A Spirited Epistemology

Organization:

Title: A Spirited Epistemology
Summary: Through discussion with the teacher, students discover that while Western scientists categorize elements of an ecosystem as either biotic or abiotic many local Indigenous community members view all elements in the natural world as *spirited* and alive.
Inquiry Question: Inquiry Question 2. What is the reciprocal relationship that exists between Indigenous community members and the tools they utilize and the materials they are made from?
Duration: 30-40 minutes
Learning Environment: Classroom, outdoor
Season: All
Materials:

- Paper and pencils for sketching
- Learning Activity Five in the Tools Bundle: *Food Production-The Grinding Stone*
- Video of the story Iakotenióia'ks (Yakotinenyóya'ks) (Rocks and the Little People) read in Kanyen'kéha
- Access to the QUILLS website to hear language translations

Curriculum Links:
Grade 7 Science and Technology: A1.1, A1.4, A1.5, A3.3, B1.2, B1.3, B2.1, B2.2, B2.3
Grade 9 Science: A1.1, A1.5, A2.5, B1.3, B2.1, B2.4
Grade 9 Academic Geography: C1.4

Meta Data:

Content Type: Activity
Bundle: Tools
Theme: Invasive Species
Subject Area: Biology, Science,
Curriculum Focus: 7, 9

A Knowledge Keeper or community member should be invited into the learning environment to help students understand the spirited epistemology of local Indigenous groups.

- The teacher begins by reviewing the vocabulary words *biotic* and *abiotic* with students. Students come up with a class definition for each. Teachers can discuss with students the ways in which biotic and abiotic components of an ecosystem interact and support one another.

- The teacher then takes students outside to observe and sketch all the living [(biotic) eg: animals, plants, insects] and non-living [(abiotic) eg: rocks, water, waste] elements in an ecosystem. Students should also label each sketch as either abiotic or biotic.
- Ideally there will be a great diversity of biotic and abiotic elements in the ecosystem they visit.
    - If so, students can review all the benefits of biodiversity to an ecosystem.
    - If not, students can discuss if the ecosystem has always looked this way or if it was altered. Students can also discuss if these changes are inevitable and permanent or if there is a way to restore some of the biotic and abiotic elements that have disappeared.
- Next, teachers give students the opportunity to free-write about all the connections they observe in the ecosystem. Ie: the interactions between the biotic elements and between the biotic and abiotic elements. The teacher leads a discussion with students about how Western scientists see an ecosystem as a network of interactions among living and non-living organisms and their environment.
- Teacher then explains that many Anishinaabe and Haudenosaunee people that inhabit this local territory do not divide elements in the ecosystem into biotic (living) and abiotic (non-living). Instead, they understand that all elements in the natural world are 'spirited' as they are imbued with a spirit from the Creator.
- In this sense all elements of an ecosystem have value eg. There is not a hierarchy in which biotic elements are seen as more valuable than abiotic elements. Humans and animals, generally speaking, are not positioned as being superior to plants and insects etc.

Indigenous and Western Worldviews

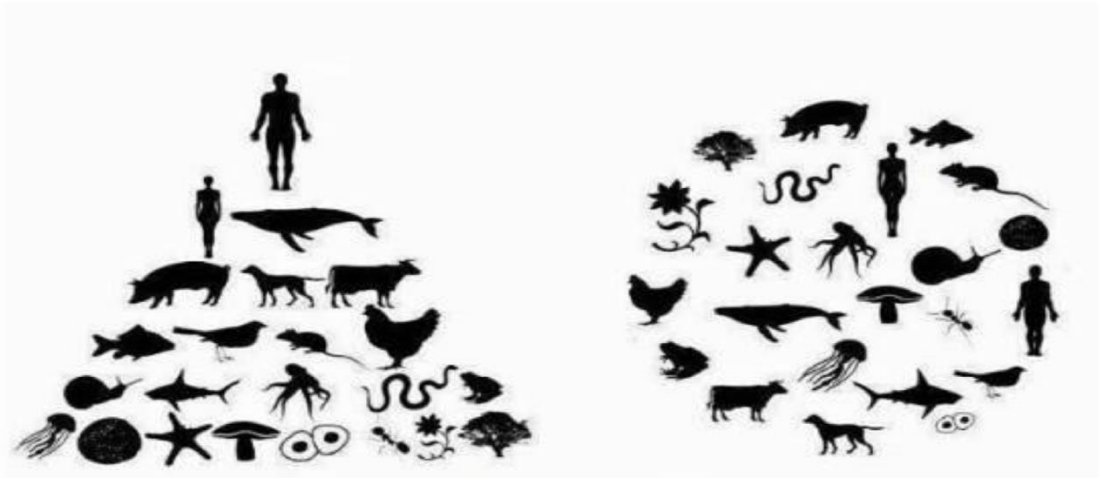

Image taken from commoxvalleyschools.ca

- It is important to reflect with students on how despite these general differences there are many Western scientists who, like Indigenous community members, also see the interconnectedness between all living and non-living things. For instance, over recent years it has come to be understood more clearly by scientists that since evolution things evolved in a web from the first organism. In this sense all living things are related and one is not necessarily understood to be superior to another. The discipline of Community Ecology within the Western Scientific paradigm demonstrates this understanding. Community Ecologists study the interactions and relationships that exist within a particular community, as well as the interplay of factors that affect biodiversity, community structure, the abundance of species, and the overall dynamics of a particular species. The core values underpinning this field involve:
    - the awareness of relationship between species and environment
    - the overall web of interconnectedness that lies within a community, to which these understandings could inform conservation practices, resource and ecosystem management, community health, and human development.
- In this manner, the way in which community ecologists see the interconnectedness of all elements in an ecosystem is similar to Indigenous land-based knowledge (ILBK). This is a good reminder that there is not a dichotomy between the two worldviews but instead many ways in which they are complimentary and overlap.
- One way, however, in which Indigenous worldviews and ways of relating to the natural world are distinct from Western science is that they are *holistic* or spirited. This can be understood more clearly by examining the relationship the Haudenosaunee and Anishinaabe locally have to both abiotic and biotic elements.

Abiotic Elements:

Water:

Spotlight on Language:
Anishinaabemowin – Nibi
Kanien'kéha - Ohneka'shon:a
Note that students can go onto the online QUILLS dictionary to hear these word.

- The way the Haudenosaunee and Anishinaabe view water is an example of how local Indigenous groups view BOTH biotic and abiotic things as spirited. To learn more about this the class can examine the following quotation from respected Haudenosaunee Elder Tom Porter:

"Water is not just water, it is sacred. Every water is sacred. Every water is holy everywhere in the whole world. The water has spirit, it has a soul, it has life in it. The Creator said to the water, 'And your job, Water, is to move, to look for the humans, look for the birds, look for the bears, look for the deer.' That is why the water is moving. It's doing its job, going looking around for

the life. And then it goes into the big river and then into the big ocean and then back into the clouds. Around and around refreshing because it is alive. It is refreshing because it gives life. That is what the waters do, they quench our thirst, and they clean and purify our body so that we may have a healthy, good life. Then when you listen to the oceans and the big lakes, you hear the heartbeat of the water. You see that it is living. The big waves come, and they hit Mother Earth. It is the same thing as what is going on right in your heart. It is beating with a rhythm because it is living." Tom Porter- And Grandma Said

- Teacher asks students to discuss how this quotation reflects the holistic relationship Indigenous groups have with water.
- To learn more about the local Indigenous relationship to water the class can engage in Learning Activity 3: *Relationship to Water* in the Water Bundle.

Rocks:
Spotlight on Language:
Anishinaabemowin: Asiniin
Kanyen'kéha: Onèn:ya
Note that students can go onto the online QUILLS dictionary to hear these word.

- The relationship local Indigenous groups have with rocks demonstrates another example of the holistic relationship Indigenous groups have with both biotic and abiotic elements.
- For instance, Ojibway and Métis Knowledge Keeper Deb St. Amant shared with QUILLS that the Anishinaabe view rocks as their grandfathers (Mishoomis) and grandmothers (Nokomis). For the Anishinaabe, rocks contain the spirits of ancestors and are animate beings with memories and stories to share.
- The Haudenosaunee also view rocks as spirited. This understanding is expressed in the Grinding Stone Resource shared with QUILLS by Kahehtok:tha (Janice Brant) who sits with the Bear Clan in the Kanyen'kehá:ka Mohawk Nation of the Rotinonhsyon:ni Six Nations. This resource is explored more deeply in the Tools Learning Bundle in Learning Activity Five: *Food Production-The Grinding Stone.*
- Teacher shares the following excerpt from the resource with students:

"Indigenous cultures have a sacred and spiritual ecology or relationship with nature. We understand that all living beings have a spirit, and we acknowledge that the stones have had a journey and a long life. They have seen many generations of human hands over such a long time. We communicate our respect by calling them Grandmothers. This is a term of kingship, endearment, and affection. When we are preparing to use the grinding stones, we offer tobacco and express our greetings and intentions. We also smudge the stones with sacred cleansing medicines. We give gratitude and thanksgiving for our ancestors that used and created this tool,

we give thanks to the spirit of these Grandmothers, and we thank them for continuing to teach us and share their ancient wisdom."

- Teacher asks students what they think this passage reveals about the Indigenous relationship to the tools they rely on and the materials from the natural world they are made from.
- To learn more about the spirited epistemology of the Haudenosaunee teacher can play a video of the late Joe Brown reading the story Iakotinenióia'ks (Yakotinenyóya'ks) (Rocks and the Little People) in Kanyen'kéha found on the QUILLS website.

In this Haudenosaunee story, a young Kanyen'kehà:ka woman befriends a group of Little People. The Little People reward the girl's kind spirit with gifts of food, understanding, and the ability to see only the good in others.

Kanyen'kéha:
Kí oká:ra nityakoyón:'a yá:ken Kanyen'kehá:ka yakón:kwe wahonwanatenro'serón:nyen kwah ken' nihá:ti yakotinenyó:ya'ks. Tsi yá:we tyakorihwayé:ri ki yakón:kwe ne Yakotinenyóya'ks wa'tyontaterihwa'será:kwen, wa'ontá:ton ne kákhwa, ahonwati'nikonhrayén:ta'ne ne onkweshón:'a, táhnon ne khok nahò:ten ne yoyá:nere ayontkátho tsi nonkwá:ti ne akohrénshon.

The late Joe Brown was a Turtle clan member of the Kanyen'kehà:ka Nation from Kenhteke Mohawk Territory.

This story was originally shared to accompany interpretive signs installed at Elbow Lake Environmental Education Centre (ELLEC). The story can be accessed on the QUILLS website and on the ELEEC trail app. https://elbowlakecentre.ca/app/

The learning represented in these activities reflects Big Idea B. in the Indigenous Knowledge Learning Bundle: "Indigenous Knowledge is Place-Based". To help your students learn more about this check out the Learning Activities titled: *Land-Based Meditation, Land Acknowledgement Workshop, Ceremony Ensures Right Relations with the Land, The Clan System,* and *The 13 Moons* found in the *Indigenous Ways of Knowing and Being with the Natural World* Learning Bundle (Grades 7-10). The learning also reflects Big Idea C. in the Indigenous Knowledge Learning Bundle: "Reciprocity, Interdependence, and Holism are at the Heart of Indigenous Ways of Knowing and Being". To help your students learn more about these foundational concepts check out the Learning Activities titled: *Holism, The Honorable Harvest,* and *Our Responsibilities* found in the *Indigenous Ways of Knowing and Being with the Natural World* Learning Bundle (Grades 7-10).

