



Wild Wisdom

curriculum-infused
outdoor Learning ideas

Grade
2



by Rebecca Seiling





Snow fleas and springtails

Season: Winter



Curriculum Expectations:

Science and Technology, Life Systems

B2.1 compare physical characteristics of various animals, including characteristics that are constant and those that change

B2.2 describe the locomotion of various animals

Materials needed:

- *Winter Bees and Other Poems of the Cold* by Joyce Sidman and Rick Allen

Inside, ask the students to draw what they think a “snow flea” looks like - how big, what body parts, colour, etc. Note that these are also called “springtails.”

Read the poem “The Whole World is Melting” from the book *Winter Bees and Other Poems of the Cold*. There is also information on this page about springtails/snow fleas.

On a mild winter day, hunt for snow fleas near the base of trees. They can be out on sunny days, and look like pepper flakes in the snow. If you look at them up close, you can see them springing.

Whether or not the hunt is successful, have the group pretend to be snow fleas. Snow fleas move explosively, folding their tail-like spike (furcula) toward their abdomens and “locking it” with a tiny hook. Then when they would like to move, they release that hook with their abdomen muscles, forcing their tail downwards and the rest of their body leaps into the air. See how far up the springtails in your class can leap when they try this method!

Symmetrical bugs



Season: Fall, Winter, Spring



Curriculum Expectations:

Science and Technology, Life Systems

B2.1 compare physical characteristics of various animals, including characteristics that are constant and those that change

Mathematics

E1.1 sort and identify two-dimensional shapes by comparing number of sides, side lengths, angles, and number of lines of symmetry

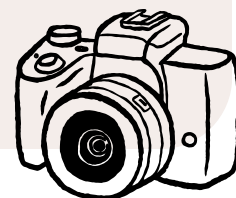
Materials needed:

- Sticks
- Stones
- Pinecones
- Other natural loose parts

Go on a hunt for symmetry in the natural world! Find objects with 1, 2, 3, or 4 lines of symmetry. Record findings on a paper, take a photo of it, or simply just let them enjoy finding symmetry.

Find an area where you can use natural loose parts to design symmetrical bugs. Talk about the different parts of an insect (head, thorax, abdomen, 6 legs, 2 antennae) and have students work in groups or individually to create bugs using the loose parts outdoors.

Take photos of the bugs and display them in the class. More than likely, you'll need to disassemble the bugs to put the loose parts away after this activity.



Hapa zome artwork



Season: Fall, Spring



Curriculum Expectations:

Art

D1.4 use a variety of materials, tools, and techniques to respond to design challenges

Mathematics

E1.1 sort and identify two-dimensional shapes by comparing number of sides, side lengths, angles, and number of lines of symmetry

Materials needed:

- Hammers (one per group)
- White cotton fabric (one piece per student)
- Small wooden boards or hard surfaces (one per group)
- Paper towels (one per student)

Talk with the class about the risks and benefits of working with tools like hammers. Demonstrate how to properly hold and use a hammer, and emphasize that it is a privilege to use one, and it can be taken away if not used properly.

Hapa Zome is Japanese artform. This activity uses a hammer to extract the natural dyes in plants. Place a piece of fabric onto a wooden board or hard surface. Then place the items found in nature - it's fine to start with just one item and experiment from there. Put a paper towel on top of the natural items. Then carefully hammer over the area where the natural items were placed. You can lift the paper towel to check whether most of the area was pounded or not. This can make beautiful prints in the shape of flowers or leaves, but also takes some patience.

Human sundials



Season: Fall, Winter, Spring



Curriculum Expectations:

Mathematics, Measurement

E2.4 use units of time, including seconds, minutes, hours, and non-standard units, to describe the duration of various events

Social Studies, Heritage and Identity

A3.4 describe some significant traditions and celebrations of their families, their peers, and their own communities, as well as of some other communities in Canada

Social Studies, People and Environments

B3.3 identify cardinal directions on a map (i.e., N, S, E, W), and use these directions when locating selected communities, countries, and/or continents

Materials needed:

- Sidewalk chalk, enough for each pair of students
- Hula hoops, one for each pair (optional)
- Paper and pencils (for mapping activity)
- Compass (optional, for finding north - mapping activity)

This activity requires a sunny day! In pairs, students will have a piece of sidewalk chalk. Plan to go out to the tarmac at regular intervals throughout the school day - an hour apart is ideal. Choose a spot on the tarmac that will not be shaded at all during the day.

If you start at 9:30am, have one partner stand still in one spot and the other trace around their feet. As the standing partner continues to stand still, the drawing partner traces around the shadow that is created. Have the student label that shadow with the hour (ie. 9:30) inside the shadow shape.

Human sundials, cont'd



You can have them do this activity so that it is just one human clock per pair, or have both of the participants make their own human clocks. Label the inside “foot” part with students’ initials so they know which clock to return to.

Keep tracing shadows each hour, making sure to stand on the exact same spot, and labelling the times inside the shadow. It’s amazing to watch the clock’s shadow hands move throughout the day! This activity could also include a discussion of sundials - where they have been used, and why.

As a follow up, read a story about the sun. If this activity is done near fall or spring equinox (Sept. 21 or Mar. 21), talk about those celebrations in various cultures - how the sun is central to land-based celebrations.

This could also lead to an activity where the sun’s movement over the course of the school day is tracked, and the cardinal directions are reinforced. Over the course of a day, map the sun’s movement onto paper, labeling the map with cardinal directions.

Human Clock Hands

Another way to review time on an analog clock is to draw some huge clocks onto the tarmac (maybe 4 per class) and have students take turns being the two arms of the clock. Call out various times for students to show using their bodies lying on the tarmac. You could also call out elapsed times like “½ hour past 10:35”, etc.

Water Walkers



Season: Spring



Curriculum Expectations:

Science and Technology, Earth and Space Systems

E1.1 assess the impact of human activities on air and water, taking various perspectives into consideration, including those of First Nations, Métis, and Inuit, and plan a course of action to protect the quality of the air and/or water in the local community

E2.5 describe ways in which living things, including humans, depend on air and water

Physical Education, xxx

Materials needed:

- Watering cans
- Tarps (2)

Some ideas to connect with science curriculum around water:

Hear about water from an Indigenous perspective by welcoming Knowledge Keepers or Elders to the classroom to speak about protecting the water.

Grade 2s could be in charge of watering the gardens, while talking about the importance of water for soil and plants and all of life.

Learn the names for local and provincial bodies of water in the languages of Original Peoples (Anishinaabemowin names for the Great Lakes are in the teacher's guide to *The Water Walker* - see above)

If there is a bird feeder area at school, set up a birdbath to provide water to birds. The class could also set up "toad abodes" in some flower beds in front of the school, with terra cotta clay saucers filled with water.

Water walkers, cont'd



Play The Storm Game. This is a tag game, with IT as the sun. Others in the game are water droplets. When tagged by the sun (in the water cycle), the students evaporate to form the storm cloud (under tarp). When 3 students are in the cloud, the students yell “Storm!” They scatter like raindrops, reentering the game, leaving the tarp for others who are tagged by the sun. Depending on the size of the group, you can play with more than one storm cloud/tarp.

Read *Ice Boy* by David Ezra Stein for an amusing look at the water cycle.

Read *The Water Walker* and *Nibi’s Water Song* (see above) for two Indigenous stories related to water.

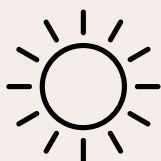
In the fall, join a section of the [Grand River Water Walk](#) as a class, or invite students to join with their families on a weekend.

Log it!



Date:

Weather:



Wind:



Temperature:

I notice...

Log it!



I wonder...

This reminds me of...

What do you sense?



Date:



Imagination space



Date:

