

Populations

How can a Population Grow or Get Smaller?

- If new individuals are added to the population, it grows.
 - Individuals are born
 - Immigration: when individuals join a population
 - Ex. fruit flies travel on fruit to new island
- Population gets smaller if individuals get removed from it.
 - Individuals die
 - Emigration: when individuals leave a population
 - Ex. population of fruit flies on original island decreases
- Population stays about the same if number of individuals added is close to the number of individuals removed.

Environmental Influences

- Each environment has different amounts of resources that living things need such as food, water, and space.
- These resources influence the size of a population.
 - Resources lost = population shrinks
 - Resources increased = population grows
 - Grows too much and population will eventually run out of resources
- Carrying Capacity: maximum number of individuals of one species that the environment can support
 - Can change when the environment changes
 - Examples: rainy season → lots of plants → population grows
natural disasters → population decreases

Factors that Limit Population Size

- Limiting Factors: parts of the environment that keeps a population's size at a level below its full potential
 - Examples: Water, food, & shelter (biotic and abiotic factors)
- Competition: when two or more individuals or populations try to use the same limited resource
 - This can happen with food, water, shelter, space and sunlight.
- Cooperation: occurs when individuals work together
 - Helps individuals get resources, which can make populations grow
 - Examples: Killer whales hunt in groups
Emperor penguins stay close to keep warm
ant colonies