



Science Virtual Learning

# LEP Science

Predator-Prey Relationships

May 7, 2020



LEP Science  
Lesson: May 7, 2020

**Objective/Learning Target: I can explain how the populations change due to the predator-prey relationship.**



Let's get started

To begin, watch the video. As you watch, on a sheet of paper, write:

Definition of: Predator

Definition of: Prey

Sketch the graph (include labels)

Explain what the graph is showing (it is explained in the video)

[Predator - Prey video](#)

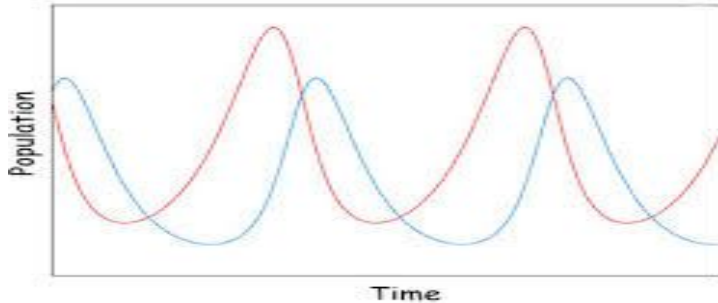


Next, read the article below. As you read, make a list of at least 5 examples of predator-prey relationships.

[Article over Predator-Prey](#)

## How did you do?

Predator - organism that hunts, kills, and eats another.  
Prey - organism that is being hunted, killed, and eaten.  
graph:



This graph is showing the increase and decrease of the number of predators increasing and decreasing based on the number of prey available. The opposite is true of the number of prey available based on the number of predators hunting and eating them.



How did you do?

Predator - Prey:

Coyote - Rabbit

Mountain Lion - Deer

Human - Deer

Human - Coyote

Coyote - Roadrunner

Roadrunner - Lizard

Lizard - Spider

Spider - Insect



Let's do some practice with what you have learned and explored in the video and reading.

Work through the [simulation](#) tutorial and answer the following questions.

1. At Generation 1, who had the higher population?
2. What happened to the populations from generation 1 to generation 2?
3. At Generation 2, who had the higher population?
4. Just after the start of Generation 2, why does the moose population go down and the wolf population go up?
5. Look at the graph at the end of the tutorial what do you notice about the populations of wolves and moose over time. Why does it do that?

Once you finish the tutorial and questions, feel free to explore the simulation and see what happens to the populations when other factors are changed.

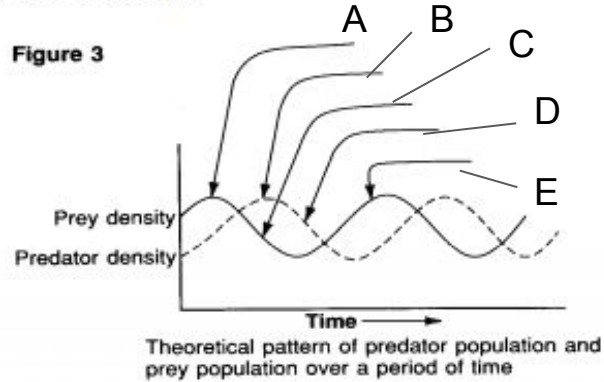


## Check your answers here

1. The wolves
2. Wolf population goes down; moose population goes up
3. The moose
4. The moose population goes down because the wolves are eating the moose. The wolf population goes up because the wolves are eating the moose, surviving and reproducing. As the wolf population goes up, more moose are getting eaten, so their population continues to go down.
5. Both the populations of predators and prey fluctuate because they depend on each other. Less predators means the prey population can increase. An increase in prey population means there is more food, so there will be an increase in predators. More predators means more predation, so there will be a decrease in prey populations. With less food, predators die off, so there will be a decrease in predators. Less predators means the prey population can increase and the cycle continues.



Predation is not necessarily harmful to the prey population. Predation might act as an important means of keeping the prey population within the limits of its food supply. The graph shown in Figure 3 represents a theoretical cycle that evolves in a predator-prey relationship.



## Practice Questions

Read the following descriptions and match with the letters found on the chart to the right.

1. Prey population rises due to decline in predator population
2. Predator population rises due to increase in prey population
3. Prey population falls due to increase in predation
4. Predator population falls due to decline in prey population
5. Prey population rises

Use these links to help if needed:

[Video Link](#)  
[Article Link](#)



## Practice Questions

6. What is a predator prey relationship?
7. What is a predator? What is a prey species?
8. Why are predator-prey relationships important?
9. What are some examples of predators?
10. Why is it that as the prey population either increases or decreases in population size, the predator population does the same after a period of time?



# Answer Key

Once you have completed the practice questions check with the work.

1. E
2. B
3. C
4. D
5. A
6. A predator-prey relationship is an interaction between two species where one is being consumed by the other and used as a for of food.
7. A predator is the animal that is being fed while the prey species is the animal that is being fed upon.



# Answer Key

Once you have completed the practice questions check with the work.

8. Predator-prey relationships are important because they provide a balance in population sizes for both species and their population fluctuations are linked. Further, the evolution of these two species are linked as well, as one adapts, the other will as well.

9. Conventional predators will hunt, kill, and eat other organisms. Nonconventional are predators who may include scavengers or parasites. They may eat things that are already dead or work to kill their source of food by eating it.

10. The prey population size affects the predator population size because they are linked. Since the predator eats the prey, if the prey population increases, there is more food for the predators and they are able to produce more. The same is said if the prey population decreases, there is less prey to support the predator population size, so it will decrease as an effect.



## More Practice:

Follow the links below to do more practice.

1. Graphing and Analysis - [Wolf-Moose](#) (When you finish, check your answers [here](#).)
2. Graph Analysis - [Hare-Lynx](#) (When you finish check your answers [here](#).)



## Additional Resources

[Moo Moo Math and Science Predator Prey video](#)  
[Khan Academy video](#)