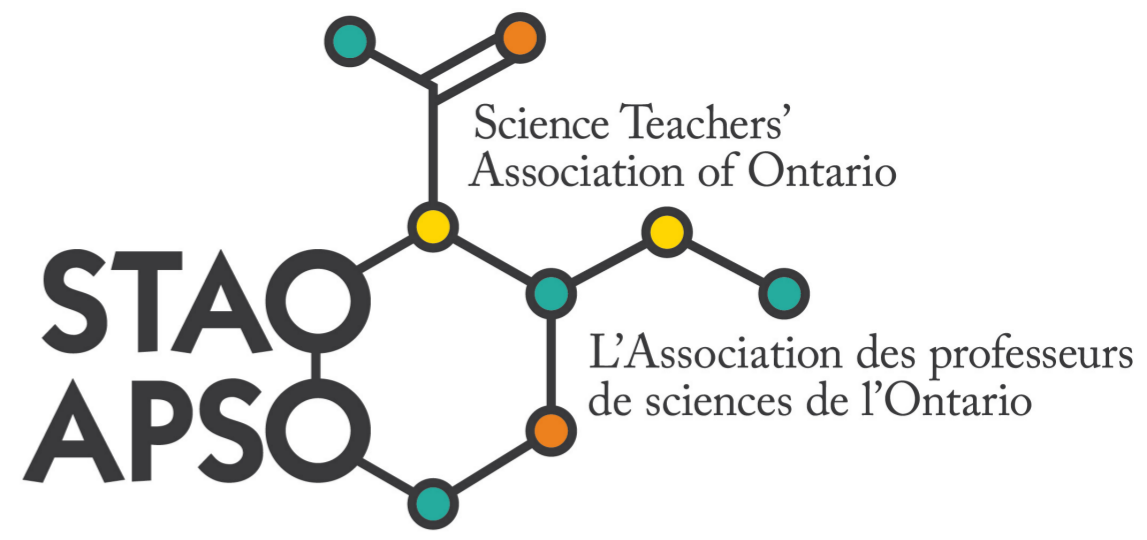




FNMIEAO

First Nations, Métis & Inuit Education Association of Ontario

in collaboration with



Indigenous Knowledge & Science

This resource will provide tips and strategies on how to avoid essentialization (treating all Indigenous Peoples and their knowledge as the same) and appropriation, followed by examples of how to bring Indigenous Knowledge into the Science curriculum in an authentic and respectful way.

Resource includes:

- Guidelines & considerations for engaging with Indigenous Knowledge
- Terminology
- Contributions by Indigenous Peoples
- Explorations into Science through inquiry

Sample explorations & activities



Our Relationship with Mother Earth From Rights to Responsibilities

"The Earth does not need us to survive. We need the Earth and each other to survive. Respect is how we conduct ourselves to make the world a better place. We should be encouraged to listen to our hearts. We need to trust our feelings. Too often we live in our minds which creates fear and anxiety. We no longer trust in that we will always be looked after by Mother Earth, that she provides us everything that we need. We must also show our love to Mother Earth through gratitude, giving thanks to creation and to acknowledge all things that came before us."

—Nancy Rowe, Mississaugas of New Credit First Nation

Sustainability & Reciprocity Lessons in Balance & Respect

"There is a great relationship between the sun, the water, the earth, everything just loves each other. The plants are apart of that too. This whole planet is like that. It is because of love that things are able to grow and survive. Love is the strongest medicine that there is. Water is always flowing and is constantly giving all the time. It never takes anything, it just gives and gives, always providing life wherever it goes. Mother Earth provides us with shelter, food, warmth, with everything that we need to survive, and She does this unconditionally. She just keeps giving and giving to her little children, despite everything we have done to Mother Earth. Just imagine if we were to give that love back to Her, how this world would be. Everything would be beautiful if we did that. Maybe we just have to look at what we are given so that we will know what we need to give back. Love is not about what you get, but what you give."

—Isaac Murdoch, Serpent River First Nation

INQUIRY QUESTION:

In order to live in a responsible and sustainable way, why is it important for us to know about the many different relationships that exist between plants and other living things including us?

Guiding Questions:

- How can Indigenous Knowledge help us?
- How can Science and Indigenous Knowledge work together to better our understanding?
- What can we learn from the natural environment about relationships?
- What is our relationship with plants?
- How can we improve our relationship with plants?

INQUIRY QUESTION:

How do our beliefs and values influence our relationship with the land?

Guiding Questions:

- Where do our beliefs and values come from?
- What are the consequences of resource extraction?
- Who benefits from resource extraction?
- What conflicts arise of opposing views on land use?
- What can we learn from the natural environment about relationships?
- How can we improve our relationship with the land?

EXPLORATION TWO:
How Do Our Beliefs & Values Influence Our Interaction With the Earth?

TEACHER LEARNING GOALS: By the end of this exploration, students will be able to compare and contrast different belief and value systems and how they influence our interactions with the Earth. Students will also be able to demonstrate why having a responsible and respectful relationship to the Earth leads to a sustainable future.

"Humans are a part of the natural cycle and have interconnectedness to everything including rocks. Rocks are alive, bring teachings, and are a respected member of our ecosystem. Our relations with Rock is that we treat it in the same way we would treat any other relative, human or non-human."
Nancy Rowe, Mississaugas of New Credit First Nation

MINDS ON

1. Have students come with answers for the following:
The Earth is important because...

Keep this list posted somewhere in the class so that you can revisit this throughout the activities and when consolidating new learning.

ACTION

ACTIVITY ONE: Indigenous Views on Land
Have students identify some of the characteristics or criteria for a responsibilities-based approach to using the land by reading the passage below on Inabakogwin and watching the video on the harvesting of wild rice. (examples may include: not taking too much, making sure harvesting techniques are not harmful to the environment, people should consider their impacts of their actions first, etc.)

Science and Technology Curriculum Expectation Connections:

GRADE 4

Understanding Life Systems:

- 1. analyse the effects of human activities on habitats and communities;

Understanding Earth and Space Systems:

- 1. assess the social and environmental impacts of processes used to make everyday products;

GRADE 5

Understanding Life Systems:

- analyse the impact of human activities and technological innovations on human health;

Understanding Matter and Energy:

- evaluate the social and environmental impacts of processes used to make everyday products;

Understanding Earth and Space Systems:

- analyse the immediate and long-term effects of energy and resource use on society and the environment, and evaluate options for conserving energy and resources;

GRADE 6

Understanding Life Systems:

- analyse human impacts on biodiversity, and identify ways of preserving biodiversity;
- investigate the characteristics of living things, and classify diverse organisms according to specific characteristics;
- demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans.

GRADE 7

Understanding Life Systems:

- assess the impacts of human activities and technologies on the environment, and evaluate ways of controlling these impacts;

Understanding Interactions within the Environment, and Identify Factors that Affect the Balance between Different Components of an Ecosystem:

- demonstrate an understanding of interactions between and among biotic and abiotic elements in the environment;

Understanding Matter and Energy:

- evaluate the social and environmental impacts of the use and disposal of pure substances and mixtures.