

Living organisms have the capability of producing populations of unlimited size, but the environment can support only a limited number of individuals from each species.

- Human populations grow due to advances in agriculture, medicine, and construction and the use of energy.
- Humans modify ecosystems as a result of rapid population growth, use of technology and consumption of resources.

Key Vocabulary

Abiotic
Biotic
Biodiversity
Genetic Diversity
Birthrate
Carrying Capacity
Community
Emigration
Environment
Famine
Growth Rate
Homeostasis
Immigration
Limiting Factor
Mortality
Population
Population density
Resources
Technology

Assignments

Due

#1 - Read pages 379 to 382.

Answer the following questions

- Explain how it is possible to conclude from figure 20-3 that the life expectancy of individuals in Country B is greater than that of individuals in Country A?
- List and define the four rates that determine a population's size.
- How do the four rates impact class size at Westhill High School?

#2 - Read pages 388 to 390.

Answer the following questions

- What effect did the agricultural revolution have on the growth of the human population?
- Humans have the power to alter our environment to affect the carrying capacity. What are some of the ways we increase or decrease the carrying capacity of our local area?
- Explain how disease could be a density dependent factor in a population.

#2 - Read pages 448 to 458.

Answer the following questions

- Besides food, water and available space what are two abiotic, and two biotic factors that must be considered when attempting to conserve a population?
- Is the carrying capacity of a specific area the same for all types of organisms that live there?
- Freshwater will soon become a limiting factor for human populations. Explain how you would estimate the carrying capacity of a given area for humans based upon available fresh water. What information would you need to make this estimate?

#3 - For 5 extra work points

Define each of the key vocabulary words on this sheet using language a human would understand (not that junk that you get when you copy the first thing that pops up in Google).



Population Ecology

Population	Offspring	Habitat	Population Density		Niche		
all the individuals of a species that live together in a specific area			The number of individuals divided by the amount of space		The position or role filled by an organism within its community		
Reproduction		Four Rates determine population size					
Asexual	Sexual	Increases Population		Decreases Population			
<p>Only one parent is needed and no exchange of DNA occurs to create offspring</p> <p>Advantages</p> <p>Disadvantages</p> <p>- all offspring are clones of the parent</p>	<p>Advantages</p> <p>Disadvantages</p> <p>-Requires two parents</p> <p>-Risk of disease</p> <p>-Offspring may be too different</p>	Mortality	Emigration	Birth Rate	Immigration		
				The rate at which new individuals leave the area			
		Biotic Factors		Abiotic Factors			
		Any living component that affects another organism.	Examples:		Examples: -Temperature -Rainfall -Water -Sunlight -Soil conditions -Air and wind currents -Chemicals and pollution -Available space		
Reproductive Strategies							
R Strategists			K Strategists				
Carrying Capacity		Limiting Factor		Population Pyramids			
				<p style="text-align: center;">United States - 2013</p> <p style="text-align: center;">Male Female</p> <p style="text-align: center;">Population (in millions) Age Group Population (in millions)</p>			
Humans modify ecosystems as a result of rapid population growth, use of technology and consumption of resources.							
				Developed: fat or top heavy graph Developing: pyramid/bottom heavy			