

LESSON 12:

CREATURE TRAITS

SUPPLIES

MAIN BIN ZIPLOCK

- Dice (10)

PENCIL BOX

- Pencils
- Markers


FOLDER

- Printer Paper (60 sheets)
- Creature Traits Print Outs (20)

OBJECTIVES

- Students will have a basic understanding of Genetic Physical Traits.
- Create unique creatures based on randomized physical traits.


HOOK

 3-5 min

- How many of you have brown eyes? Blue eyes? Blonde hair? Dark hair? Does anyone have freckles? These are all physical traits!
- Animals have traits as well! These traits are often the first thing that come to mind when we think of an animal. Ask students what physical trait they associate with the following animals:
 - Giraffe
 - Snake
 - Elephant
 - Zebra
 - Penguin
 - Octopus



INTRODUCTION

 1-2 min

In this experiment, students will learn the meaning of physical traits and how they are passed down from relatives by creating their own "creature" artwork.

Physical traits describe what people see when they look at you. Children's physical traits come from their parents. Some traits are from the mom, and some from the dad.

Animals are the same way! Some traits are passed down from both mom and dad. These are typically important traits that help the animals survive.


COLOR FACTOR

Physical traits are the most observable differences between living things in nature.

- The colors you see on different birds, snakes, and other animals are all based on genetics!
- What are some examples of plants or animals that have the most unique colors?



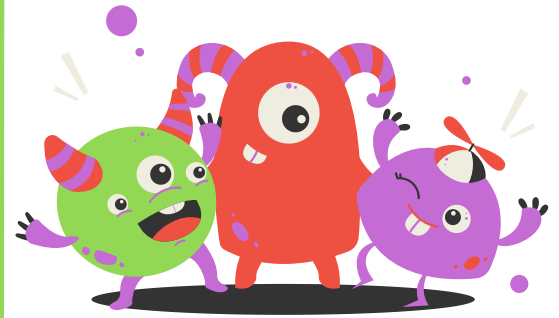
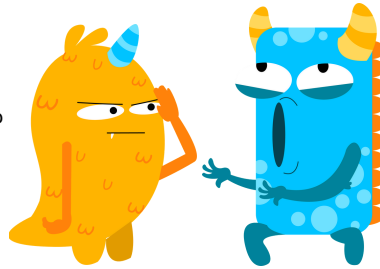
DISCUSSION

 3-5 min

Ask the students if they can think of any animals that have specific physical traits that help them survive. Write down their ideas on the whiteboard:

- Giraffes have long necks to help it grab food in trees.
- The Arctic Fox is white to blend in with the snow and hide from predators.
- Humans are born with fingers to grasp things, and grow teeth to chew food.

Students will list multiple examples, ask them if they notice any patterns in the traits. Are they region specific? Species specific?




Today we are going to be creating our own new species with their own new and unique traits!

Explain the activity to students and then ask:


- Do you think anyone else in the room will create a creature exactly like yours?

ACTIVITY DIRECTIONS

 20-25 min

1. Pass out a blank sheet of paper, a pencil, and a Creature Traits print out to each student. Distribute dice and markers across the tables.
2. For each creature trait, the students will roll a die. The number will determine which trait their creature has. Make sure they write down their result on their sheet.
 - Younger students may need help. If needed, you can allow students to use first five rows of creature traits.
3. After students have filled out their entire sheet, they can start drawing their creature. Their creature should have every trait from their sheet– they cannot change the traits!
 - Instruct students to refrain from adding a background at this time, so that the attention is solely on the character traits.
4. Tell students to think about following questions about their creature: Why might a creature develop these traits– how would these traits help them survive? What kind of climate would they live in? What kind of food would they eat? Are they a predator or are they prey?
5. Students can then come up with a name for the new species!
6. Once students have created their creature, ask them to compare creatures. Does anyone's creature have the same traits? Does anyone's creature look the same?

OBSERVE & EXPLAIN

 5 min

Some traits come from mom. Some traits come from dad. Some traits skip a generation and they can come from your grandparents! Humans really have no way of knowing what physical traits a baby will have until they are born.

Biology studies the many factors that take place in nature to determine the traits that species are born with. Over time the strengths and weaknesses of a species become more predictable and nature naturally selects the most advantageous traits for survival.

EXTENSION

If there is extra time, you can expand the experiment in any of the following ways:

- Have students draw what they think their creature's parents look like.
- Add a backstory to the creature and draw its environment.
- Allow students to add their own variables to the "Traits Chart."
- Try the activity multiple times and compare/contrast the creatures created.
- Design a new creature by choosing traits from the "Traits Chart" instead of rolling dice.
 - How does this creature look different than the one they rolled for? Explain that, in nature, we don't get to pick our traits, so we have to adapt to our environment. Ask students how their original creature might have to adapt differently than the creature they intentionally designed.

PHYSICAL TRAIT EXAMPLES

Here are some examples of Physical Traits!

- | | |
|------------|-----------|
| • Hooves | • Horns |
| • Fur | • Pouches |
| • Gills | • Tails |
| • Fins | • Scales |
| • Feathers | • Fangs |
| • Paws | • Wings |



Exit Ticket



Ask each student the following question as they walk out the door.

- Q: Give an example of a physical trait that your favorite animal has!



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TRAITS CHART

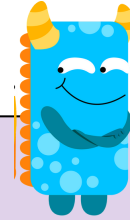


Physical Trait	If You Roll...	What Did You Roll?
Head Shape		
Covering		
Mouth		
Body Shape		
Pattern		
Eyes	<p>Whatever number you roll is the number of eyes your creature has!</p>	
Arms & Legs	<p>Whatever number you roll is the number of arms/legs your creature has!</p>	

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TRAITS CHART



Physical Trait	If You Roll...	What Did You Roll?
Other Traits	<p>Roll a number, then pick that many traits from the following list (ex. if you roll a 5, pick any five traits)</p>	