



Weaselhead Grade 4 Field Trip Teacher's Guide Package Investigating Earth and Living Systems

Website: theweaselhead.com
Email: education@theweaselhead.com

Thank you for your participation in our Grade 4 Weaselhead Education Program! This program is specifically designed to meet cross curricular learning outcomes focused on the new Alberta Science and Social Studies curriculums. Our program is led by a Weaselhead Naturalist who brings their own expertise and personal experiences to your program.

The following items have been enclosed in this Teacher's Guide package:

- Curriculum Connections
- Program Objectives
- Participant Guidelines
- Behavioural Expectations
- A Map of the Weaselhead
- Field Trip Program Outline
- Activities
- In-class Follow Up Activities
- Background Information on the Weaselhead Area

Curriculum Connections

Science: Life supporting interactions and structures are investigated as students explore the lithosphere, atmosphere, hydrosphere and biosphere. With a valley view extending to the mountains, students observe and discuss how the visible landforms changed over time, shaping the landscape. They investigate and discuss how the sun impacts vegetation, compared between the north and south facing escarpments. They will identify and discuss important features on the land and in the sky that influenced local First Nations. Students will observe how human activity has impacted the local environment over time. A pond study will focus on the structural system, sensory stimuli and adaptations of aquatic invertebrates and wildlife using wetland ecosystems.

Social Studies: A timeline of historic events is presented as students learn Indigenous stories shared from the land. The importance of our Dark Sky Sanctuary initiative is connected to how First Nations used the sky historically. Maps are shared in our exploration of the environment. Students learn how the municipal government manages the area, how the provincial government manages the wildlife, and how the federal government manages the fish and the water. They explore responsible citizenship through the lens of conservation.

Health and Physical Education: Students participate in a variety of physical activities, including hiking and games, that develop various components of physical fitness, integrating elements of movement. They learn about wild foraging and natural food and medicine options.

Guiding Questions

Science

Waste and Matter

- How do different types of waste management affect the environment?
- Is there actually waste in a natural environment?

Earth Systems

- How does Earth sustain life?
- Do different systems (lithosphere, hydrosphere, atmosphere, and biosphere) work independently of each other?
- What are some examples of nonliving things in an ecosystem?
- How is the traditional Indigenous view of Earth systems different from the Western view?
- How does sunlight affect plants and animals?

Living Systems

- In what ways does the structure of organisms support survival?
- What is an example of an organism, species, community, and ecosystem in the Weaselhead?
- How is respiration different in plants and animals?
- Can you find structures that have similar functions in plants and animals?
- How do animals use their senses to detect food, predators, danger, or other plants and animals?
- How do plants detect and respond to sensory stimuli such as light, gravity, temperature, and touch?

Space

- How is the night sky used for storytelling?
- How does a Nocturnal Sanctuary help animals?
- How do objects in space impact daily life in the park?

Scientific Method

- How can evidence advance knowledge in science?
- How does investigation deepen our understanding of science in the park?
- How does data and evidence advance our knowledge of science in the park?

Social Studies

- How is the Government of Canada organized?
- How did economic opportunities influence the establishment of Canada?
- What is responsible citizenship?

Program Objectives

Students will Investigate how plants and animals sustain life. They will also explore how plants' and animals' structural systems support survival. Responsible citizenship is explored through the lens of being a good environmental steward.

Before the Trip

Pre-trip Preparation

- Please have students divided into 4 or 5 groups per class prior to the field trip.
- Students should bring a journal or set-up a field trip journal on a clipboard with blank paper.

Participants should:

- dress for the weather. Dress in layers. Wear appropriate footwear.
- bring a snack, lunch, and plenty of water for a full day field trip.
- bring pencils or pens.
- bring a field journal OR blank paper on a clipboard.
- bring a plastic bag OR mat, if the student does not want to sit on the ground. (Optional)

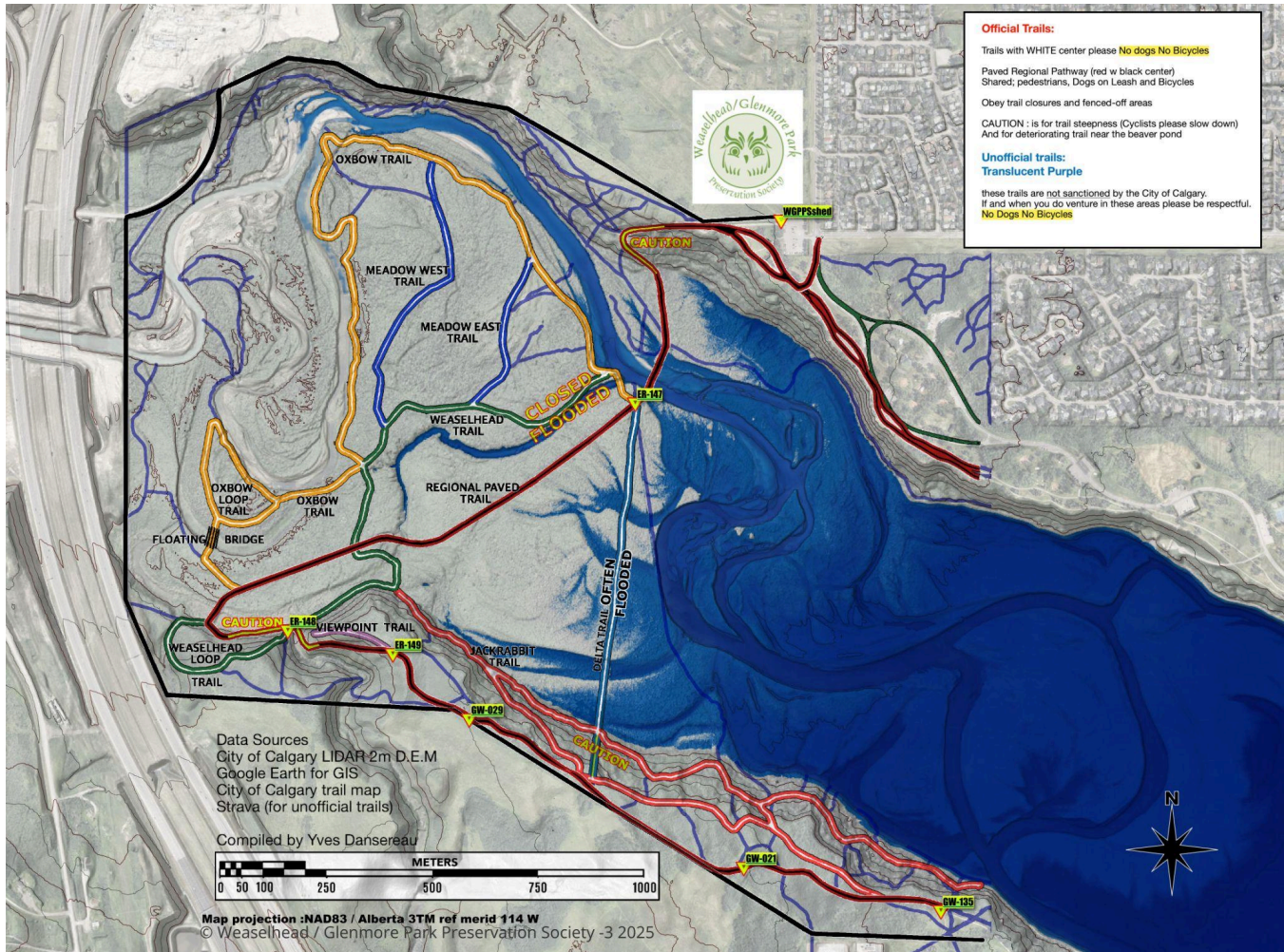
NOTE: This entire program is held outside with no indoor facilities. Students must be prepared for all weather and conditions. They will be hiking approximately 3-5 km on dirt trails. Appropriate footwear is a safety requirement.

Behavioural Expectations

- Remain with the group and keep in sight of supervisors at all times.
- There is always an adult leader at the front of the group and at the end of the group.
- Never remove natural items from the area. Vegetation, insects, mammals, birds, and amphibian life is to be respected and left in the natural habitat.
- Leave no trace of our visit. All litter must be brought back out.
- Unsafe behaviour such as tripping, wrestling, fighting, and teasing is unacceptable and may result in withdrawal from the activity.
- Cooperation by listening, participating in group discussions, observing, and recording is expected during the learning experience.
- Each adult is expected to participate in the activities and to provide due safety and care for each of the students.
- No headphones or earbuds are allowed. This is for the safety of the participants.
- **Both adult's and student's cell phones must be kept away unless taking pictures or in case of emergency.**

Map of the Area

Your group will be starting their hike at the 37th Street Parking Lot. Meet your Naturalist leader at the shed located in the NW corner of the parking lot. We will hike into the Weaselhead down the hill to cross the bridge and explore the area. Depending on conditions, we may also be using the fields and the Aspen Forest in North Glenmore Park.



Field Trip Program Outline: FULL DAY

9:30 am	<ul style="list-style-type: none"> ● Meet your Naturalists at the grey shed in the NW corner of the parking lot at 37th Street.
9:30 – 9:45 am	<ul style="list-style-type: none"> ● Introduction, Land Acknowledgement, park rules, and expectations ● Washroom visit
9:45 – 10:30 am	<ul style="list-style-type: none"> ● Activity: Litter Relay ● From the top escarpment, observe and discuss how the visible landforms changed over time shaping the landscape. Investigate and discuss how the sun impacts vegetation compared between the north and south facing escarpments. ● Hike down the hill, investigating various ecosystem interactions, plants, and animals.
10:30 – 10:40 am	<ul style="list-style-type: none"> ● Snack break
10:40 – 11:40 am	<ul style="list-style-type: none"> ● Hike towards a pond study site ● Activity: Pond study depending on conditions. Students observe and learn how structural adaptations help invertebrates and other species to survive. If a pond dip is not possible, students explore the insect life around the park during their hike to discuss these structural adaptations.
11:40 am – 12:10 pm	<ul style="list-style-type: none"> ● Lunch
12:10 – 12:50 pm	<ul style="list-style-type: none"> ● Visit the river's edge past the running trench to view the bank swallow nests on the north escarpment. Discuss how the river has shaped the landscape and review the lithosphere, hydrosphere, atmosphere, and biosphere in the context of the park.
12:50 – 2:15 pm	<ul style="list-style-type: none"> ● Hike and lessons ● Activity: Build a Tree
2:15 – 2:30 pm	<ul style="list-style-type: none"> ● Walk back to parking lot ● Wrap up and conclusion: Highlighting the importance of stewardship, the actions the Weaselhead Society takes, and the actions the students can make themselves.

Please Note: This outline is adjusted by each Naturalist leader to accommodate distances between the classes. If there are 2 or 3 classes coming, we will be visiting different places at different times and may not see each other during the day. The above is just an example of a typical outline.

Activities

- Pond Study: Our wetlands are not always accessible and fluctuating water levels can impact the quality of our pond studies. Whether your trip includes a pond study or not, students will learn about how structural adaptations help invertebrates and other species to survive. They will see and learn about wetlands and how the meandering Elbow River system has shaped the landscape.
- Build a Tree: Learn about external and internal tree structures in relation to function. Students take on the roles of heartwood, sapwood, cambium, bark, and roots. They learn how insects and woodpeckers impact their structural integrity.
- Stories from the Land: Taken from the writings of Jesse Salus and stories told by Hal Eagletail, stories are read from www.calgaryringroad.com. The rich history of the Tsuut'ina First Nations helps inform students of the human interaction that has taken place on the land throughout Alberta's history.
- Hikes: Classify local plants and animals based on appearance, habitat, and structures. Relate the external structures of plants and animals to their functions. Observe and discuss ecosystem interactions. Discuss how plants and animals respond to sensory stimuli with changes to food, water, temperature, and light. How has the construction and operation of the ring road impacted their sensory stimuli?
- Landform Observation: Discuss how the visible landforms changed over time, shaping the landscape. Investigate and discuss how the sun impacts vegetation compared between the north and south facing escarpments. Identify and discuss important features on the land and in the sky that influenced local First Nations. Observe how human activity has impacted the local environment over time.

In Class Activities

Resources to use in your classroom as you prepare the students for the field trip:

<https://theweaselhead.com/home/park-location/>
<https://calgaryringroad.com/2017/05/18/a-day-on-the-tsuutina-nation-reserve/#more-6869>
<https://calgaryringroad.com/category/lakeview/>

- Wild Constructs:

Ancestral Birdsong https://youtu.be/xbFm2MdWKFfs?si=Aw90p_EjD1mVHItN
Chaguzagha-tsi <https://youtu.be/UxMcWXzEYwk?si=FbHHIFMI8ZiGkkz>

- Research projects on the contributions of diverse cultural groups to the development of the local area.

- Debates or discussions on current environmental issues affecting the Weaselhead, emphasizing democratic decision-making and civic responsibility.

Weaselhead History

The Weaselhead area has a name shrouded in mystery. Like so many Indigenous stories, how the Weaselhead got its name has been lost over time. What we do know is that although there are weasels that call this area home, the name has nothing to do with actual weasels!

Weaselhead is a traditional Blackfoot last name so the name may be related to someone from the Blackfoot Confederacy. There is written history of a man with the name Weazel Head on the Tsuut'ina reserve as well, but little is known about where he originated. Early settler Sam Livingston, whose house is now part of Calgary's Heritage Park, was the first European to settle in the Elbow River valley, now known as the Weaselhead.

Between 1910 and 1990, Tsuut'ina reserve and parts of the Weaselhead were used for military training exercises. Foxholes and signs warning of ordinances possibly left behind remind of this history even today. The last time an exploded device was found was during the floods of 2013.

The City of Calgary bought what is now the Weaselhead from the Tsuut'ina Nation in 1929 to build the Glenmore Reservoir, which still provides roughly 40% of Calgary's drinking water.

Today, this protected area spans 404 hectares (989 acres) and is bursting with diverse habitats. Wander through dense White Spruce forests, leafy Balsam Poplar groves, and colourful wildflower meadows. The Elbow River winds through it all, with floodplains, beaver ponds, and wetlands teeming with life.

As you explore, you'll uncover clues to the area's rich history. Fossils in sandstone cliffs date back 35 million years, and traces of ancient river paths still shape the landscape. You can find evidence of Indigenous campsites and buffalo hunts, as well as remnants of a military training base that once operated here.

With over 480 plant species, including rare ones like the Western Wood Lily, the Weaselhead is a wildlife haven. Frogs, salamanders, and more than 200 bird species thrive here, while larger animals like moose, bears, and even cougars visit throughout the year.

The Weaselhead is a living tapestry of Calgary's natural and cultural history, offering a rich, engaging experience for all who visit.

REMEMBER: This is a natural area park. It is illegal to remove anything from the area. Fossils and certain plant species are protected in Alberta.

