

The Mystery Fossil: Scene 1

Mr. Williams took his class on a scavenger hunt to investigate organisms that live on the school grounds. The students have been learning how organisms lived long ago. As the students observed the different plants, insects and small animals, Sharika picked up a rock and threw it at Bobby. Bobby ran to Mr. Williams carrying the rock. Mr. Williams looked at the rock and was amazed by what he saw. The students looked at the rock in a silent way.

“Students! Students!” Mr. Williams called frantically.

“What’s up!” Sharika called out.

“Tell all the students to come over here quickly!” exclaimed Mr. Williams.

Sharika yelled to the students, “Come on yall, you heard Mr. Williams. He need to holla at ya.”

As the students walked quickly over to Mr. Williams in a rapping movement, Bobby stated, “This species don’t look like any organism I have seen.”

“No it doesn’t!” Mr. Williams continued. “Fossil evidence shows that living things have changed just like the planet.”

“Wow! That’s whack!” screamed Sharika. “Mr. Williams, what cause species to change?” Sharika asked.

D’Shawn who had been listening quietly interrupted by saying, “Mr. Williams, some animals have vestigial structures.”

“What?” “Shut up!” “Veggies don’t have anything to do with why people change.” exclaimed Sharika.

Mr. Williams responded by telling the students that all of the information shared today is connected. He stated, “I have two tasks for you to complete.” In the first task, I need you to work in groups of four and complete the following: You will complete a lab using the scientific method by analyzing, forming a hypothesis to investigate this footprint. Students, I need you to compare and contrast your footprint to the mystery footprint. Finally, you will write a lab report. When we return to class, detail procedures will be given to you. For task two, you will choose an animal that is a native of Georgia and create a timeline that shows how an animal has changed over time through evolution. Use the sample as a guide to help design your timeline.”

The Mystery Fossil: Scene 2

The students were excited about finding the fossil at their school. Students wanted to learn more about fossils and how it applies to the theory of evolution. They knew that all organisms have changed over time. Mr. Williams decided to have a scientist stop by and show the students a group of animals of the same species that were slightly different.

“Students, today I have a very special guest for you. Dr. Brown is from Emory University. He grew up right here in the Glenwood/Candler Road area.” Mr. Williams said.

“What? You from tha hood?” asked Sharika.

“Yes I am”. replied Dr. Brown. “Also, I attended Columbia Middle and graduated from Columbia High.”

The room was so so quiet, you could not hear a pin drop. Dr. Brown had the students on the edges of their seats.

He continued, “Mr. Williams was my science teacher and motivated me to go off to college and study evolution.” I have a few of my animal friends for you to compare similarities.”

“You mean their traits?” D’Shawn said in excitement.

“No, dummy, he means how they look.” Sharika interrupted.

Mr. Williams stepped in and said, “Now, Now, let be nice to one another.

Dr. Brown told the students how some of the animals have been selectively produced base on their traits and that they have learned to adapt to their habitat.

“Something is wrong with that bird leg. There is a bird in South Dekalb Mall parking lot that has the same thing on his leg. He looks similar to your bird.” yelled D’Shawn.

“Show ya right.” Leroy agreed. “Well, this bird is from the Island of Ecuador off the coast of Costa Rica. Can anyone locate that Island on the Map?” Dr. Brown asked.

Leroy raised his hand slowly and pointed to the Island on the map.

“You are always quiet. How do you know that?” yelled Sharika.

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Eleanor Lovelace & Vijay A. Mittal

Dr. Brown interrupted by saying, “My bird genes are mutated. The bird you saw at South Dekalb Mall may have favorable adaptations. Can you think of a group of species that were discovered on the Gala’pagos Islands that had very similar, yet not identical, to the animals and plants on a nearby South American mainland? Also, can you think of the scientists that made the discovery?”

“Dr. Brown, it sounds like although these birds are similar, at some point they were isolated.” remarked D’Shawn.

“I wish I can isolate you D’Shawn.” mumbled Sharika.

“Yes D’Shawn. Because they were isolated, the two populations changed over many generations in response to their environment.” Dr. Brown responded.

“I see what you mean Dr. Brown. Sharika’s bad attitude is another example of how she has been isolated from the rest of us who have an excellent attitude. This is an adaptation she has because of her environment.” exclaimed D’Shawn.

“Oh D’Shawn, you know Sharika is just mean and treats everybody this way even her sisters and brothers.” Leroy added.

“OK class! I think you have learned a great deal today. Let’s thank Dr. Brown for coming by and making evolution come alive for us.” said Mr. Williams.

“Thank you Dr. Brown.” yelled the class.

“I will never forget this experience, D’Shawn” added.

The Mystery Fossil: Assignment

Choose three (3) animals that exist today. Using what you know about natural selection and evolution, hypothesize as to what these animals may evolve into after 100,000 years. Create a poster that identifies the animal today and the future animal. You must include for each animal:

1. The name of the new animal (give a scientific name and a common name)
2. The changes in this animal that have occurred over time
3. The factors that led to each change in the animal
4. The habitat of the new animal

Have fun and be creative! Use illustrations, known scientific facts, and your imaginations. Be sure to think about what physical characteristics might change over time in response to environmental or other pressures. An animal might change habitats, physical features, life cycles, food sources, etc.

Case: _____

Box Chart

| | |
|--|---|
| <p style="text-align: center;">Facts</p> <p style="text-align: center;">What did you read?</p> | <p style="text-align: center;">Pre-Hypothesis</p> <p style="text-align: center;">Ideas from questions to solve the case If (fact) ... then Or I think that ...</p> |
| <p style="text-align: center;">Learning Issues</p> <p>Questions to answer through research of what's needed to solve the case.</p> <ul style="list-style-type: none">• Research questions that were not answered in the pre-hypothesis. <p>New questions that surfaced during research.</p> | <p style="text-align: center;">Action Task</p> <p style="text-align: center;">Where will you find the information for the learning issues Lab, experts, products, etc...</p> |

Case: _____

Box Chart

| | |
|--|--|
| <p>Facts What did you read?</p> | <p>Pre-Hypothesis If (fact) ... then or I think that ...</p> |
| <p>Learning Issues What I need to know to solve ...</p> | <p>Action Task Where will I find the information for my learning issues</p> |

The Mystery Fossil: Evaluation

Date: _____

Your Name: _____ Group #: _____

Instructions: Please circle the response with which you agree the most. This evaluation will only be read by your teacher and will **not** be shown to other students.

1. How would you rate *your* participation in group discussion and group work?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

2. How would you rate *your* effort in completing the case?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

3. Did *you* complete the assigned homework? **Yes** **No**

If No, explain why:

4. How well did *you* work with everyone in your group?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

5. Overall, how would you rate *your* performance in this case?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

6. What praise or criticism do you have for other group members? What are your thoughts about the case?
