

## **Grade 1 Science: Introduction**

### **Tips for presenting and assessing Grade 1 Science unit: *Seasons*, using First Nation, Metis and Inuit pedagogy**

"Two-Eyed Seeing" refers to learning to see from one eye with the strengths of Indigenous ways of knowing and from the other eye with the strengths of Western ways of knowing and to using both of these eyes together.

(Mikm'aw Elder, Albert Marshall)

Indigenized Instructional Practices are:

- Holistic
- Collaborative
- Relational

The four pillars of Indigenous Ways of Knowing:

- Storytelling
- Land Based Learning
- Leadership/Language
- Healing

*(Elder, Consultant and Educator Donna Ross-Donna is Cree-Métis from Saskatchewan and member of the One Arrow First Nation, Treaty Six territory.)*

Teacher Notes

## Instructional Design:

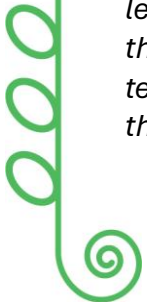
When approaching the specific [Teacher Quality Standards](#) regarding First Nations, Métis and Inuit learning, Alberta teachers are often perplexed as to their level of competency within these areas. It is important for teachers to consider both their pedagogical approach to learning as well as the content and resources being utilized to fully meet the standards. The following series of tasks utilizes a student-centered pedagogical approach along with authentic Indigenous created content to uncover the General Learner Outcomes from the Grade 1 Science Program of Studies and to satisfy the Teacher Quality Standards as set out by Alberta Education.

To fully honor the Indigenized Instructional Practices and the four pillars of Indigenous Ways of Knowing as shown above, this unit of study provides foundational knowledge for teachers and students to begin the process of building a relationship with a local plant relative, the land, and ideally, a local Elder or Knowledge Holder. To create a resource that focuses on one Indigenous communities' culture, language, knowledge and history would not truly reflect the rich diversity of Indigenous Peoples within Alberta. Therefore, multiple groups of Indigenous peoples are represented in this resource that share a common worldview. It is critical for teachers to understand the value of creating relationships with local Indigenous culture, language, knowledge and history. For example, the concept of "Learning from Place" allows us to recognize that one community of Indigenous peoples might have a use of a strawberry plant that differs from another community. It honors the local peoples to know the difference.

"Indigenized" thinking tasks are designed utilizing instructional routines that challenge the traditional power dynamic in a classroom. Students will actively navigate their learning by participating in thinking tasks to generate meaning in an independent and collective manner while teachers are actively listening and observing student knowledge. There is a noticeable shift from "learning about" to "learning from". Students and teachers have the opportunity to focus on learning from the land, and Elder, a picture, or a peer.

### *Learning Maps*

*These thinking tasks are designed to be highly inclusive. They follow a UDL (Universal Design for Learning) approach to learning. Possible levels of student achievement within the Grade 1 Science General Learner Outcomes are addressed with the **Learning Map** and then supported with student-led\*\* and Building Thinking Classrooms\*\*\*style instructional routines. A teacher should consider their classroom population when observing the learning map prior to the task to ensure it represents the community of students within their classroom.*



*Both teachers and students have an ongoing opportunity to assess, reflect and report upon the learner outcomes by referring to the Learning Map provided throughout the learning and assessment cycle.*

*The teacher's role is to ask questions, listen to and observe the learning taking place while students participate in the learning tasks. The teacher can be responsive to the learning that is generated after the learning has taken place during consolidation/sharing times.*

*This pedagogical approach benefits all students by allowing opportunities for students to think critically and use metacognition to deepen learning. Students will develop skills that lead to agency over their learning. The students will reflect and think about their thinking and share their thoughts with the community.*

*This pedagogical approach benefits teachers by building the foundation for sound, sustainable instructional and assessment practices.*

A teacher may find that many more General Learner Outcomes and Specific Learner Outcomes are being met through the use of these instructional routines if they are followed with fidelity.

As with any routine, it takes time for students and teachers to see and feel the benefits and the purpose of this novel instructional routine.

Each task begins with “Starting in a Good Way”. The intention during this time is to get students’ minds, bodies, hearts and spirits ready to learn. As the graphic below shows, learning may be designed to follow one of two paths, by either initially “Weaving Knowledge” (using students’ previously learned knowledge) or by “Gathering Knowledge” (providing students with new knowledge). Either way, students will experience prompts to process and generate shared knowledge through the thinking tasks provided.

The daily thinking tasks are designed to fit into a 40 to 60 minute block. The teacher can choose the length of the time required for each section of the learning to suit their schedule.

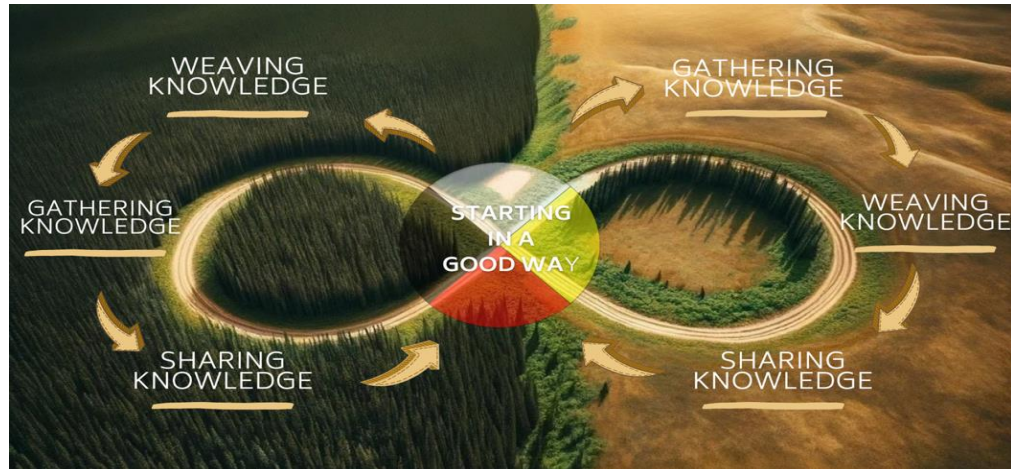


## Elder and Knowledge Keeper Voice:

As educators working towards involving authentic Indigenous voices into our programming, it is important to remember three things.

1. **Engaging Elders and Knowledge Keepers/Holders:** Elder voice is critical for finding direction and incorporating knowledge into our programming. Our Elders work very hard to support their families within their local communities. While our Elders are eager to provide support to people outside of their local community, they do experience fatigue from their work. Be respectful of their time and ensure that requests made are reasonable and specific. For example, asking an Elder to spend an entire day talking to multiple large groups of students about their experiences in Residential School can be exhausting. Asking an Elder to share knowledge about your local Indigenous communities' relationships with plants can be uplifting for them. Offering protocol and an honorarium, as per your school division's guidelines will demonstrate the willingness for a reciprocal relationship. Respectfully honoring and fostering an *ongoing* relationship demonstrates a commitment to the Truth and Reconciliation Calls to Action.
2. **Authentic Indigenous Resources:** Authentic Elder and Knowledge Keeper/Holder voice first is always preferable to utilizing online resources. With that, there can be barriers to fostering those relationships. If a teacher must use online resources it is important to ensure that the teacher is aware of the authenticity of the online resources. Who created and is sharing these resources? Does the resource reflect the beliefs, culture and knowledge of your *local* Indigenous Peoples? Does the purpose of the resource match the purpose of the intended learning?
3. **Place:** Alberta is a province with many Indigenous communities. It is critical that a teacher is aware of what group (s) of Indigenous Peoples makes the land they are on home. It is respectful to ensure that students are aware of the historical relationship the Indigenous Peoples have with the settler community on the land we all walk. When using text and digital resources, note who the author is and attempt to use resources that reflect the local Indigenous Peoples culture, language, knowledge, beliefs, and traditions. Being respectful to local Indigenous Peoples language culture, knowledge and tradition will ensure that pan-Indigenization does not take place.





## Grade 1 Science Learning Outcome:

**Students analyze environments & investigate interactions and changes**



	Approaching	Essential	Developing	Confident	Extending
Knowledge	I know living things.  I know non-living things.	I can tell the difference between living and non-living things.	I can name the structures of animals and plants.	I can connect the structure or behavior of the organism to how it meets its needs.	I am beginning to know the role that the environment plays in an organism's survival.
Knowledge	I know plants. I know animals.	I can tell the difference between plants and animals.	I can name what plants and animals need to live.	I can identify plants and animals in different places.	I can observe and describe how plants and animals meet their needs.
Knowledge	I know indoor and outdoor environments. .	I know the difference between familiar indoor and outdoor environments.	I can name different types of outdoor environments (e.g., forest, pond, desert) and seasons.	I can describe how differing environments (seasons) impact living and non-living things.	I can compare how differing global environments impact living and non-living things.



Skills and Procedures	I can look at something.	I can look closely and describe what I see.	I can explain how the environment helps plants and animals meet their needs.	I can explore how environments change naturally (seasons) or through human actions.	I can analyze how living things, including humans, interact with and change their environments over time.
Understanding	I understand that I need food, water and shelter to survive.	I can compare the needs of different plants and animals and how they meet them.	I can explain how plants and animals are adapted to meet their needs in different environments (seasons).	I can explain how different environments lead to different ways plants and animals meet their needs.	I can evaluate how different choices and actions affect the environment, and suggest ways to protect and restore it

**Grade 1 ELAL Learning Outcome: I can investigate meaning communicated in text**

	Approaching	Essential	Developing	Confident	Extending
Knowledge	I know what words are.	I know words in a sentence hold meaning.	I can identify key ideas and details in a text.	I can describe how the events or ideas in a text are organized.	I can compare differing texts and how they are organized.



Skills and Procedures	I know words make up stories.	I can identify words that I don't know.	I can use clues in the pictures with text to understand the meaning of unfamiliar words.	I can figure out the meaning of new words and phrases using clues in the text.	I can explain the clues I use to find meaning in new words.
Understanding	I know stories help me understand.	I can use stories or books to help me understand.	I can explain what the author is trying to say, even if it's not written directly.	I can identify the author's purpose and point of view.	I can compare different authors' writing styles.

