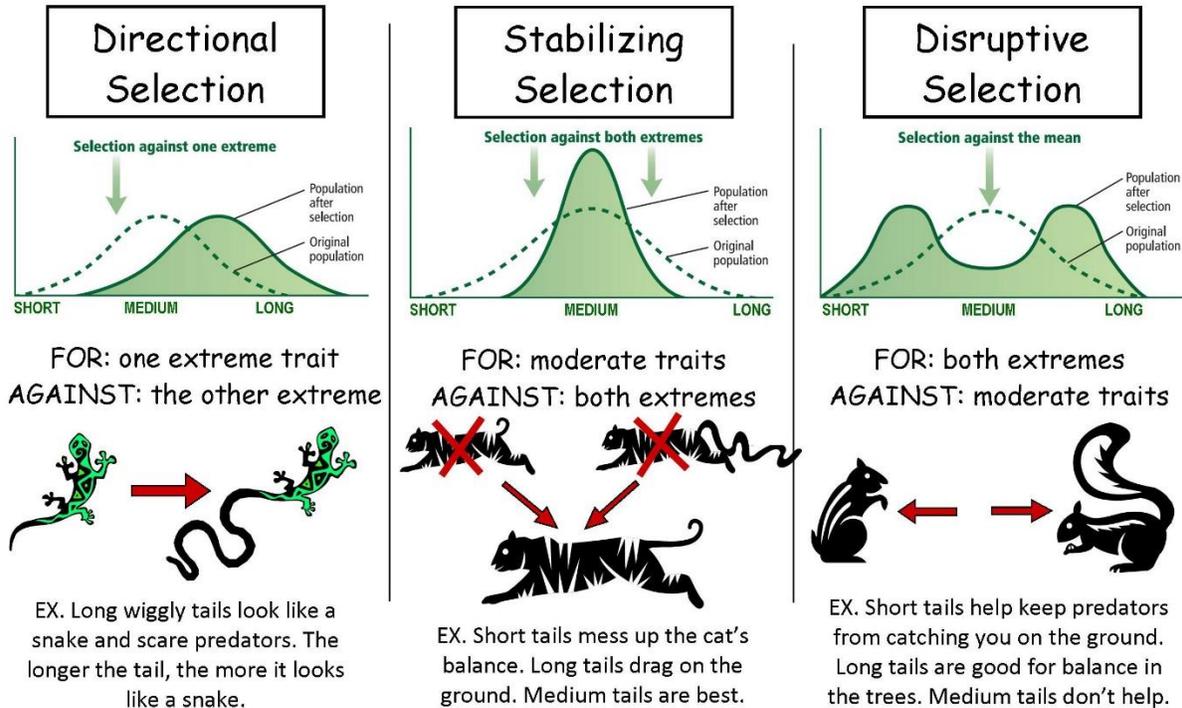


Patterns of Evolution

Have you ever wondered why the appearance of a species may look slightly different when found in different areas? Environmental pressures may cause populations to change over time due to their environment but not enough to form a new species. This is because an organism's ability to survive in its current environment to adulthood and reproduce will be the one to pass on its genes. And their genes will become more prevalent. Below are three different types of Natural Selection. Study the images and descriptions.

HOW does the trait change?



Directional favors one extreme of the population

Stabilizing favors the average in the population

Disruptive favors opposite extremes of the population (this can eventually lead to the development of two separate species).

If you start with a population of mice that have approximately the same number of solid black, solid gray and solid white mice but at the end of two years there are mostly black mice left, what type of selection occurred?

What type of selection occurred if at the end of two years there are very few gray but many solid black and solid white mice left in the population?

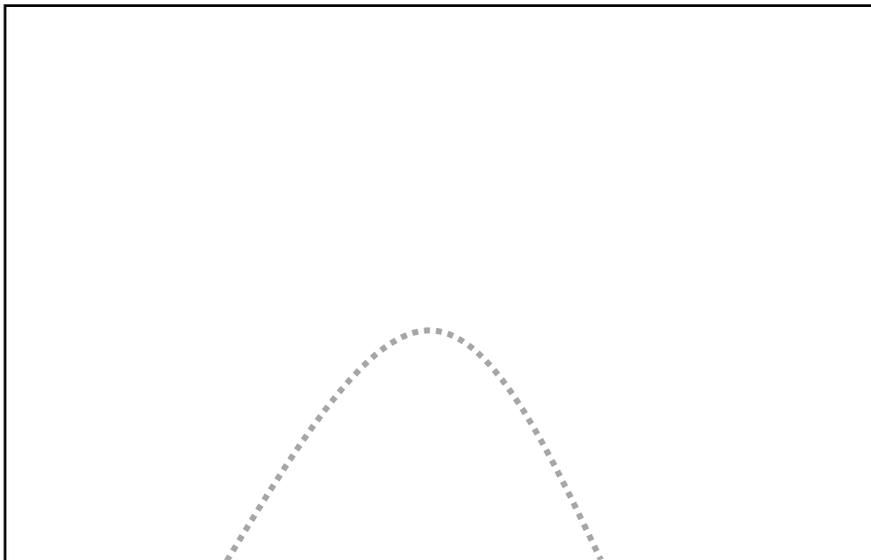
What type of selection occurred if there were mostly gray mice left after two years and only a few solid white and solid black?

TYPES OF SELECTION

A group of snakes were all placed into environments that had differing selective pressures. All populations began as a stable population. Analyze the data tables below and conclude what type of selection is being portrayed: directional, stabilizing or disruptive. Draw the pattern (using the images on page 1) for that type of selection in the square below.

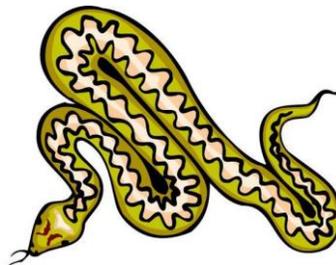
1. Snakes placed on an island where there are two predators that eat snakes. The original population (1980) is plotted.

		Number of Snakes at Each Length				
		2 cm	4cm	6 cm	8 cm	10 cm
Year	1980	2	14	18	12	4
	1984	4	12	8	9	8
	1988	10	6	3	6	14



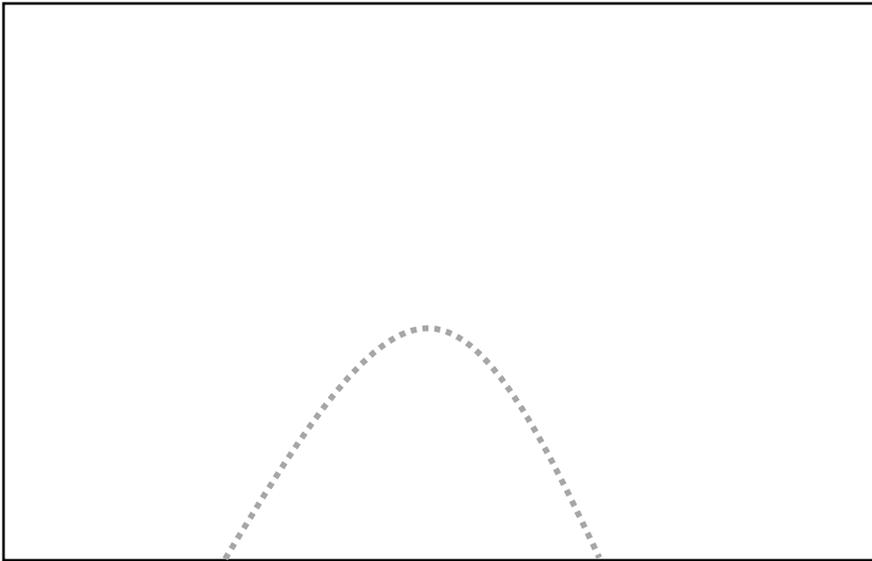
Type of Selection:

Summarize what happened to the snakes.



2. Snakes placed on an island where there is only one size of burrow available to the snakes to live in.

		Number of Snakes at Each Length				
		2 cm	4cm	6 cm	8 cm	10 cm
Year	1980	4	12	16	10	3
	1984	3	10	15	9	3
	1988	1	6	12	5	1

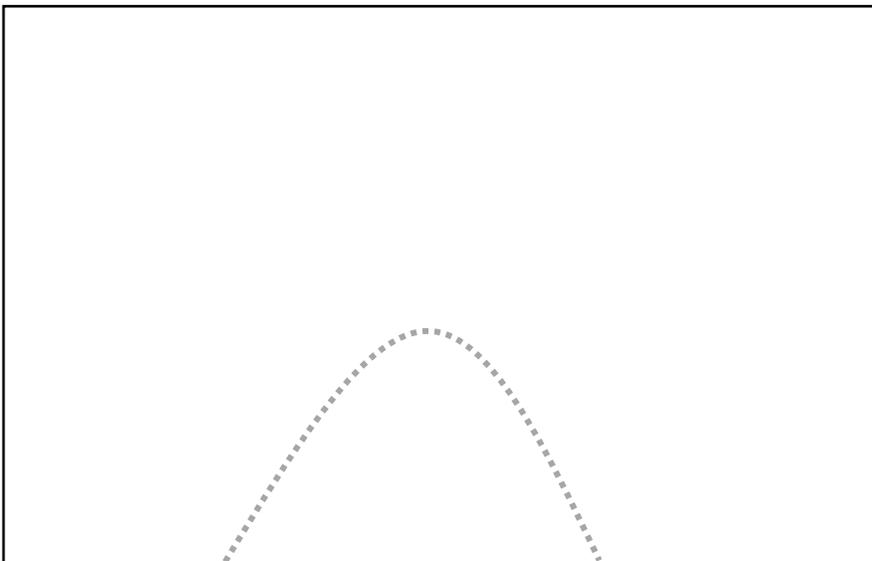


Type of Selection:

Summarize what happened to the snakes.

3. Snakes placed on an island where there is only one predator, a snake eating toad. This toad can only eat snakes under 6 cm long

		Number of Snakes at Each Length				
		2 cm	4cm	6 cm	8 cm	10 cm
Year	1980	4	12	14	8	12
	1984	2	6	9	12	14
	1988	1	2	2	15	18



Type of Selection:

Summarize what happened to the snakes.