

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

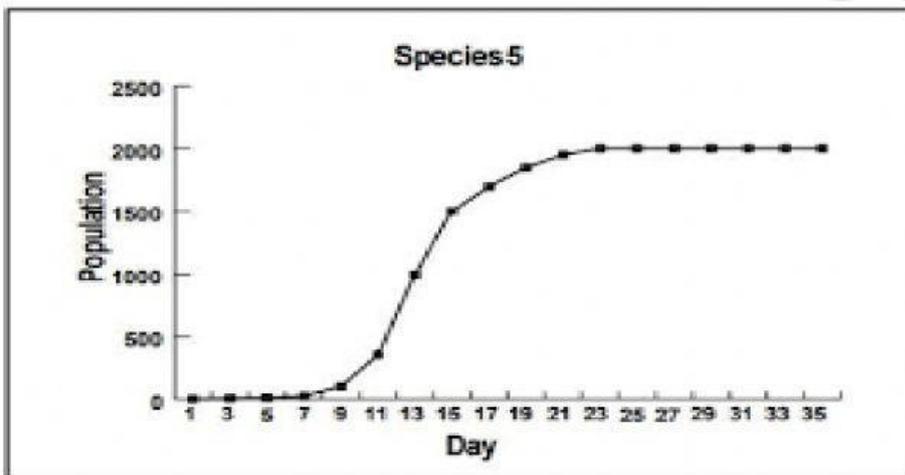
Created By: Chivas & Jordan Spivey

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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? \_\_\_\_\_  
\_\_\_\_\_

