

Learning Trail

ECOLOGY AND INDIGENOUS VIEWS

CURRICULUM

Grade 7 Science
Understanding Life Systems:
Interactions in the Environment

Overall Expectations addressed:

1. Assessing the impacts of human activities and technologies on the environment
2. Investigate interactions within the environment
3. Demonstrate an understanding of interactions between and among biotic and abiotic elements in the environment

LEARNING GOALS

- Students will identify biotic and abiotic elements they find in various ecosystems
- Students will investigate how organisms and elements interact with each other
- Students will use an Indigenous lens to investigate, evaluate, and ask questions
- Students will consider human affects on ecosystems and species

SAFETY CONSIDERATIONS

- Always stay with at least one other person
- No wondering outside of the area on the map
- Stay away from roads
- Watch for poison ivy
- When off the trail, look where you step
- Do not go in the pond or walk on frozen pond unless teacher says it's safe
- Wear appropriate gear for the weather
- Use caution when walking in parking lot

STOP 1: GARDEN

East: Vision, "See it", awareness

1. What living organisms do you see in the garden?
2. What non-living elements do you see?
3. How do the living and non-living elements interact or relate to each other?

Sketch something you observe. Why did you choose to sketch this?

Ask a question about something you wonder.

STOP 2: PARKING LOT

South: Time, "Related to it", understand

1. How do you think human intervention has affected plants, animals, etc.?
2. How do you think this parking lot, the cars, and the people will affect this ecosystem in the future?
3. Take a minute to reflect. How do you feel about humans taking over ecosystems for their own purposes?

Sketch something you observe. Why did you choose to sketch this?

Ask a question about something you wonder.



STOP 3: TREES

West: Reason, "Figure it out", knowledge

1. What signs of nature do you see/hear/smell/feel?
2. Some of the plants along the trail are invasive species. Form a hypothesis on how this affects native species.
3. Predict what you believe will happen if the invasive species continue to thrive.

Sketch something you observe. Why did you choose to sketch this?

Ask a question about something you wonder

STOP 4: POND/WETLAND

North: Movement, "Do it", wisdom

1. What types of organisms do you see? Look for plants, insects, birds, etc.
2. In western science, water is considered an abiotic (non-living) element, but Indigenous knowledge says that water is living. Which do you agree with? Can both be true? Justify your answer.

Sketch something you observe. Why did you choose to sketch this?

Ask a question about something you wonder

LAST STOP: FORESTED AREA

Story from an Elder

- An Elder will share a traditional story about the creation of Turtle Island
- This is a time to practice listening skills: Save questions until the end, be respectful, look attentive
- Reflect on what the meaning of this story is, how it affects you and others, and what it may have meant to Indigenous people in the past

Class Discussion (see questions below)

QUESTIONS TO CONSIDER

1. Scientists often collect specimens (such as snails, insects, plants, marine invertebrates, etc.) for research purposes. Indigenous protocol typically says to only take what is necessary for survival and when something is taken, to always give something back. When might these conflicting views cause issues? What is a reasonable solution?
2. Why did we choose to sketch today, rather than collect items?
3. How did the investigated areas compare in terms of wildlife present? Why might they be different?
4. How might the story the Elder shared affect how people view the world?
5. Can science and Indigenous knowledge be used together? How?

Assessment

CURRICULUM AND RUBRIC

Curriculum Specifics:

1. Relating Science and Technology to Society and the Environment

1.1 Assess the impact of selected technologies on the environment

2. Developing Investigation and Communication Skills

2.1 Follow established safety procedures for investigating ecosystems

2.4 Use appropriate science and technology vocabulary

2.5 Use a variety of forms to communicate with different audiences and for a variety of purposes

3. Understanding Basic Concepts

3.1 Demonstrate an understanding of an ecosystem as a system of interactions between living organisms and their environment

3.2 Identify biotic and abiotic elements in an ecosystem and describe the interactions between them

3.9 Describe Aboriginal perspectives on sustainability and describe ways in which they can be used in habitat and wildlife management

To what extent has the student...	Level 1-4	Teacher Comments
Approached the task with an inquisitive mind by asking questions, making predictions, etc.?		
Expressed thought and reasoning to form conclusions about topics and questions discussed in written or oral form?		
Executed the task in a safe manner, considering the safety of themselves and others?		
Used clear, concise writing to explain their thinking?		
Created sketches of items or scenery that relate to the tasks?		
Considered Indigenous perspectives while reflecting on the topics?		