

Learning Target: I can explain how carrying capacity and limiting factors impact ecosystems.



Carrying Capacity & limiting Factors Interactive Activity

Part 1 Cloze Read Reading for Meaning: Read the following information on carrying capacity and limiting factors. Use your knowledge and context clues to drag and drop/fill in the blanks.

Organisms need _____ to survive. They also require space to live. There are limited resources and only so much space in an _____. These features are called _____.
Limiting factors regulate _____ organisms live in an ecosystem. Space, _____, oxygen, and water are limiting factors. _____ and precipitation determine the _____ of an ecosystem, which _____ the organisms that can live in an ecosystem.

ecosystem	impacts	Temperature	limiting factors
how many	climate	resources	food

An ecosystem can support only so large of a _____. The _____ population size that an ecosystem can support is called _____. _____ determine carrying capacity. The availability of _____ factors (such as water, oxygen, and space) and _____ factors (such as food) dictates how many _____ can live in an ecosystem. Carrying capacity is also impacted by the availability of decomposers. _____ break down and recycle dead organisms and organic matter. They prevent dead matter from accumulating and taking up _____ in an ecosystem.

carrying capacity	space	organisms	abiotic	Limiting factors
biotic	Decomposers	population	maximum	

In an ecosystem, the population of a species will increase until it reaches its _____. Then the _____ size remains relatively the same. If abiotic or biotic factors change, the carrying capacity _____ as well. Natural disasters can _____ resources in an ecosystem. If resources are destroyed, the ecosystem will not be able to _____ a large population. This causes the carrying capacity to _____. _____ can also alter carrying capacity. Our activities can decrease or increase carrying capacity. We alter carrying capacity when we _____ resources in a natural environment.

decrease	destroy	manipulate	changes
population	humans	carrying capacity	support

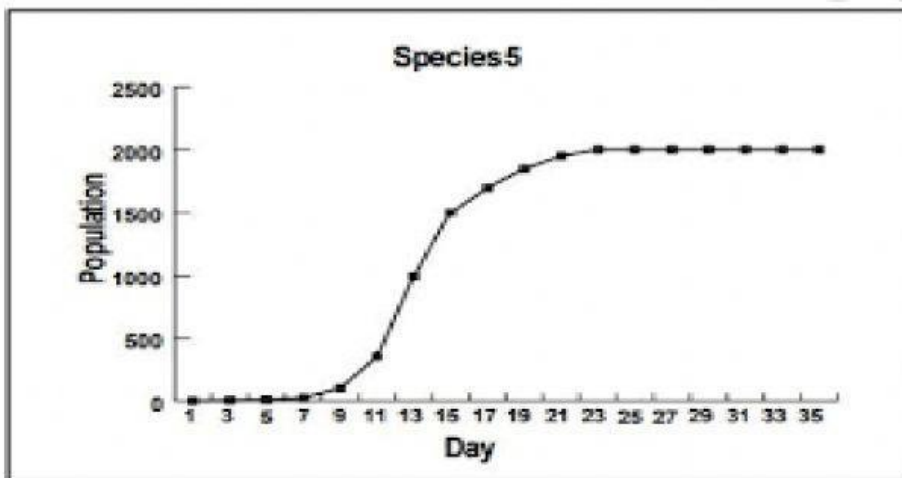
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If a population exceeds _____, the ecosystem may become unsuitable for the species to _____. If the population _____ the carrying capacity for a long period of time, resources may be completely _____. Populations may _____ if all of the resources are exhausted.

exceeds	die off	depleted
carrying capacity	survive	

Part 2 Graphical Analysis: Analyze the following diagram and answer the questions that follow.



1. About how many days does it take for the population size to get to 1000? _____
2. What is the approximate population size around 15 days? _____
3. What is this population approximate carrying capacity? _____
4. What does this mean in terms of ability to support organisms in this area? _____

5. What would happen to the population if resources began to decrease in this area? _____

