Taking the New Alberta Science Curriculum Outdoors:

A Guide for Teachers

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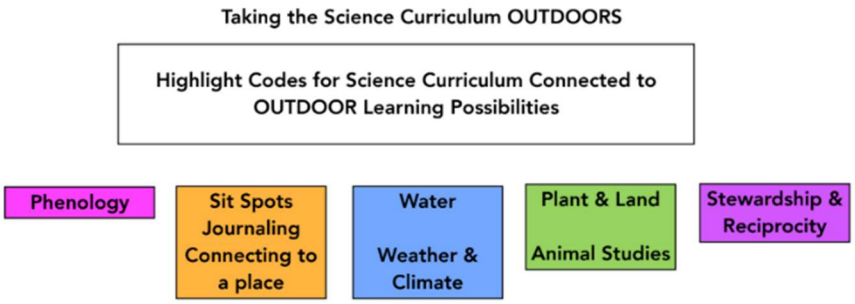
Let's face it, curriculum changes can require significant adjustments. Educators must adapt to new structures, expectations, and topic areas, which often involves reworking established routines and learning materials. All which takes a significant amount of time. For Alberta Parks educators, this means revisiting and updating the programs and resources offered to teachers and students in parks.

While reviewing the new K–6 science curriculum, it was noted that the word "land" appears 476 times. This indicates continued opportunities to support outdoor learning and help students connect with Alberta's natural landscapes.

To support teachers in continuing to take learning outdoors, Alberta Parks partnered with our professional development colleagues at the Calgary Regional Consortium. Together, we identified six core learning opportunities that appear across the organizing ideas and grade levels. Then we took it a step further, we literally colour-coded the entire curriculum document to make it easier to navigate. You can find it linked here or by scanning the QR code.



Please note, you'll need to download this document to see the colour-coding.

1. Phenology
2. Sit Spots / Journaling
3. Water Walks (Division I) and Weather & Climate Watch (Division II)
4. Plant & Land Stories
5. Animal Studies (Note: *plant and animal opportunities are both coloured green as they appear together in the curriculum*).
6. Stewardship & Reciprocity

Want to see related outcomes and KUSPs? Visit http://bit.ly/abscienceoutside or scan the QR code DOWNLOAD for best viewing

In this article, we have unpacked each of these six learning opportunities, showcased where it lives in the curriculum, for each grade, and provided examples as to how this might look in practice with links to resources. Our goal is to help teachers take this new curriculum outdoors and improve nature connections for youth in our province.

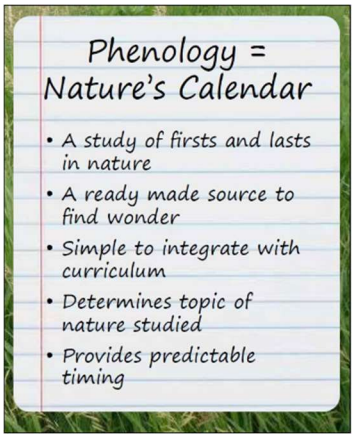
1. Phenology

What is it? Phenology is the study of seasonal changes in plants and animals, particularly how they relate to climate. By observing natural events like plant blooming or animal migration, students can understand the cyclical rhythms of nature.

Alberta Alberta Parks

Where Does This Live in the Curriculum?

In K-3 you'll find:



- Seasonal changes, observations using senses, predictions.
- Environmental interactions and seasonal changes including animal behaviour, migration, patterns, life cycles, observations using senses, recording data.
- Earth landforms and water relation to the sun, patterns, observations & predictions, recording data, landforms & bodies of water.
- Seasonal changes, animal behaviour through seasons, water cycles, forces moving objects.

In 4-6 you'll find:

- Warmth and sunlight throughout the year, water levels, organisms moving for warmth, weather patterns, human use of parks throughout the year/seasons, tracking astronomical phenomenon & lunar calendars.
- Tracking organisms in flight, weather patterns, availability of energy and natural resources, climate patterns over time, characteristics of regions and climates, precipitation, predictions, data interpretation, Indigenous knowledge systems and western tools, animal behavior patterns & cycles.
- Bodies of water sustaining life throughout seasons, components of Earth's systems that interact to affect climate, changes in climate, document extreme weather events, collaboration between scientists, Elders and Traditional Knowledge Keepers that understand effects of weather on people and the environment.

How Might This Look in Practice?

Deciding how, where and when to record observations will depend on your community and the amount of time you can revisit your outdoor learning places. Invite your students to 'get to know your neighbours' during your outdoor learning adventures. Setting up a routine where you collect data throughout the year will result in meaningful learning and lead to natural curiosity, inquiry and creative extensions.

2. Sit Spots & Journaling: Connecting to a Place

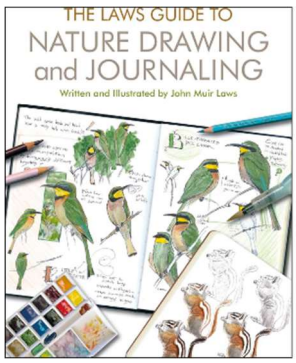
What is it? A sit spot is a special place where students regularly sit, observe, connect, and document what's happening in nature. This practice builds attention to detail, fosters mindfulness, and nurtures a personal connection to the land.

Where Does This Live in the Curriculum?

Throughout the grades we find the following:

- Make observations using senses.
- Document, draw, measure, count, record, capture, photograph.
- Write adjectives, adverbs, poems, predictions, reflections, questions, inferences, narratives, letters, journals, thoughts, dreams and more…
- Draw, paint, print, press, sculpt, mold, sketch, shadow, scratch and shape.
- Listen to create sound maps, explore vibrations, ponder, focus, think, rest, rejuvenate, relate and revive.
- Problem solve, innovate, create, consolidate, critique, analyze, summarize and surprise.

How Might This Look in Practice?



Collect sit spot prompts and consider this new resource: Sitting with Nature: An Educator's Guide to Sit Spots. Encourage students to keep a nature journal where they sketch, write, and document their observations. Over time, this practice will develop their understanding of both scientific processes and their personal connections to nature. John Muir Laws and "How to Teach Nature Journaling" is the 'go-to' resource for all things journaling.

3. Water Walks (Division I)

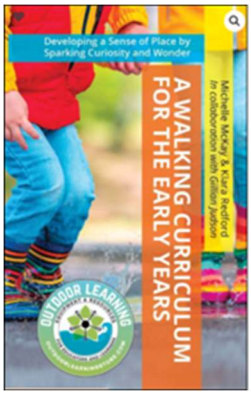
What is it? Water walks take us outdoors in search of puddles, ponds, streams and dew. On water walks, we notice where it collects, drips, drops and spills. Water can be touched, measured, rippled, splashed and moved. Water offers life and energy to living things in ecosystems. Water can be devastating and damaging, adventurous or appealing.

Where Does This Live in the Curriculum?

In the K-3 you'll find:

- Animal movement, observing landforms and the environment.
- Water movement and flow, needs of plants and animals, stewardship and taking care of water.
- How light travels through water, the components of earth, bodies of water, as well as flow and movement of water.
- Matter considerations - melting, freezing, evaporating, condensing, as well as the shaping of landscapes and changing earth's shapes.

How Might This Look in Practice?



Follow the water in your community, map it, discover it. Jillian Judson's "A Walking Curriculum", gives many walking prompts to help reveal the emergent curriculum. Water walks in many forms help us observe, record and play with water resulting in real learning. Try this water walk scavenger hunt and record your water walk observations on your phenological calendar and in nature journals.

Weather and Climate Watch (Division II)

What is it? Understanding and reflecting on weather and climate gets us outdoors measuring, recording, comparing, interpreting and reflecting. Climate change over time can affect land, plants, humans, and other animals. Traditional ways of living on the land have been impacted by climate change in various ways, such as changing migration patterns and access to hunting, harvesting, and fishing.

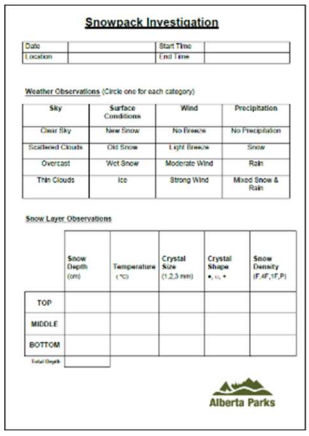
Where Does This Live in the Curriculum?

In the 4-6 you'll find:

- Conservation and presentation of Earth's systems, plants adapting to environmental factors.
- Weather is measured, tools are used, data is created, and patterns are interpreted. Climate impacts are considered.

- Climate is compared and contrasted through current and historical observations. Solutions based approaches are considered.

How Might This Look in Practice?



Purposely observing and recording weather throughout the year helps students create and interpret their own data. Consider unique outdoor explorations such as analyzing snowpacks during the winter months. Play the Carbon Dioxide Game to help students understand how humans help and hinder carbon levels in the atmosphere. Look for stories on the land and how hopeful solutions are made in a changing climate.

5. Plant Stories

What is it? Plants tell stories throughout the season, letting us know of changes in climate, landforms, interactions with insects and animals. They represent growth and interdependence, cycles, and health of the environment. Plants create oxygen and make their own food. Plants can be medicinal, carnivorous, emotion-evoking, art worthy, construction materials and life-giving. What stories can you find within the plants on the land?

Where Does This Live in the Curriculum?

In the K-3 curriculum you'll find:

- Plants are living things, observe / compare needs and discover how we know they are living.
- Properties of natural plant materials, how they grow and how humans use plant parts.
- Soil properties, habitats, earth's crust, interaction of plants and animals.

In the 4-6 curriculum you'll find:

- Interactions between plants and animals, basic needs of plants, behaviours of plants, plants as resources, conservation, structures and classification of plants, locally found plants and sensory structures of plants.
- Plants in various geographical locations, farming practices, and plant functions.
- Plants as a method of taking action on climate change, biotic components of plants, preservation of ecosystems, photosynthesis, and Indigenous sacred plants, as well as reciprocity with plants.

How Might This Look in Practice?

Make plants part of your regular practice through storytelling and interactive games. Find some plant stories on the Kainai Plant index and play Build A Tree in your schoolyard. Use plants as an entry point for studying ecosystems, allowing students to investigate how plants support other living organisms. Monitor the arrival of plants and record them by using the Alberta Plant Watch program. Consider how plants are Structured for Survival by recording observations as you explore or the relationship between humans and plants with the lesson plan Parks, People, Plants and Animals.

6. Animal Studies

Animals are part of the interconnected web of life, integral to ecosystems across the Earth. Captivating and fascinating, humorous and mysterious, the study of animals helps us understand how the world works. Animals are part of relationships with each other, plants and humans. Competing, co-existing, caring and complex, animals and human interactions reveal stories of past, present and future.

Where Does This Live in the Curriculum?

In the K-3 you'll find:

- Environments include animals, animal movements.
- Animals are living things, observe/compare them to humans, what do they need to live? To thrive? How might humans help animals?
- Offspring and parents, how humans use animals and their parts, how human behaviours affect animals.
- Habitats, interactions of animals with plants and humans and the environment, food chains, predator / prey and survival.

In the 4-6 you'll find:

- Organisms' appearance and habitats, external structures of animals, sensory structures of animals.
- Animals farmed in Alberta, hunting, trapping and conservation of animals, evolution of animals over long periods of time, flight of animals.
- Biotic components of animals, characteristics of ecosystems and the animals within, humans and other animals rely on animals to meet needs, relationships between plants and animals, migration patterns of animals.

How Might This Look in Practice?

Studying animals will always be the hook for students to connect to the land and engage in outdoor learning. While outdoors, teach students to be observant of evidence of animals, discover the track stories found in the snow, and bring the ancient science of tracking to life. Play out the importance of animals through this Web of Life Game or Who am I Game. In the older grades, consider how wildlife is managed in Alberta and discuss, reflect and debate these techniques.

Stewardship & Reciprocity

What is it? Stewardship as the act of taking care of the land or doing 'good' for the betterment of the environment. Collaborative problem solving, responsibility and skill building. Reciprocity means the giving of 'gifts' as the land is always giving in return. Honoring interconnectedness, learning and listening to the land, 'knowing our neighbours' and forming relationships with the land.

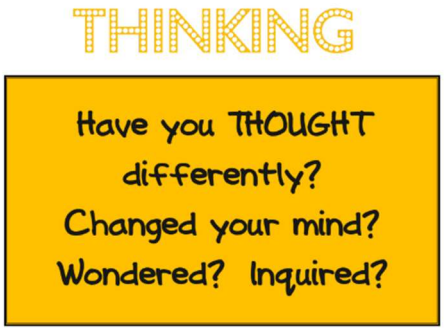
Where Does This Live in the Curriculum?

In K-6 you'll find:

- Invitations to know and understand that the environment is important.
- Indigenous ways of knowing about the world, traditional knowledge, and the respectful, reciprocal relationships that allow for sustainability.
- Individual and collective actions we can take to protect, conserve and care for the natural world.

- Opportunities to learn about sustainability and practices that encourage healthful interactions.
- Understanding and demonstrating what care for the environment, and all living things looks, feels and sounds like.
- Stewardship and reciprocity with natural environments leads to feelings of connection and appreciation.

How Might This Look in Practice?



It's important to set up a routine of giving gratitude to the land you're teaching and learning on in consistent and meaningful ways. Teach students about the importance of taking care of the land and the concept of giving back. This could be through activities like community clean-ups or planting trees, however, remember that 'action' is a VERB and we can show our learning and caring by many means including thinking and feeling differently, having or sharing knowledge or sometimes changing behaviours. See the attached posters for ideas on action.

Conclusion

By embracing outdoor learning opportunities, you provide your students with the tools to explore science in meaningful ways. You'll help them develop competencies in critical thinking, problem-solving, and communication while forging a lasting connection with the land. Through outdoor teaching, students not only learn about scientific principles and become more naturally curious, they also learn to honour and respect the land. Consider viewing the new curriculum in a way that could bring multiple organizing ideas together at once and find your new favourite field trips and learning opportunities while lavishing in the benefits of being outdoors.

Special Acknowledgement & References

Cheryl Babin: Alberta Professional Learning Consortium
This article was adapted from a professional learning workshop delivered by Cheryl Babin and Andrea Barnes in 2024 and 2025

Reading this in print form:
All Alberta Parks Nature Source links referred to are found here:

Alberta Alberta Parks