

Name: _____

Natural Selection at Work! Option 2

You may access this video on www.biologybynapiet.com, Evolution Unit page, scroll to the link “**Pocket Mouse Evolution**”

Section B: Natural Selection and Adaptation

<http://www.hhmi.org/biointeractive/making-fittest-natural-selection-and-adaptation>

1. Explain how the environment plays a role in changing the frequency of a mutant allele in a population.

Describe the environment of New Mexico’s Valley of Fire.

What is a “constant struggle” in evolution?

Who “selects” (plays a major role on which mice survive) the type of mouse that survives, the mice or the predators? EXPLAIN.

Explain how a 5% advantage can result in a total population change?

How long will it take a 5% advantage to change the population? _____ A 10% advantage?

2. Near the end of the film, Dr. Sean B. Carroll states that “while mutation is random, natural selection is not.” In your own words, explain how this is possible.

What served as proof for this statement?

3. For rock pocket mice, which of the following contributes to selective pressure favoring dark-colored fur? Write “yes” or “no” next to each of the four possible responses. **There may be more than one yes response.**

Predators _____ Genetic mutations _____
Rock color _____ Availability of food for the rock pocket mice _____