Science
Natural Selection
6th Grade

Standard:	MS-LS4-4 Biological Evolution: Unity and Diversity Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.
Measurable Objective:	By the end of the lesson, the student will be able to explain how variations of genetic traits, or adaptations, affect an organism's probability of survival and reproduction in a specific environment with at least 2 examples for each adaptation.
Materials/ Resources:	- I will be presenting a Google Slides Presentation to my student as I am teaching this lesson. - The student will need their own device with an internet connection. - The student will need a pen or pencil. - During the independent practice, the student will fill out the Identifying Adaptations Worksheet - During the independent practice, the student will browse the PBS Website to find the information needed in order to complete the worksheet. - **Citation**: I used the help of Teachers Pay Teachers to gather ideas and inspiration to create my lesson and worksheets. · YouTube Video · Worksheet
Anticipatory Set:	I will ask the student to tell me different traits he has (eye color, hair color, height, etc.) and compare them to my own traits. This will get him connecting his own self and life to natural selection. I will then explain to him that these traits feed into natural selection, so that he realizes that he is a part of science and this lesson. I will have the student watch this short clip that explains Darwin's Theory of Evolution and how he identified natural selection. https://www.youtube.com/watch?v=vnktXHBvE8s

Input:	I will ask the student what they already know about natural selection.
	- Do you know what natural selection means? - Do you know what inherited traits, or adaptations, are? - Do you know different survival traits different animals have? After we discuss their responses, if any, I will define natural selection. Then I will explain the difference between inherited traits and acquired traits and explain how that feeds into natural selection. I will then give the example of a deer mouse, show a picture of one, and explain how its inherited traits help it be successful within the forest floor. (relate to them that their eye color, hair color, etc. are inherited traits) Definitions: **Inherited traits** are features that are passed from one generation to the next. For example, your eye <u>color</u> is an inherited trait. You inherited your eye color from your parents. **Acquired traits** are traits that individual organisms develop over a lifetime. For example, strong muscles from working out. **Natural Selection** explains how organisms in a population develop traits that allow them to survive and reproduce. Natural selection means that traits that offer an advantage will most likely be passed onto offspring; individuals with those traits have a better chance of surviving. Evolution occurs by natural selection.
I Do Modeling:	I will define each adaptation (structure, process, and behavior). Then I will display a chart that I created showing a picture of an animal and stating the name of the animal, its environment, and one characteristic that fits each type of adaptation for that animal. The animals I chose for this example are an ostrich, grasshopper, and a leopard.
We Do Guided Practice:	Display pictures of different animals (I chose monkey, shark, and lizard) and together, answer the questions listed below. 1. State the animal shown 2. Describe the environment of each animal 3. Explain the features of each animal (structure, process, behavior) - e.g. fins for swimming 4. Link the features of each animal to their successes within their particular environment - e.g. would a dolphin be successful in the trees? Why or why not?

You Do Independent Practice:	On his/her own, using their own device, the student will pick one of these animal groupings, click on the link, and browse through a few of the clips and articles in order to complete the Identifying Adaptations Worksheet. If they need to, they can use other resources to find more information. They must give at least 2 examples for each column (structure, process, and behavior). They will turn in their worksheet to me after finishing. Kangaroos and Wallabies, Songbirds, or Whales and Dolphins

Closure:	Ask the student these questions as a quick review:
	
	• What are the 3 types of adaptations?
	      ○ Structure, process, and behavior
	• What is the difference between inherited traits and acquired traits?
	      ○ Inherited traits are features that are passed from one generation to the next.
	      ○ Acquired traits are traits that individual organisms develop over a lifetime.
	• BONUS - Can you remember any of the 4 main parts that Darwin said when explaining genetic evolution (from the video)?
	      ○ Individuals within a population differ.
	      ○ The differences are, at least in part, passed from parents to offspring.
	      ○ Some individuals are more successful at surviving and reproducing than others.
	      ○ The successful individuals succeed because of variant traits they have inherited and will pass onto their offspring.