



High School Science Virtual Learning

# College Biology

April 21, 2020



High School College Biology  
Lesson: April 21, 2020

**Objective/Learning Target:**

Students will be able to discuss human impacts on ecosystems and the biosphere.

## Let's Get Started:

1. What is the major source of  $\text{CO}_2$  released by human activities?
2. Which of the following sea creatures might be described as a pelagic animal of the aphotic zone?
  - a. A coral reef fish
  - b. A giant clam near a deep-sea hydrothermal vent
  - c. An intertidal snail
  - d. A deep-sea squid



Answers:

1. Burning fossil fuels
2. d

## Lesson Activity:

1. Read over pages 31-44 of the Chapter 18 Notes. ([Linked Here](#))
2. Watch this Crash Course video on the [Water Cycle](#). (Start - 5:12)
3. Watch this Crash Course video on [Human Impacts](#).



## Practice:

1. Explain how all parts of the biosphere are linked together.
2. What types of services do natural ecosystems provide in addition to the resources like food, fuel and shelter?
3. The Greenhouse Effect is often misinterpreted by people. Explain the Greenhouse Effect, how it is misinterpreted and why it is vital to all life on Earth.



Practice:

4. According to the video on the water cycle, what process forms clouds? Describe the process.
5. In the video on Human Impacts, he mentions that Global warming is being driven by a “double whammy.” What are the two components of this double whammy?



## Practice Answers:

1. All the parts of the biosphere are linked together by the global water cycle and nutrient cycles. Solar energy moves air and water around the Earth; moving nutrients and water from one ecosystem to another.
2. Natural ecosystems provide air and water purification, nutrient cycling, and recreation.
3. The Greenhouse Effect is created by greenhouse gases like CO<sub>2</sub>, water vapor and methane. The misconception is that people believe the Greenhouse Effect is due only to air pollution or burning of fossil fuels when in reality the Greenhouse Effect is necessary to sustain life on Earth.





## Practice Answers:

4. Condensation - when air containing water vapor rises and cools. The water condenses into droplets when it can no longer be a gas due to either temperature or pressure.

5. The burning of fossil fuels which add more  $\text{CO}_2$  to the atmosphere while at the same time removing large areas that are forested. The forested areas should be removing  $\text{CO}_2$  but cannot when they are cut down.



## Even More Practice:

1. Why is decreased snowfall in the Rocky Mountains a concern for people who live in Las Vegas?
2. What human activity is responsible for the greatest amount of deforestation?

## Even More Practice:

3. The recent increase in atmospheric CO<sub>2</sub> concentration is mainly a result of an increase in

- a. plant growth
- b. the absorption of heat radiating from Earth.
- c. the burning of fossil fuels and wood.
- d. cellular respiration by the increasing human population.

45. What populations of organisms are most likely to survive climate change via evolutionary adaptation?

## Even More Practice Answers:

1. Snowmelt from the Rockies flows into the Colorado River, which supplies water for Las Vegas residents.
2. Agriculture
3. C
4. Populations of organisms that have high genetic variability and short lifespans



## Review Tools:

- [Kahoot 4](#)

- Mr. Anderson videos about [ecology](#), [biomes](#), and [human impacts](#)