

PREDATOR-Prey Interactions


A **predator** is an animal that hunts another animal for food.

Prey are the animals that are hunted.



But not all predators look as fierce as a bear or an alligator... unless you happen to be an insect!

Predators have ADAPTATIONS that help them catch their prey



birds of prey have keen eyesight and sharp beaks and talons

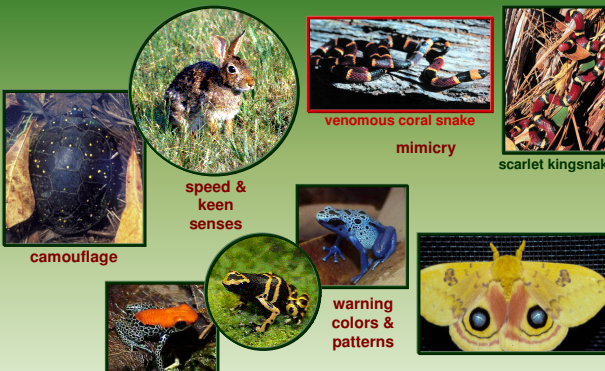
camouflage allows predators to blend in with their surroundings

venomous snakes have poisonous venom to subdue their prey

treefrogs have special pads on their feet so they can cling to vertical surfaces

kingsnakes are immune to the venom of venomous snakes

Prey have ADAPTATIONS that help them avoid predators



camouflage

speed & keen senses

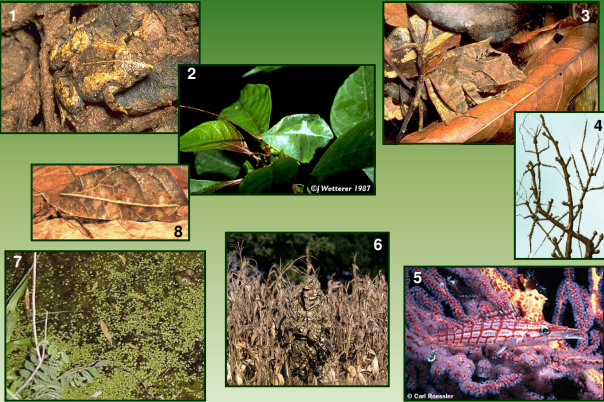
venomous coral snake

mimicry

scarlet kingsnake

warning colors & patterns

Can you find the camouflaged predators?



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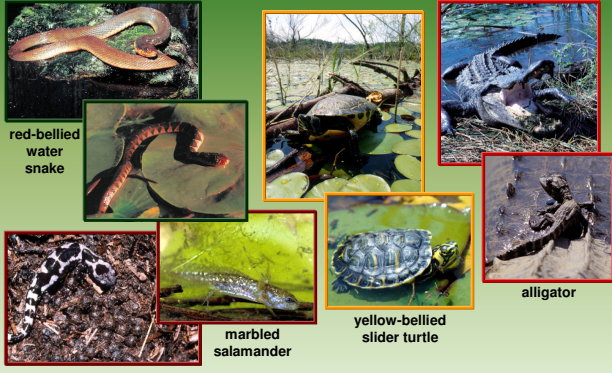
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Animals may be either predators or prey, particularly at different life stages



PREDATOR - PREY Interactions

The interaction between predator and prey is not as simple as you might think



Case Study #1 Moose Population



A population of moose inhabit large island in Lake Superior. A group of environmental preservationists concerned about the survival of this population, convince authorities to eliminate all the timber wolves from the area, (the primary predator of the moose).

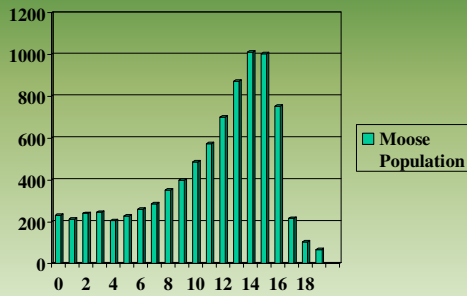
Survey's of the moose population were conducted over the next 20 year.

Graph this data and determine if the decision to cull the timber wolves was ecologically sound.

Moose Population Data

Year	Moose P>	Year	Moose P>
0	232	10	486
1	215	11	575
2	241	12	702
3	245	13	873
4	205	14	1012
5	229	15	1006
6	260	16	752
7	285	17	216
8	353	18	105
9	401	19	67

Moose Population Data



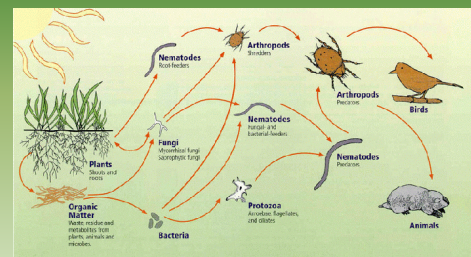
Moose Population Analysis Questions

- 1. Describe the pattern in the population of moose over the 20 yrs.
- 2. Hypothesize what caused the changes in the population numbers.
- 3. Define carrying capacity. What is the carrying capacity of this island?
- 4. What are the effects of overpopulation?
- 5. Hypothesize what will happen to the population over the next 10 years.

Case Study #2 The Ripple Effect

- 1. Devise a food web for Yellowstone National Park.
- 2. Make an argument: Explain the importance of wolves in Yellowstone national park.
 - Write an expository paragraph or series of paragraphs to provide evidence

Example of a food web:



Case Study #3 Predator / Prey



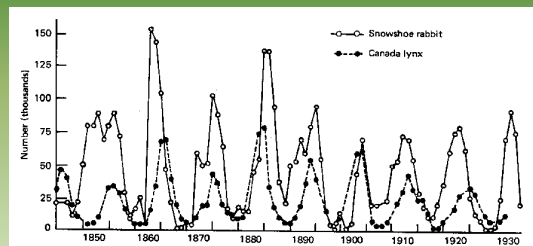
Lynx and Hare Data from Hudson Bay Company

Year	Pop of Hare	Year	Pop of Lynx
1885	120	1888	72
1890	60	1893	20
1895	20	1898	16
1900	8	1903	4
1905	64	1908	40
1910	28	1913	4
1915	12	1918	24
1920	8	1923	2
1925	72	1928	28
1930	12	1933	8
1935	80	1938	32

Lynx Hare Population Analysis Questions

- 1. Describe the patterns in the populations of lynx and Hare.
- 2. Identify any sections of the graph that shows a correlation between the two populations.
- 3. Hypothesize why the Hare population increases and why it decreases.
- 4. Hypothesize why the Lynx population increases and why it decreases.
- 5. Scientists rarely do direct counts of every individual in a population. This population data is based on pelt numbers collected by a trading outpost of the Hudson Bay Company.
Do you think it is accurate to make an inference on the overall population size based on trapping numbers. Why? Why not?

Lynx Hare Data



Ecological Relationship Predator/Prey

