

Name: _____

Date: _____ Period: _____

The Pocket Mouse: Evolution on our time scale

Part 1: Pictures

1. View the images of the pocket mouse populations in each location and record the numbers for each color.

Card 1

Location A: Number of mice with light-colored fur _____ Dark-colored fur _____

Location B: Number of mice with light-colored fur _____ Dark-colored fur _____

Card 2

Location A: Number of mice with light-colored fur _____ Dark-colored fur _____

Location B: Number of mice with light-colored fur _____ Dark-colored fur _____

Card 3

Location A: Number of mice with light-colored fur _____ Dark-colored fur _____

Location B: Number of mice with light-colored fur _____ Dark-colored fur _____

Card 4

Location A: Number of mice with light-colored fur _____ Dark-colored fur _____

Location B: Number of mice with light-colored fur _____ Dark-colored fur _____

2. Arrange the cards in what you think is the correct order from the oldest to the most recent and write the order you chose: _____

Part 2: Video & Quiz

Fill in the table with the correct information

Creature	Habitat Information	Adaptation	Advantage	Selective Force

1. What caused the unusual landscape at the Valley of Fire?
 - a. Flooding
 - b. Volcanic eruptions
 - c. Human activities
 - d. Forest fires
2. Predators of the pocket mice hunt using which sense?
 - a. Smell
 - b. Sound
 - c. Vision
 - d. Heat

Name: _____

Date: _____ Period: _____

The Pocket Mouse: Evolution on our time scale

3. Why did dark-colored pocket mice first appear in a population of light-colored pocket mice?
 - a. Individuals change color to blend in with the environment
 - b. There is dark lava rock in the area where they live.
 - c. They have a genetic mutation that affects their fur color.
 - d. Predators eat light-colored pocket mice.
4. Why do dark-colored pocket mice on dark lava flows have white bellies?
 - a. There is no selection for dark bellies by visual predators.
 - b. White bellies protect them from insects found in the desert
 - c. There is a reproductive advantage to having a dark belly.
 - d. White bellies are an important part of camouflage.
5. Mutations are always
 - a. good
 - b. bad
 - c. neutral
 - d. a change in an organism's DNA
6. Dark pocket mice are found in locations far apart that have dark substrate. Genetics revealed what surprising fact about mice in different locations?
 - a. They had different mutations
 - b. They had the same mutations
 - c. They were not related
7. Now that you have watched the video, go back to your set of cards and arrange them in the order you think they happened, starting with the oldest. You may change your order from your original idea. Once you are satisfied with the order, complete the table.

		Sequence of Pictures			
		1st (Oldest)	2nd	3rd	4th (Newest)
Location A	# of dark mice				
	# of light mice				
Location B	# of dark mice				
	# of light mice				

Part 3: Data Analysis + Graphing

- On a separate piece of graph paper, graph the number of both colors of pocket mice at each location.
 - Do a different line graph for each location (keep it on the same piece of graph paper).
1. Explain the differences between the two graphs

Name: _____

Date: _____ Period: _____

The Pocket Mouse: Evolution on our time scale

Part 4: Analysis Questions

1. Describe the adaptation that was at work here.

2. What was the selective force in the environment that determined the favorable trait.

3. What is the main evidence for the fact that the pocket mice have evolved. Look at your notes for this.

Part 5: Discuss how the example of the pocket mouse fits into each stage of natural selection.

Over-reproduction

Genetic Variation

Name: _____

Date: _____ Period: _____

The Pocket Mouse: Evolution on our time scale

Favorable Traits

Successful Reproduction

Natural Selection: Use evidence to support an explanation that behaviors and structures affect the success of organisms.

Highly Proficient (4)	Proficient (3)	Close to Proficient (2)	Developing (1)
<ul style="list-style-type: none"><input type="checkbox"/> The pocket mouse example is explained using all 4 stages of natural selection with evidence and detail.<input type="checkbox"/> all answers have evidence and detail.	<ul style="list-style-type: none"><input type="checkbox"/> student understands the basics of natural selection<input type="checkbox"/> Lab is complete<input type="checkbox"/> analysis questions are complete and most show thought.<input type="checkbox"/> Graph is complete and correct.	<ul style="list-style-type: none"><input type="checkbox"/> Student has some knowledge of natural selection<input type="checkbox"/> Answers need more detail for higher level<input type="checkbox"/> Some information is incorrect<input type="checkbox"/> Work is incomplete<input type="checkbox"/> Graph is attempted.	<ul style="list-style-type: none"><input type="checkbox"/> no understanding is shown<input type="checkbox"/> questions are mostly incomplete.<input type="checkbox"/> Graph is not attempted