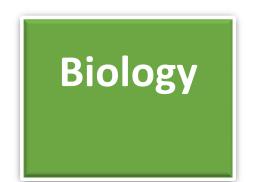
# 43.1 Ecology and Sustainable Development



Summarize main points from each video.

Video Title / topic	
Video Title / topic	
Video Title / topic	

# Topic Introduction



### Summarize your understanding of each paragraph.

Ecology is the science which studies the biota, the environment, and their interactions. Biota is a common term in biology. It means all the living things at a particular time or place. Examples: Cambrian biota; Madagascan biota.
Because "biota" includes all the living members of a given environment, the term is used especially in ecology. A similar term is biome, which refers to large geographical regions. Tundra is a biome
Ecology is the study of ecosystems. Ecosystems describe the web or network of relations among organisms at different scales of organization. Scientists who study these interactions are called ecologists.
There are many practical applications of ecology in conservation biology, wetland management, natural resource management (agriculture, forestry, fisheries), city planning (urban ecology), community health, economics, and applied science.

# Read/Summarize Text



- 1. Read the passage.
- 2. Underline key expressions in each sentence.
- 3. Re-write each word (or expression) you underlined.
- 4. Summarize the passage.

Re-write words you underlined

#### Ecosystem.

An ecosystem is a large community of living organisms (plants, animals and microbes) in a particular area. The living and physical components are linked together through nutrient cycles and energy flows. Ecosystems can be of any size, but usually they are in particular places. Each ecosystem has its own community. An aquarium community, for example, can have small fishes and other organisms. A desert community may have cacti, small snakes, and scorpions. A pond community can have frogs, insects, snakes, and plants, and a forest community may have rabbits, foxes and pine trees. The species in a community are divided into populations according to the particular habitats in the ecosystem.

https://simple.wikipedia.org/wiki/Ecosystem

			3
Jsing a complete	sentence, summarize or rephrase t	the passage	

# Read Text for Comprehension

Read this article for deeper understanding. No summary is required, although you may want to circle, underline, or mark key ideas and words.

### **Excerpt from: The 50 Most Important Women in Science (Nov. 2002)**

Three percent of tenured professors of physics in this country are women. Nonetheless, a woman physicist stopped light in her lab at Harvard. Another woman runs the linear accelerator at Stanford. A woman discovered the first evidence for dark matter. A woman found the top quark. The list doesn't stop there, but the point is clear.

Three years ago, Discover started a project to look into the question of how women fare in science. We knew there were large numbers of female researchers doing remarkable work, and we asked associate editor Kathy A. Svitil to talk to them. The result of her investigation is a selection of 50 of the most extraordinary women across all the sciences. Achievements of two are summarized here:



Mercedes Pascual Assistant Professor of Ecology and Evolutionary Biology, University of Michigan The complex systems models developed by Pascual help make sense of complicated, irregular cycles in ecosystems. Two years ago, the mathematical ecologist found that El Niño climate patterns can help trigger cholera outbreaks in Bangladesh.

This summer (2002), she and her colleagues compared cholera and climate records from the early 20th century with recent data and found that El Niño episodes have become more forceful drivers of disease outbreaks. It is the first quantitative evidence, she says, "for an effect of global climate change on an infectious disease."



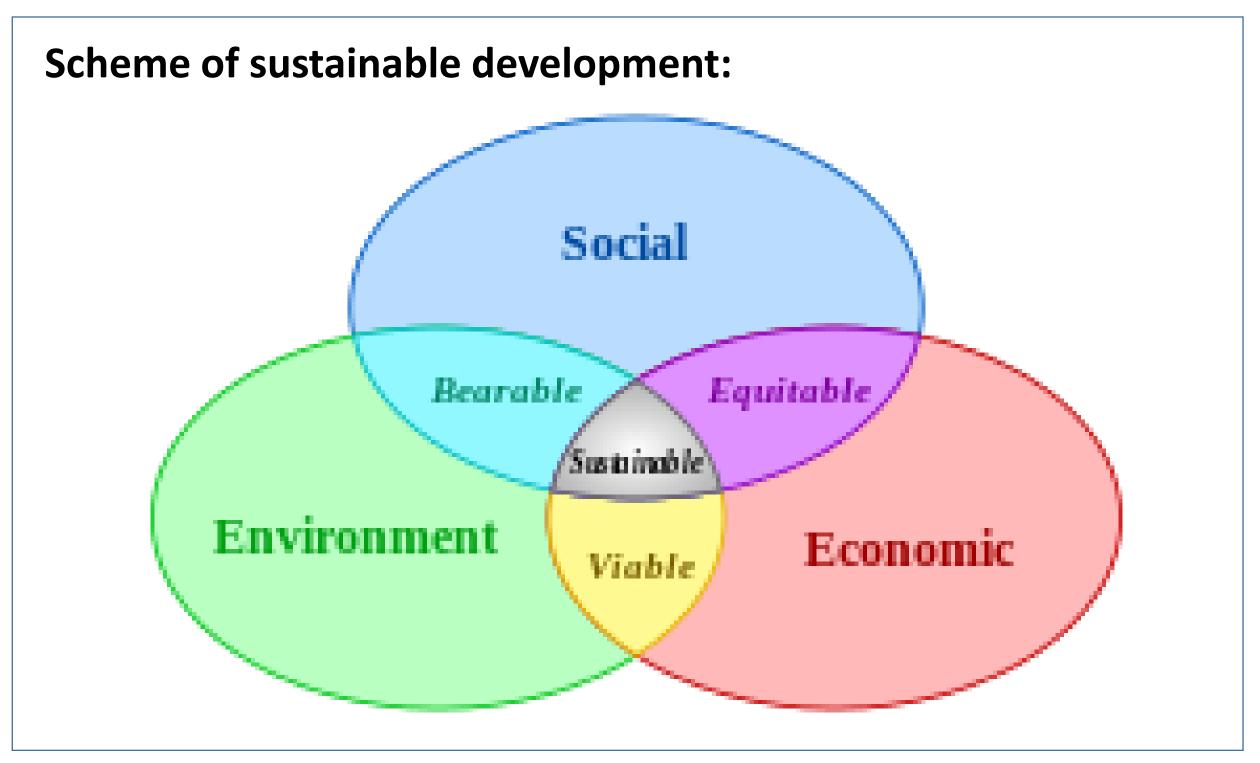
**Susan Solomon** Senior Scientist, National Oceanic and Atmospheric Administration In 1986 Solomon decided to lead an expedition to Antarctica to investigate the newly discovered ozone hole over the continent. "I was a theoretician at the time and sat in my nice warm office with my keyboard. But I was young and foolish, and it sounded like a great adventure," says the atmospheric chemist.

Solomon's research in Antarctica played a key role in proving that ozone loss was caused by man-made chemicals called chlorofluorocarbons.

### Draw Illustration



### Copy and Label the Illustration in the Space Provided



https://en.wikipedia.org/wiki/Social ecology

Draw (Copy) the Illustration Here	

# Interpret a Graph



Write the title of the graph _	

Circle the type of chart this represents

Bar Chart Line Chart Pie Chart Other

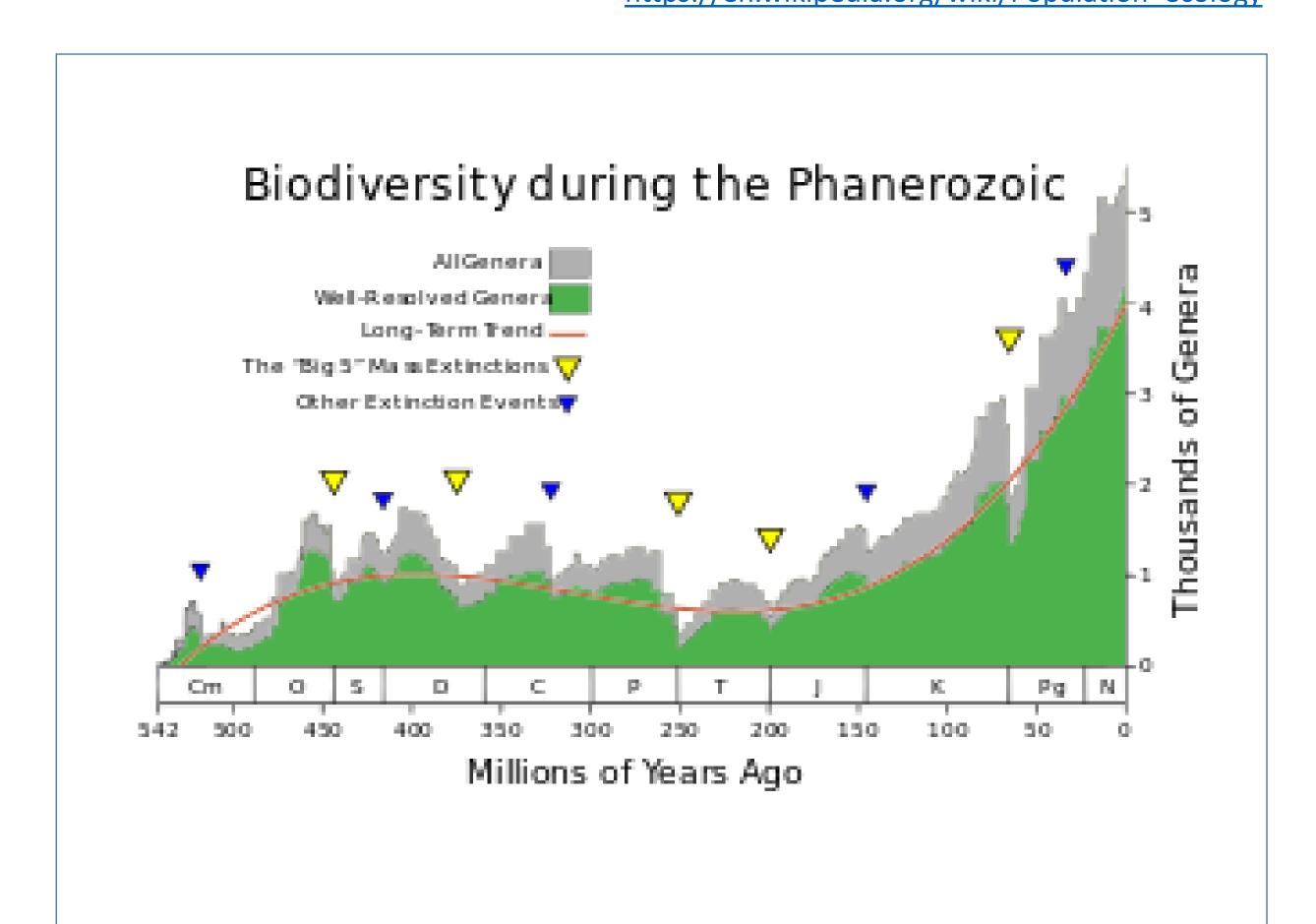
If applicable,

What does the X-axis represent \_\_\_\_\_

What does the Y-axis imply \_\_\_\_\_

Summarize what this graph represents or conveys

https://en.wikipedia.org/wiki/Population\_ecology



## **Show-Off Your Smarts!**



#### **Instructions**

- Complete as an individual or small group.
- Discuss your ideas/answers/responses in a small group.
- Select one person to present your responses to the class.

# Q1. Using your knowledge of the "ecosystem" in your community, complete these prompts.

Q2. How does information about	t ecology apply to your life?
plants and animals:	
Write description about water and	d other resources available to
<ul><li>2.</li><li>3.</li></ul>	<ul><li>2.</li><li>3.</li></ul>
Three other animals: 1.	Common household plants: 1.
<ul><li>2.</li><li>3.</li></ul>	<ul><li>2.</li><li>3.</li></ul>
Three domestic animals:  1.	Three types of trees or shrubs: 1.

### Make a Poster

In the space provided here, create/draw a poster which conveys the concepts you have learned on this topic. Use a process, pyramid, relationship diagram, and one additional sketch of any kind.

Relationship Sketch	relationship diagram, and one add	icional site con or any itinal
	Process	Pvramid
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Relationship		
Relationship Sketch		
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