

# Population

## Growth

Answer the questions on the following page.

**Why are limiting factors important?**

Try [this simulation](#) to test limiting factors on a sheep population.

**How do populations grow?**

[Populations can grow very quickly](#) if outside forces aren't acting on them.

**How do species with r strategies and k strategies differ?**

Species tend to be grouped into 2 categories: r strategists and k strategists. [Learn about their characteristics](#), then do [this card sort](#) (without notes!).

**What can we learn from a population pyramid?**

Age structure diagrams ([or "population pyramids"](#)) give a quick overview of a particular population and can be useful for learning about past and future growth.

# Population Growth

## How fast do populations grow?

<http://bit.ly/2rOrG2v>

1. When exponential growth is graphed, the trend line created looks like what letter of the alphabet?
2. Which has a greater biotic potential- humans or mice? Why?
3. What is carrying capacity?
4. What are the two types of limiting factors and how do they differ?
5. When limiting factors exhibit pressure on a population, what happens to the growth graph?
6. Match the following terms to the correct description.

_____ natality	a. death rate
_____ fecundity	b. predicted length of survival
_____ fertility	c. ability to reproduce
_____ mortality	d. birth of new individuals
_____ life expectancy	e. number of offspring
7. Which type of survivorship curve would be represented by a population of elephants? A population of frogs?

# Population Growth

## Why are limiting factors important?

[https://authoring.concord.org/activities/1013/single\\_page/eb82da3f-745c-4c99-a129-5fcb839f2387](https://authoring.concord.org/activities/1013/single_page/eb82da3f-745c-4c99-a129-5fcb839f2387)

8. Run the sheep simulation a few times with various conditions. Adjust some of the variables including “reaping”, amount of grass, and birthrate to see if you can make a more stable population. What is the highest carrying capacity of sheep possible? What conditions are required to allow this carrying capacity?
  
9. Take a snapshot of your simulation and paste it below or explain it. Describe the image including analysis of limiting factors and growth/carrying capacity.

## What can we learn from a population pyramid?

<https://www.youtube.com/watch?v=RLmKfXwWQtE>

10. A population can be divided into three important categories on a population pyramid. What are these three categories?
  
11. If a population pyramid is shaped like a true pyramid, what can we determine about that population’s growth?