

Adaptations and Preparations – how Vermont animals prepare, adapt or behave for the cold of winter
Grade 1: Migration

Description

Students gather information to learn how some animals prepare, adapt or behave in order to help them survive in their habitats. Specifically, students will focus on the seasonal migration of Canada geese. Students then illustrate and make a plan for their own winter migration. Students will present their drawings and explain the reason for their migration.

Lesson

- Read “Woolly Bear Winter: How North Woods Creatures Weather the Cold” as a hook for the lesson.
- Students gather information to learn about the migration of bird species as they prepare for the winter.
- Students identify some species which live in Vermont.
- Have students look at photos of the Canada geese where they live in Vermont during the summer and in a southern area in the winter. Students should observe the similarities and differences that they see between the locations.
 - >Students can access information through books from their library / learning center or via on-line resources.
 - >Help students search for, and organize, content with graphic organizers or simple worksheets.
- Ask students to explain why they think the Canada goose migrates in the winter and how that helps them to survive in their particular environment.
- Extension: students hypothesize what would happen if a Canada goose were unable to migrate for the winter.
- Extension: students collect data on when Canada geese migrate from Vermont to the south; when they return to Vermont.
- Ask students what they know about other Vermont animals as they might prepare for winter. Read the story “Woolly Bear Winter” to make connections between what they have learned in this lesson and a greater context of how different animals that live in the same environment prepare for the cold.
- Have students consider an environment or setting that they would want to migrate to for the winter. Have them design and illustrate a map that would help them find their way to their chosen setting.
- Students will present their drawings and explain why they chose the location for their migration.
- Students can group based on common traits and see other places

that they might also be able to migrate to with their friends.

Performance Expectations

1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).

Tips for Including the Performance Expectation

In this lesson students are describing how some bird species migrate in the winter in order to survive. These birds need warmer climates with better sources of food in order to survive in their particular environment. In this way, this lesson describes an interdependent relationship between some northern animals and their seasonal environment. To go deeper with this Performance Expectation, students could describe the consequences of keeping the bird in the cold environment for the duration of winter.

Science and Engineering Practices

Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

- Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)

Connections to Nature of Science

Science Knowledge Is Based on Empirical Evidence

Scientists look for patterns and order when making observations about the world.
(1-LS1-2)

Tips for Including the Science and Engineering Practice

To connect with Science and Engineering Practice, students must complete the last part of the lesson in which they are asked to illustrate their own migratory path. Students will present their drawings and explain why they selected this location. This allows connections to be made between information learned, application of individualized creative design, and communication of learned concepts through verbal presentations and graphic illustration.

Disciplinary Core Ideas

LS1.B: Growth and Development of Organisms

Adult plants and animals can have young. In many kinds of animals,

parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)

Tips for Including the Disciplinary Core Idea

Teachers need to emphasize the idea that migration is a behavioral adaptation that helps an animal to survive. Their physical environment has many factors that can aid in or reduce the ability to survive.

Crosscutting Concepts

Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)

Tips for Including the Crosscutting Concept

Be sure to follow the migration extension to hit this crosscutting concept. Migration can be seen as a pattern. When do Canada geese migrate south from Vermont? When do they migrate back north? Students can engage in data collection and see patterns of behavior in animals.

Common Core State Standard Connections

ELA/Literacy

RI.1.1 - Ask and answer questions about key details in a text. (1-LS1-2)

RI.1.10 - With prompting and support, read informational texts appropriately complex for grade 1. (1-LS1-2)

RI.1.2 - Identify the main topic and retell key details of a text. (1-LS1-2)

Assessment:

General assessment of the intended goals of the lesson is easily achieved through monitoring students' discussion, their answers to guided questions, and their final drawings and explanations. It is also quite easy to revisit portions of the lesson in order to strengthen student understanding.

Note: This lesson format originally appeared in the NGSS@NSTA website titled "Cats and Their Coats" with free access. To view this resource in it's entirety and without changes visit:

<http://ngss.nsta.org/Resource.aspx?ResourceID=121>