



High School Science Virtual Learning

# College Biology

April 24, 2020



High School College Biology  
Lesson: April 24, 2020

**Objective/Learning Target:**

Students will be able to discuss human populations in the context of population ecology.

## Let's Get Started:

1. Why do managers try to maintain populations of fish and game species at about half their carrying capacity?
2. What distinguishes invasive species from organisms that are introduced to non-native habitats but do not become invasive?



## Answers:

1. To prevent overharvesting yet maintaining lower population levels so that growth rate is high.
2. Invasive species spread far from where they are introduced, and they cause environmental or economic damage



## Lesson Activity:

1. Read over pages 23-30 of the Chapter 19 Notes. ([Linked Here](#))
1. Watch this Crash Course video on the [Human Populations](#).

## Practice:

1. What two factors combined to result in a downward trend in human population after 1962?
2. What is population momentum?
3. The global population is expected to reach nearly 10 billion by 2050, just 30 years from now, is the Earth capable of handling such a large population? If so, what changes must take place?

## Practice Answers:

1. Advanced medical care improved survivorship and effective contraceptives kept the birth rate in check.
2. Population momentum the continued growth that occurs after a population's high fertility rate has been reduced to replacement rate. It is a result of 0-14 year old females reaching child-bearing age.
3. No one can predict for certain if we can sustain a population of that size. However, we do know that we need to increase agricultural production while increasing access to water just to feed everyone.

## Even More Practice:

1. Which life history pattern is typical of invasive species?
2. Skyrocketing growth of human population since the beginning of the Industrial Revolution appears to be mainly a result of
  - a. migration to thinly settled regions of the globe.
  - b. better nutrition boosting the birth rate.
  - c. a drop in the death rate due to better nutrition and health care
  - d. the concentration of humans in cities



## Even More Practice:

3. According to data on ecological footprints,
  - a. the carrying capacity of the world is 10 billion.
  - b. Earth's resources are sufficient to sustain future generations at current levels of consumption.
  - c. the ecological footprint of the United States is more than twice the world average.
  - d. nations with the largest ecological footprints have the fastest population growth rates.



## Even More Practice Answers:

1. Opportunistic

2. C

3. C



## Review Tools:

-[Kahoot 3](#)

- Mr. Anderson videos about population ecology: [Video 1](#),  
[Video 2](#), [Video 3](#).