

Lesson 12. What Did We Figure Out?

Students wrap up the unit by revisiting their journey through the sequence of activities and ideas they experienced. In small groups, they discuss what they did and what they figured out in each lesson. They assign stars to key lessons or activities that gave them a deeper understanding of how plant and animal populations change over time. Individually, each student selects a “highlight” lesson that stood out for them in some way and creates a sticky note showing what they liked. Students post their “highlight” stickies on a classroom Natural Selection Journey Line. In an all-class discussion, students share their responses to the curriculum, including the impact of particular lessons as well as the unit as a whole.

Students wrap up the lesson by bringing what they learned back to their everyday lives. Where do they think natural selection is happening nowadays?

Learning Targets in this Lesson

- Natural selection is an ongoing process – the process that explains change from many, many years ago to nowadays also explains changes that will occur from the present to the future.

Sequence of Experiences		
1. Introduction	 All class	 5 Minutes
2. Natural Selection Journey Line	 Small groups	 20 Minutes
3. Discussion and Wrap Up	 All class	 20 Minutes

Materials

For the class

Slide deck for this lesson

Natural selection journey poster

- The poster is separated into several pieces of paper, which you’ll post together – you’ll find instructions on how to do this in your crate!

For each student

Notebook pages 28-30

Sticky note

Preparation

- Post the natural selection journey line somewhere students can see and reach. Students will post their “Highlight” stickies on the Journey Line.

The Lesson

1. Introduction



Explain that today's lesson wraps up the unit. The investigation question is,

- *What did we figure out?*

Project the image of the Natural Selection Journey Line.

Remind students that in Lesson 1 each group looked at a population of animals whose traits had changed over many, many generations. They wrote their initial ideas about how this happened in their notebooks. In the lessons that followed, they figured out answers to a set of investigation questions leading to a deeper understanding of the process of natural selection. Explain that today they will review their journey through the 11 lessons, remembering what stood out for them and what they figured out in each lesson. At the end of the class, they'll share their ideas about what they particularly liked, what they did, and what they learned.

Then, to wrap up the lesson, students will apply what they learned to their everyday life.

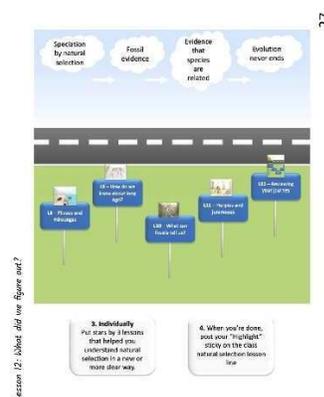
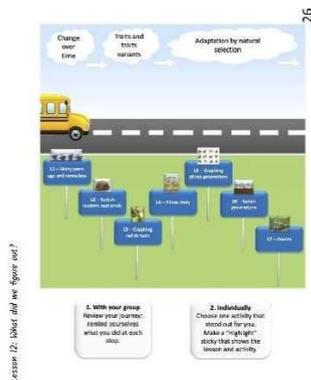
2. Natural Selection Journey Line



To each group, hand out

- 1 sticky per person and other materials to work with (e.g., pencils, markers)

Ask students to turn to pp. 28 and 29 in their notebooks. If they turn the notebook 90 degrees, they will be able to view the entire "What Was Your Journey" graphic.



Review the "What Was Your Journey" instructions:

Step 1: In groups, students take 10 or 15 minutes to go over the journey together, taking a minute or 2 (with notebooks open) to remember each lesson: what did the students do and what did they learn?

Hint: The ideas are listed on the Classroom Takeaways Chart.

Step 2. Each person in the group identifies a “Highlight” activity: one that stood out for them in some way. They use drawings and/or words to create a “Highlight” sticky that shows the lesson and the activity. Discussion is encouraged!

Step 3. Each student assigns a star to 3 lessons that helped them understand natural selection in a new or more clear way.

Step 4. Students post their “Highlight” sticky notes below the appropriate lesson on the classroom school bus route chart.

Step 5. Have students turn to pg. 30 and rate how much they enjoyed the Evolving Minds Unit.

Tell students they will have about 20 minutes for this activity.

3. Discussion and Wrap Up

 All class  20 Minutes

Finally, gather the class in a group for a discussion.

Ask volunteers to explain what they liked about their “highlight” lesson.

Then, following the journey on the classroom chart, ask students to raise a hand if they assigned a star to this lesson. For lessons/activities that earned many stars, ask for a volunteer to describe the impact of the lesson, the reason that lessons was worthy of a star! Encourage others to add on to what they heard.

Listen for the ideas on the classroom Takeaways Chart.

To wrap up the lesson, bring the discussion back to the students’ everyday lives. Ask students to turn and talk to a neighbor about the following questions:

- *Natural selection is still happening all around us in the world today. Do you think that in the future, plant and animal species will look the same as they do today? Why? How would that happen?*

- *In the future do you think there will be new species – groups of plants or animals that don't even exist now? Why? How would that happen?*

Bring the discussion to the whole class. Don't hurry the conversation— encourage students to respond to and build on others' ideas.

Optional follow-up questions:

- Can you imagine an environmental change that could cause a group of living things to change over many generations?
- Can you imagine a big environmental change that could cause a group of animals to get separated from the others?
- Do you think natural selection applies to all living things?

Listen for these ideas:

- I see variation in populations around me—trees, dogs, etc.
- The environment seems to be changing—the planet is getting warmer; there's a drought; the sea level is rising, etc.
- Plants or animals with beneficial trait variants will survive and reproduce, and the ones with less beneficial trait variants will die out.
- Evolution is happening now because there is trait variation in populations all around and the environment is always changing.
- Natural selection applies to all living things.

Here is a last idea that I will add to the “takeaways” chart:

Evolution is an ongoing process. Natural selection is happening today.

If possible, keep the Natural Selection School Bus Journey on display for a time to remind students of all that they learned in this unit and to motivate their continued thinking about the process of natural selection.