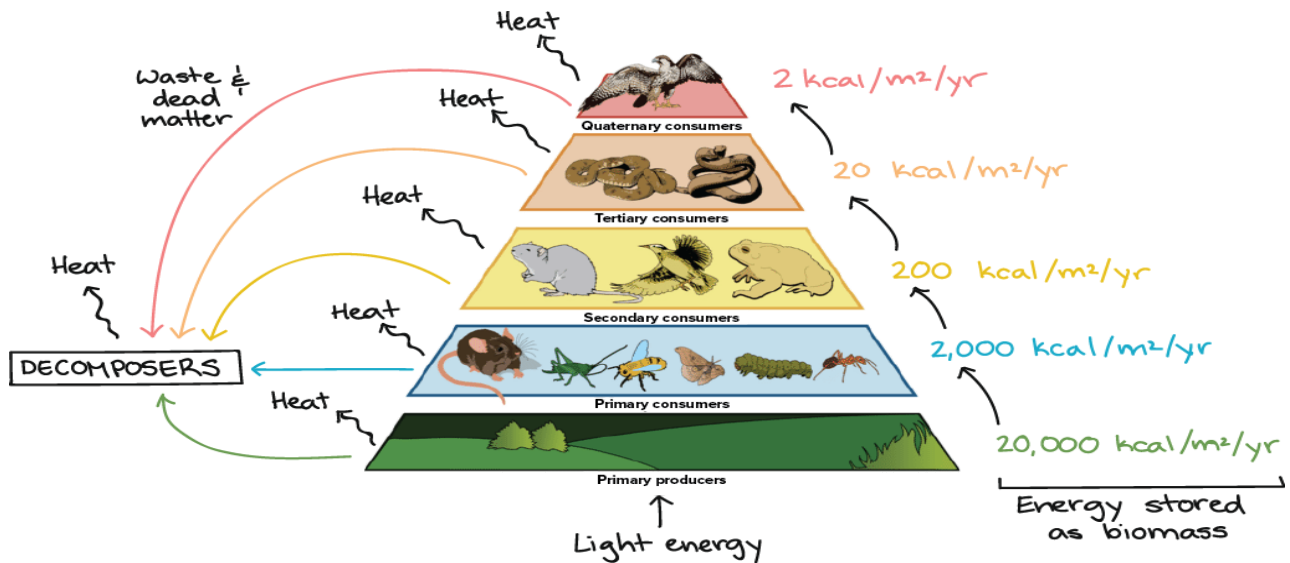
Think about it: What is the difference between radiant energy and thermal energy?

Think about it: Is the sun part of the food chain?

Energy Pyramid:

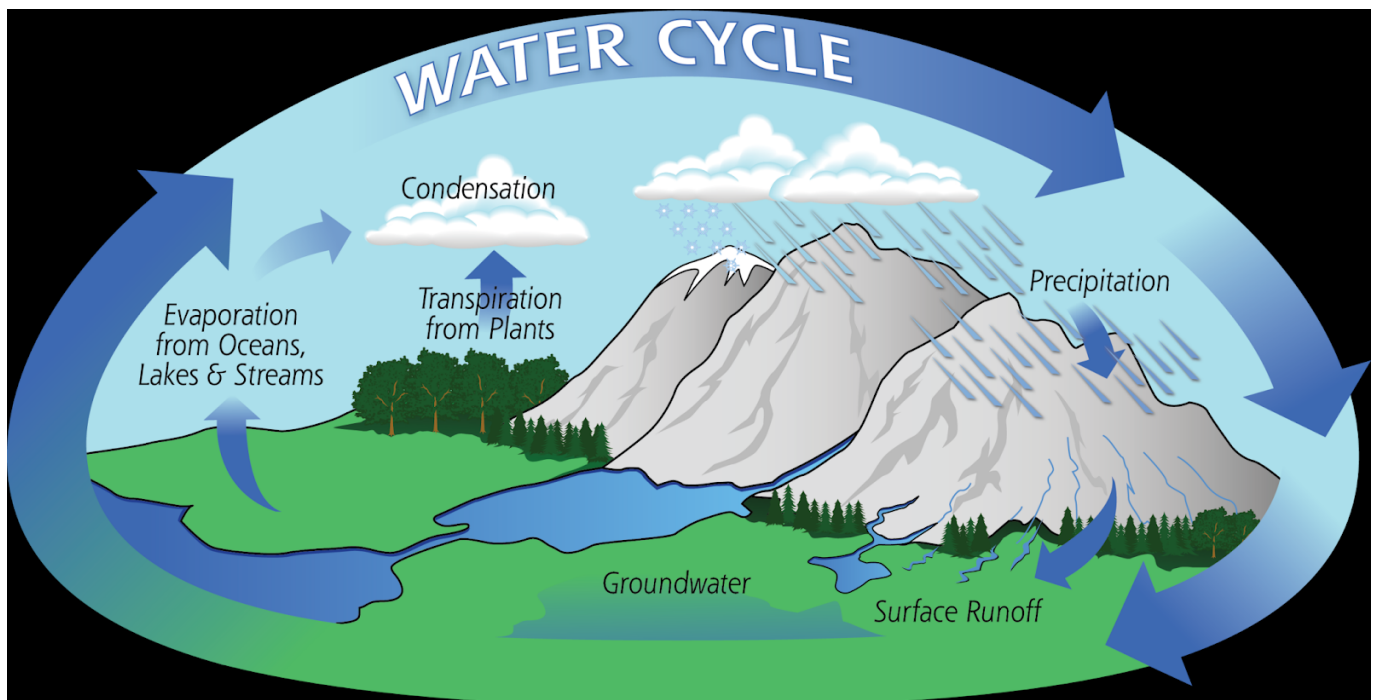
During the transfer of energy

- _____ % Rule
- Only 10% of the energy transfers from one organism to the next, the rest is lost to _____, digestion, etc.



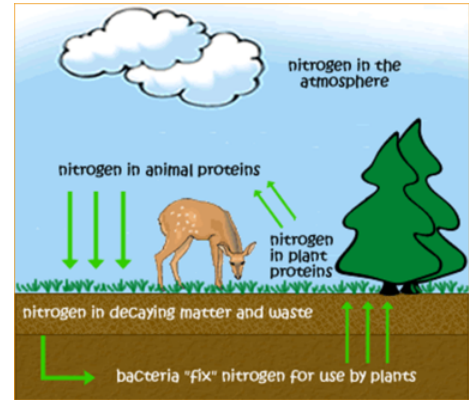
Nutrient Cycles

The Water Cycle



The Nitrogen Cycle

- All organisms require nitrogen to live and grow
 - _____% of the nitrogen is in the atmosphere
 - Nitrogen must be _____ to a usable form!
 - Nitrogen Fixing Bacteria: _____
-
-

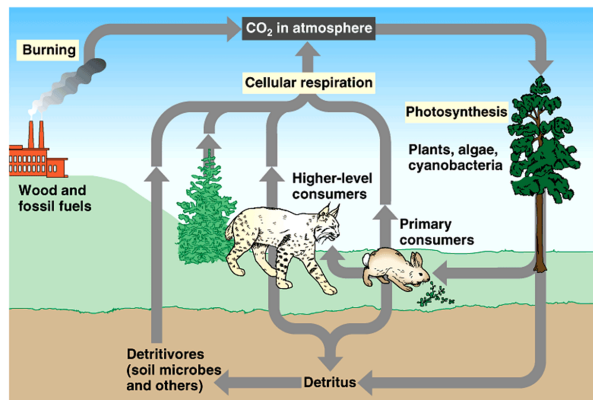


Think about it: What happens to the natural cycle when we add nitrogen in the form of fertilizer?

Think about it: Why is nitrogen important to life?

The Carbon Cycle

- Plants take in carbon dioxide through _____ and release oxygen; animals inhale oxygen and exhale CO₂ through _____



Copyright © Pearson Education, Inc., publishing as Benjamin Cummings.

Factors that influence climate

Human Processes that Affect Carbon Levels	Natural Processes that Affect Carbon Levels

Global Climate Change

Carbon is a naturally occurring part of our atmosphere - it is supposed to be there!

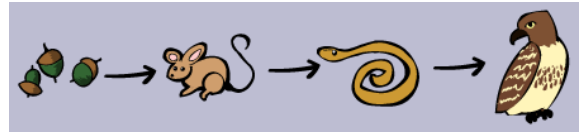
- *The Greenhouse Effect -*

- *Global Warming -*

Think about it: How is global warming related to the greenhouse effect, and what impact might this have on the carbon cycle?

Think about it: How does the destruction of the ozone layer relate to global climate change?

Organism Interactions in Ecosystems



- *Predator:*



- *Prey:*

- *Competition:*

- *Symbiosis:*

- Three types include mutualism, commensalism, and parasitism

Mutualism	Commensalism	Parasitism
Definition:	Definition:	Definition:
Example:	Example:	Example:

- *Courtship Dances:*

- *Example:*

- *Territorial Defense:*

- *Example:*

Organism Survival and Reproductive Success

- *Adaptations* -
 - Structural:
 - Behavioral:
 - Reproductive:

- Adaptation Examples
 - Transport and Excretion:
 - Respiration:
 - Nutrition:
 - Sexual/Asexual Reproduction:

Behavioral Adaptations

- Innate Behavior -
- Learned Behavior -

Innate Behaviors	
Suckling	
Taxes/Taxis	
Migration	
Estivation	
Hibernation	
Learned Behaviors	
Habituation	
Imprinting	
Classical Conditioning	
Trial and Error	

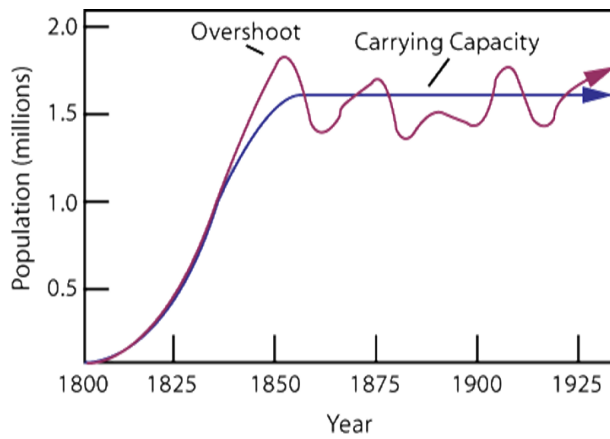
Graphing Relationships

- **Carrying Capacity -**

- Limiting factors:

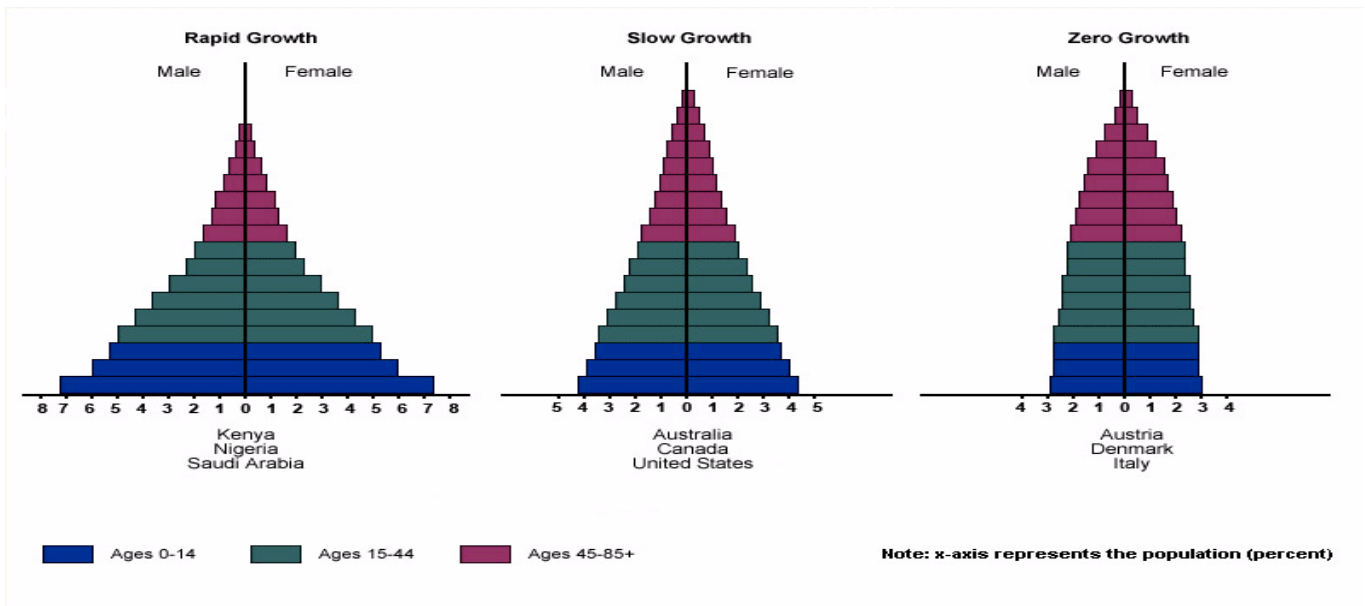
1. _____
2. _____
3. _____
4. _____

Population Growth: What is happening in this graph? _____



Think about it: What happens to the population when it is over carrying capacity? Under?

Population Graphs: What is happening in this graph? _____



Exponential vs. Logistic Growth

Exponential



Logistic



Human Impact

- Deforestation:
- Bioaccumulation:
- Invasive Species:

NC Ecosystems: Examining the Impact

<i>Factor</i>	<i>Environmental Impact</i>	<i>Potential Solution?</i>
<i>Invasive Species</i>		
<i>Beach Erosion</i>		
<i>Oil Use</i> (think about it)		
<i>Agricultural Methods</i> (think about it)		