Lesson 1: Why Do Individuals Look Different?

Introduction

In this unit, you will have a chance to think why individuals have characteristics, or traits, that are the same or different than others of the same species. You will consider possible explanations for these similarities and differences. As you consider these explanations, you will also look at the relationship between structure (shape) and function.

To help you learn more about these questions, the unit will focus on the question below.

Unit Central Question

What is the best explanation for the similarities and differences we see in individuals within a species – not only for one species, but for every species of plant and animal?

Process and Procedure

1. Write your best ideas about the unit central question in the space below. Leave space to revise your ideas as you learn more in later lessons.
2. As you have new ideas, record them in a different color.

Lesson Focus Question

3. Write the focus question for this lesson in the box below. Then, write your best ideas about the question under the box. Be sure to leave space to revise your answer as you learn more.

Variation Case Studies

4. In your expert group, read and annotate the case study you selected. For your species, record the variation described in the text and ideas about how that variation occurred in some individuals.

	Jaguars	**Mosquitos**	**Geese**
Description of Variation			
Ideas about how the variation occurred	1. 2. 3.	1. 2. 3.	1. 2. 3.

5. In your home group, use your expert group notes to share the story of your species. As others in your home group share, complete the other columns of the chart.

6. In your home group, discuss the similarities and differences between your ideas about the causes of variation in the three species.

Similarities between our ideas about the causes of variation in the three species	**Differences between our ideas about the causes of variation in the three species**

7. Individually, write a paragraph that includes your best ideas about why some individuals have traits that are different from other individuals of the same species.

8. Consider the possible explanations for the cause of variation give to you by your teacher. As you read, decide which explanation is most similar to your ideas.

9. Number each sentence in the paragraph you wrote in step 7. Use the organizer below to determine how well your ideas align with the three possible explanations for variation. To do this, write the sentence number in the box(es) that best match the idea in that sentence. If a sentence fits in more than one box, write the sentence number in both boxes.

Parents	**Genes**
Mutation	**None or do not know**

10. Based on how you placed your numbered sentences in step 9, with which explanation(s) do your current ideas fit best and why? If you placed a lot of sentences in the “none or do not know” box, describe why your ideas are different from the possible explanations. Be prepared to share your thinking with the whole class.

Summarize Ideas

11. Reread your initial response to the lesson focus question. Consider the ideas that you saw in the activities you completed. If you would like to add to or revise your ideas, do so in a different color.