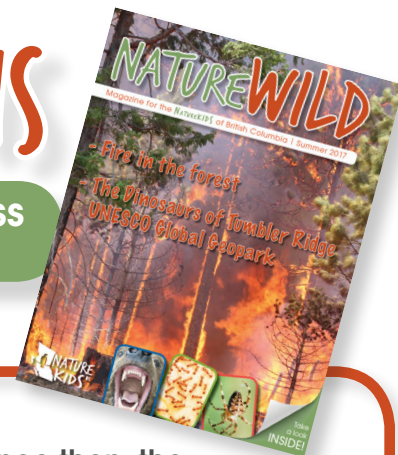


CURRICULUM CONNECTIONS

A Guide to Using NatureWILD Magazine with your class

Summer 2017: Fire in the Forest! The Dinosaurs of Tumbler Ridge, BC.



It was two local children who first identified a dinosaur trackway just below Tumbler Ridge, BC back in 2000. Since then, the town has become known as a dinosaur hot spot where palaeontologists have confirmed a steady stream of fossil discoveries dating back nearly 100 million years.

Grades 3-4 Subject: Science

WHO LOVES DINOSAURS?

(PAGES 8-9)

Big Idea: > Grade 3: Living things are diverse, can be grouped, and interact in their ecosystems.
> Grade 4: All living things sense and respond to their environment.

Teaching Idea

Students learning to make observations can be helped in this process by practicing observing with something they may never have really looked at in detail before – such as the sole of their shoe. Ask each student to take one of their shoes and trace it twice on a single piece of paper.

Now ask them to sketch what they think the sole of their shoe looks like on one of the outlines without turning it over. Discuss the accuracy of the drawing. Next make a rubbing of the sole inside the other outline using a crayon. Compare the two drawings and discuss why there are any differences. Now have the class discuss how being familiar with something doesn't mean they have really 'observed' it carefully.

Observing carefully as a scientist means focusing your senses and avoiding distractions. Create a tool to help students observe carefully by tying a 50 cm piece of string in a circle. This string can then be held as a 'lens' or placed around something or doubled to make a much smaller focal point. Have the students step outside with their string loops and place them around something they want to observe. Have them ask a question about their 'something' and see if they can answer it. Extend the lesson by challenging the students to find examples of tracks on or near the playground or around home. When would be the best time to look for animal tracks and where is the best place to find them?

Use an iPad, other tablet or digital camera to take a photo of the shoe to augment the sketch and the rubbing. Can you make more accurate observations by using a camera? Which method of capturing the pattern on the sole would be most valuable if remembering the information was important?

NATUREWILD MAGAZINE CURRICULUM CONNECTIONS

Summer 2017: Fire in the forest! The Dinosaurs of Tumbler Ridge, BC.

Try placing a thin layer of play field whitening (used to line your school field or you can use fine white pool filter sand) in a flat baking pan and put a small amount of peanut butter in the centre. If you are fortunate, some mice, a squirrel or even a bird may come by and grace your layer of whitening with some tracks. Place it under some shelter so it won't get wet if it rains.

For instructions to make a plaster cast with drawings of tracks go to:

<https://education.usgs.gov/kids/assets/tracks.pdf>

Or watch the process at: https://www.youtube.com/watch?v=gmTxNia_WXc

Curriculum Connections in this Activity:

Curricular Competency (Grade 3 & 4)

Questioning and predicting

- > Demonstrate curiosity and a sense of wonder about the world
- > Observe objects and events in familiar contexts
- > Identify questions about familiar objects and events that can be investigated scientifically
- > Make predictions based on prior knowledge (grade 4 only)

Planning and Conducting

- > Suggest ways to plan and conduct an inquiry to find answers to their questions
- > Make observations about living and non-living things in the local environment
- > Collect simple data

Processing and analyzing data and information

- > Experience and interpret the local environment

Evaluating

- > Make simple inferences based on their results and prior knowledge
- > Demonstrate an understanding and appreciation of evidence

Communicating

- > Express and reflect on personal or shared experiences of place

Applying and Innovating (grade 4 only)

- > Transfer and apply learning to new situations
- > Generate and introduce new or refined ideas when problem solving

Content Grade 3:

- > Biodiversity in the local environment
- > Observable changes in the local environment caused by erosion and deposition by wind, water, and ice

Content Grade 4:

- > Sensing and responding to other animals
- > Biomes as large regions with similar environmental features



GET CLOSE TO
A GRIZZLY
(PAGE 3)

Grizzlies are spectacular creatures but one shouldn't get too close to a wild bear! This article illustrates what you would see if you got within half a metre of a grizzly bear; its claws, teeth, fur, eyes, ears and nose.

Grade: 5 Subject: Arts Education

Big Idea: works of art influence and are influenced by the world around us.

Curricular Competency:

- > Explore connections to identity, place, culture, and belonging through creative expression
- > Examine relationships between the arts and the wider world
- > Describe and respond to works of art and explore artists' intent

Content:

- > Investigate elements of design: line, shape, texture, colour
- > Investigate traditional and contemporary Aboriginal arts and arts-making processes
- > Use symbolism and metaphor to explore ideas and perspectives

Teaching idea:

Read the article and pay close attention to the parts of the Grizzly's body that are symbolic of these bears. View the video links in the article regarding protection of Grizzly Bears. Discuss how the videos develop a compelling story to protect these bears.

With students, investigate how various artists use their art to bring public attention to wildlife conservation issues. Investigate Canadian artists that use Grizzly Bears as inspiration in their art.

Ask students to create a poster that uses iconic images of Grizzly Bears to illustrate why they should be protected. Posters should follow the main points highlighted in: <https://www.sc.edu/our/doc/goodposters.pdf> Create a gallery show for the class or school that highlights the student work.

Links or additional reading:

Artist for Conservation – Virtual Art Exhibit :

<http://www.artistsforconservation.org/virtual-exhibit>

Photographer – Jason Leo Bantle :

<http://bantlephoto.com/All-In-The-Wild-Photography/Grizzly%20Bears>

Visual Artist – Robert Bateman : <http://robertbateman.ca>

First Nations Artist – Xwalacktun (Rick Harry) : <https://www.xwalacktun.ca>

Extension: Extend the impact of this Grizzly Bear activity by hosting a Bear Aware Celebration that could include First Nations presentations and special guest speaker/s. Potential speakers and special guests:

Ghost Bear Photography (Simon Jackson) : <http://ghostbearphotography.com>

Grizzly Bear Foundation : <https://grizzlybearfoundation.com>

Raincoast Conservation Society : <https://www.raincoast.org>

North Shore Black Bear Society : <http://northshorebears.com>

GET (LOSE TO
A GRIZZLY
(PAGE 3)

Grade: 6 Subject: Language Arts

Big Idea: Exploring and sharing multiple perspectives extends our thinking.

Curricular Competency:

- > Access information and ideas for diverse purposes and from a variety of sources and evaluate their relevance, accuracy and reliability.
- > Exchange ideas and viewpoints to build shared understanding and extend thinking.

Content:

- > **Story/text** – techniques of persuasion, using emotional and logical appeals to persuade.
- > **Language Conventions** – any presentation (in written, oral, or digital form) should reflect an appropriate choice of medium for purpose and audience, and demonstrate thought and care in organization.

Teaching idea:

After reading the article make a list of the things that students like, dislike and wonder about Grizzly Bears. Use this as a lead-in activity to discuss how we form opinions and values and how those values can lead to decisions that we make.

Investigate the websites in the article about how to protect Grizzly Bears. Have students analyze the videos on the web-sites using the same critical investigation they used to discuss what they liked, disliked and wondered about.

Divide the class into 4 debating groups. Within each of these groups half would represent people that have reasons not to protect Grizzly Bears. For example:

- A child that lives close to where Grizzlies hunt
- A child whose family are hunting guides that earn their living by guiding hunters
- A child from a farming family where Grizzlies have killed their live stock, such as sheep
- A child whose family needs the same salmon that Grizzlies feed on

Within each of these groups half would represent people that have reasons to protect Grizzly Bears. For example:

- A child that loves living close to where Grizzlies live
- A child whose family are nature guides that earn their living by guiding photographers to take pictures of Grizzlies
- A child from a family where family members are Park Rangers / Conservationists
- A child whose family lives far from where Grizzlies are found but admires them (like appreciating Lions in Africa, but we don't live close to them).



GET CLOSE TO A GRIZZLY (CONT'D)

Have students develop their positions and enact the debate. Did their attitudes, opinions and values change?

Extension:

Choose another similar wildlife issue to investigate:

> Wolves in North America -

<http://kids.nationalgeographic.com/animals/gray-wolf/#gray-wolf-closeup.jpg>

> Elephants in Africa - <http://www.earthskids.com/ek-elephants.aspx>

> Tigers in India -

<http://voices.nationalgeographic.com/2014/02/21/kids-in-india-come-together-to-save-tigers/>

Develop the same format for your second debate but in this debate the students switch roles.

NATURE NEWS

(PAGE 15)

Each issue of NatureWILD magazine features youth taking action for nature. In this issue, you can read about Nemo de Jong who has qualified for a summer internship conducting Black Widow Spider research.

Grades: K-7 **Subject Area:** Science or Language Arts

Big Idea: This section can fit into any Big Idea related to Natural Sciences, Non-fiction writing and reading.

Core Competency: Critical & Creative Thinking, Social Responsibility

Curricular Competency:

> *Science*- Processing and analyzing data and information

> *Language Arts*- Create and Communicate – use writing and design to create texts for a variety of audiences

Content:

> *Science* – content depends on the unit you are working on, this could be applied almost anywhere.

> *Language Arts* - Strategies and Processes, Language Features, Structures and Conventions.

Teaching Idea – Create a classroom or school wide nature news bulletin board. Have students submit a nature news item based on something they found out while spending time outside, or researched. Use the Nature News articles as models and give the students a format to follow. Submit student nature news items to NatureWILD Magazine: naturewild@naturekidsbc.ca.



Enticing ants with different kinds of food is the perfect way to observe ants! Do this **experiment** to find out what they like to eat and how different ants behave around food.

Grade: 3 Subject: Arts Education

Big Idea: the arts connect our experience to the experiences of others.

Curricular Competency:

- > Create artistic works collaboratively and as an individual, using ideas inspired by imagination, inquiry, experimentation, and purposeful play.
- > Express feelings, ideas, and experiences in creative ways.

Content:

- > Image development strategies: processes that transform ideas and experiences into visual images.
- > Visual arts: elements of design: line, shape, space, texture, colour, form; principles of design: pattern, repetition, rhythm, contrast, emphasis.

Teaching idea: This is one of two lessons that can be taught separately, or altogether as a mini unit.

- 1) Read the article "Ant Buffet" and complete the simple experiment.
- 2) Students will then go outside to a green space and create their own "micro trail" (see activity link below). Have students draw pencil sketches of individual features from their micro trail environment to use in part 3.
- 3) Students will now be creating an art piece from the perspective of an ant. Using pencil crayons or water colour pencil crayons, students will draw a feature from their micro trail environment.

Links or additional reading:

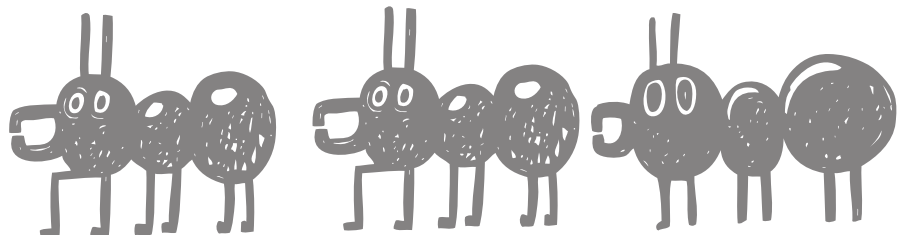
"Micro Parks or Trails" lesson from Eco Learning Hive:

http://ecolearninghive.org/sites/default/files/Micro%20Parks%20or%20Trails_0.pdf

For examples of the surprises you can find when you look closely at your environment through a micro lens: [Looking Closely Through the Forest](#) by Frank Serafini

ANT BUFFET

(PAGE 14)



Each year over one thousand birds and animals are admitted to Elizabeth's Wildlife Centre in Abbotsford, BC, and many are fully rehabilitated and released again. Read stories about why some of the animals ended up there and learn what you can do if you find an abandoned or injured animal.

Grade: 4 Subject: Language Arts

A READ

ALOUD

STORY:

RESCUING

WILDLIFE

(PAGE 12-13)

Big Idea: Questioning what we hear, read and view contributes to our ability to be educated and engaged citizens.

Curricular Competency:

> Create and communicate using oral storytelling processes and respond to text in personal and creative ways.

Content:

> Strategies and processes for reading oral language.

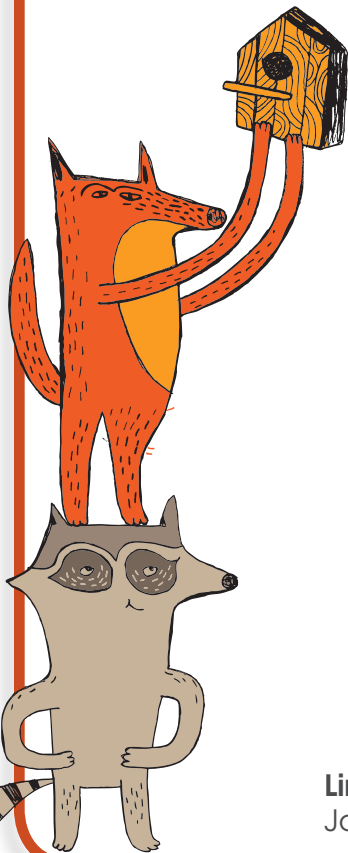
Teaching idea:

1. Read the article on Rescuing Wildlife.
2. Have the students go to some pleasant outdoor setting, either an open area or near a large and inviting tree and sit quietly, listening carefully for any sounds. Ask them to look around to see what is in the environment.
3. Talk with the students about what they see, feel and notice. Have them follow you in the "guided imagery" (they close their eyes and visualize what you describe). For example,
"You are a tall tree standing in the forest. Feel your roots digging deep into the soil. Feel the water from a recent rainstorm seeping into the earth around you. Feel that large rock tangled in your roots. Feel your branches swaying in the breeze, warmed by the sunlight".
4. Have students take out their "Outdoor Journals" and give them some time to draw or write their story of an animal that needs rescuing.
5. They may want to write animal poetry in a diamante format (diamond shape). One word that describes the animal they have chosen, next line two words to describe what it looks like, then three words to describe how it moves or where it lives, followed by two words about how it contributes to the ecosystem, then one word that describes what it is. For example:

Bird
Large, Strong
Soaring, Diving, Twisting
Predator, Hunter
Red-Tail

6. To prepare for oral storytelling, have the students write or draw characters on a rock, and collaborate in telling their story to the class.

Links or additional reading: Project WILD Activity Guide. P. 82 Wild Words... A Journal-Making Activity <https://hctfeducation.ca/>



KNOW YOUR SPIDERS

(PAGE 16)

Wolf spiders, jumping spiders, orb-weaver spiders and zebra spiders are just a few of the 859 species that live in British Columbia. Learn about some of these eight-legged arthropods, including how different spiders employ different hunting strategies. While some species build intricate webs to ensnare passing insects, others, such as the wolf spider, attack prey on the ground.

Grade: 3-4 Subject: Language Arts and Science

Language Arts Big Idea: Exploring stories and other texts help us understand ourselves and make connections to others and to the world.

Science Big Idea: All living things sense and respond to their environment.

Curricular Competency:

- > *Language Arts:* Access and integrate information and ideas from a variety of sources and from prior knowledge to build understanding.
- > *Science:* Demonstrate curiosity about the natural world and observe objects in familiar contexts.

Content:

- > *Language Arts:* Form, function and genre of texts.
- > *Science:* Ways organisms in ecosystems sense and respond to their environment.

Teaching idea:

Begin the mini-unit with a Know/Wonder/Learn chart about spiders, taking a poll of who is frightened by spiders vs. intrigued by spiders.

Play the spider and web match-up game called "Spider Web Wonders" from Growing Up WILD, see

<http://www.projectwild.org/growingupwild/CopyMePages.htm>

There are 3 stories to read in these lessons:

1. Spider Woman by Anne Cameron- a retelling of a First Nations myth
2. The Lady and the Spider by Faith McNulty, a picture book and
3. Charlotte's Web by E. B. White, a novel

Take students outdoors with magnifying glasses to see if they can find webs and spiders in their schoolyard. See "Ask AI" article for more information.

FIRE IN THE FOREST

(PAGE 6-7)



Students read what it is like to battle a raging forest fire in the remote BC wilderness from Mathew Solecki, a young Forest Fire Fighter with the BC Wildfire Service.

Grade: 6 Subject: Career Education

Big Idea: New experiences, both within and outside of school, expand our career skill set and options

Curricular Competency:

- > Recognize their personal preferences, skills, strengths, and abilities and connect them to possible career choices
- > Examine the importance of service learning and the responsibility of individuals to contribute to the community and the world
- > Explore volunteer opportunities and other new experiences outside school and recognize their value in career development

Content:

- > *Connections to Community:*
 - local and global needs and opportunities
 - volunteer opportunities
- > *Life and Career Plan:*
 - factors affecting types of jobs in the community

Teaching idea:

After reading this article as a class, brainstorm what questions you'd ask Matthew Solecki if you had an opportunity to meet him. Guide this discussion thinking about why someone would want to become a Wildfire First Responder.

Have students consider what skills it would take to work for BC Wildfire Service <http://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/wildfire-management/employment>

Contact your local Fire Department, (or local forest protection service) and arrange for a class visit. Ask to have a representative present specifically about Forest Fires and being a Firefighter.

Develop a questionnaire with students for the presenters that will help focus their interaction.

After the presentation discuss with students how volunteering can lead to the type of career / job they might like to have in the future.

FIRE IN THE FOREST (CONT'D)

If possible have students research the volunteer opportunities they might have at their school or in the community and the experience and skills they might gain for their future career.

Encourage your students to volunteer and have them report on a regular basis their experiences and reflect on what they gain from Service learning

<http://www.generationon.org/educators/lessons-resources/why-service-learning>

The WE Project has become highly successful motivating youth in Service Learning & Projects.

<https://www.metowe.com>

With your students think about how this can be directed toward nature related initiatives. Many schools have turned service learning into opportunities to raise funds collectively for the school or for individual class experiences ... such as a trip to a forest fire recovery / re-forestation project.

<https://www.pinterest.com/search/pins/?q=Service%20learning%20for%20kids&rs=guide>

Links or additional reading:

Youth Volunteer with NatureKids BC – a number of NatureKids BC Clubs have older students that act as assistant leaders. Contact your local NatureKids BC Club to find out what options there might be for your students.

If you don't have a local NatureKids BC club ... start your own club in your area. NatureKids BC – School Membership

<http://www.naturekidsbc.ca/join-us/become-a-school-member/>

Many students from across BC use their Service Learning to connect to personal and school environmental issues. Inspiration about what students can do can be gained by investigating and potentially joining the following web-sites.

BC Green Games

<https://www.bcgreengames.ca>

Great Shoreline Clean-up

<https://www.vanaqua.org/act/direct-action/great-canadian-shoreline-cleanup>

Roots & Shoots – Jane Goodall

<https://janegoodall.ca/our-work/roots-and-shoots/>

Youth Service Association

<http://ysa.org>

