



3. Review the activity table handout “Evolution by Natural Selection Explanation Table.” This table can help you summarize the evidence needed for a full explanation for changes in a trait in a population based on the process of natural selection. You can use this table to help you analyze any specific case of natural selection.
4. Watch the rest of the short film *The Making of the Fittest: Natural Selection and Adaptation*. As you watch the video, record evidence you see or hear in the film that supports each condition for natural selection for the change in fur color in some rock pocket mouse populations. Record the evidence in your Evolution by Natural Selection Explanation Table.
5. After watching the video, add more evidence to your table from your memory and the transcript of the video.
6. Read the activity supplement handout “Additional Evidence for an Explanation” and analyze the data and figures in the handout. Use the handout to answer the questions below.

**Data Set 1**

7. Calculate the percentage of tan mice in each population from the data in Table 1.
  - a. Enter your calculations in the last row in Table 1.

**Table 1.** Percentage of tan mice in different populations. (This is the same data as shown in Figure 2 of the activity supplement “Additional Evidence for an Explanation” recorded in a table format.)

Population →	Christmas Pass	Tule Well	Lava (West)	Lava (Mid)	Lava (East)	O’Neill Pass
Soil color	Light	Light	Dark	Dark	Dark	Light
Number of tan mice	6	80	0	0	3	34
Number of dark mice	0	5	7	5	42	43
Total number of mice (tan and dark)						
Percentage of tan mice	____%	____%	____%	____%	____%	____%

- b. Which populations show evidence for variation in fur color? Add the evidence to your Evolution by Natural Selection Explanation Table as needed.
  - c. Describe how the evidence you collected relates to one or more of the major principles of natural selection.



white beaches of Florida and Alabama have light fur. Describe the evidence you would need to collect to support the claim that the differences in color in these populations are due to natural selection.

2. Describe the types of evidence you would need to collect to support the claim that differences in skin color among humans are the result of natural selection.
3. Humans also have an *MC1R* gene, and scientists have discovered that it's one of the genes that determines the type and amount of melanin in a person's skin. If you wanted to study whether skin color, like mouse fur color, has evolved by natural selection, what additional challenges do you imagine in collecting data or designing experiments to explore skin color evolution in humans? Make a list of at least three additional challenges.