

HOW DO SEASONAL CHANGES AFFECT PLANTS AND ANIMALS?

BIG IDEA 17: INTERDEPENDENCE

BENCHMARKS AND TASK ANALYSES

SC.3.L.17.1 Describe how animals and plants respond to changing seasons.

The student:

- observes, records, and describes how animals and plants change during different seasons.

SC.3.N.1.1 Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

- poses and investigates questions individually and collaboratively through free exploration and systematic investigations.
- draws conclusions based on the results of the explorations.

SC.3.N.1.2 Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.

The student:

- works in a group using the same tools as other groups to gather common data.
- compares groups' data and explains differences.

SC.3.N.1.3 Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted.

- records in a science notebook, pictorial or written information or simple charts and graphs of investigations conducted.

KEY QUESTION

How are plants and animals affected by the changing seasons?

TEACHER BACKGROUND INFORMATION

Between the poles and the equator, temperatures may vary greatly from one season to the next. During winter, the weather is generally cold and often snowy. Some animals hibernate, or sleep for a long time. Many birds have moved to warmer places. Some plants die, and others stop growing.

When spring arrives temperatures become warmer. Plants and trees produce new leaves and flowers.

Birds return from their winter homes, and animals come out of hibernation.

During the summer, temperatures reach their highest levels. There are more hours of daylight, and the sun is more intense. This extra sunshine helps plants grow.

Temperatures fall again as autumn begins. Some trees and plants lose their leaves. Animals with fur grow thicker coats to keep them warm during the coming winter. Many birds travel to warmer places.

MATERIALS

Teacher

The Year at Maple Hill Farm, Alice and Martin Provensen

Per group

binoculars

Per Student

science notebook
hand lens



SAFETY

Remind students to follow OCPS science safety guidelines.

TEACHING TIPS

Suggested activities will require monthly observations and data recording in science notebooks. Select an outside area that can be accessed year round.

ENGAGE

1. Display pictures of trees in each season. Ask students: *What differences do you observe in these pictures?*
2. Have students record responses on a double bubble map, comparing and contrasting the attributes of each tree.
3. Ask: *What other living things experience seasonal changes? (animals)*
What are some changes that animals experience through the seasons? (thickening of hair/shedding/molting, color changes, hibernation, migration, slower movements)

EXPLORE Part 1

1. Discuss with students that they will be going outside to observe plants and animals in 3 different areas. Explain that this will be an ongoing activity with monthly observations.
2. Divide the class into groups. Distribute materials to each group.
3. Have students gather materials, including science notebooks and pencils for recording observations.
4. Take students out to designated area. Students will select 3 different areas to observe and record findings in their science notebooks.

EXPLAIN Part 1

1. Ask:
What areas did your group observe?
What observations did your group make about each area?
What similarities and differences were observed between your areas?
What changes do you think you will see next month in your areas?
2. Have students record their predictions in their science notebooks.

EXPLORE Part 2

1. Review and discuss the predictions made in the science notebooks.
2. Repeat Explore Part 1 procedures monthly.

EXPLAIN Part 2

1. Ask:
How were your observations similar or different from your predictions?
Why do you believe they were different?
2. Again, have students record their predictions for next month, in their science notebooks.

EXTEND AND APPLY

Put in a bird feeder and monitor the migratory patterns of birds.

ASSESSMENT

Have students create and complete a seasonal circle map in their science notebooks.



