



Weaselhead Grade 6 Field Trip Teacher's Guide Package Investigating Ecosystems Using the Scientific Method

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Thank you for your participation in our Grade 6 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: Students discuss how extreme weather events impacted the local ecosystems during ring road construction leading to sediment entering and contaminating water bodies. They will learn how traditional Indigenous Knowledge is being used in conjunction with Western science to monitor changes over time. They explore at least 3 of the 6 distinct ecosystems found in the park, describing their vegetation, structure and animal populations. Students develop and test a hypothesis based on the scientific method, planning and conducting a controlled and measurable experiment to determine the cause and effect testing their hypothesis. Students will use evidence to answer their questions about the park ecosystems. Examples of studies include a pond study to compare diversity between wetlands, a vegetation survey on the north vs. south escarpment or high vs. low elevations or a bug/bird count in different ecosystems.

Curricular learning outcomes: Students investigate climate, changes in climate, and the impact of climate change on Earth; Students investigate the characteristics and components of and interactions within ecosystems; Students investigate and describe the role of explanation in science.

Social Studies: Students are encouraged to engage in the process of democracy by writing letters about issues they care about and through volunteering and becoming active for causes close to their heart and interests.

Curricular learning outcomes: Students examine civic participation in Canada.

Health & 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

Earth Systems

- What relationships exist between climate and changes on Earth?
- How did weather affect wetlands in the Weaselhead during ring road construction?
- How has climate change influenced traditional ways of living off the land?

Living Systems

- In what ways are ecosystems complex?
- What are some of the interconnections you can see with beavers and the other animals and nonliving things in the Weaselhead?

Scientific Method

- What is the purpose of scientific explanation?
- What is your hypothesis for your scientific study?

Space

- How can you study space in a park like Weaselhead?
- How does a nocturnal sanctuary help us study space?

Citizenship

- What can you do to take action on an issue that you care about?

Social Studies

- What principles shape democracy?
- How have democracies throughout time been guided by common principles?
- In what ways does active citizenship support society?

Program Objectives

Students develop and test a hypothesis based on the scientific method as they investigate the diverse ecosystems of the Weaselhead.

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.
- In class, explore the various Weaselhead ecosystems using Google Earth, Maps, and provided prompted questions, if needed, to determine questions the students have about the area. Have student groups choose a question and hypothesis they would like to test during the field trip visit. Students must be prepared to conduct a controlled scientific experiment following the scientific method.
 - o Pre-visit Trip Package: Powerpoint to familiarize students with the different ecosystems and to help them prepare for their experiment prior to their visit will be sent. Weaselhead History is at the bottom of this document.

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)

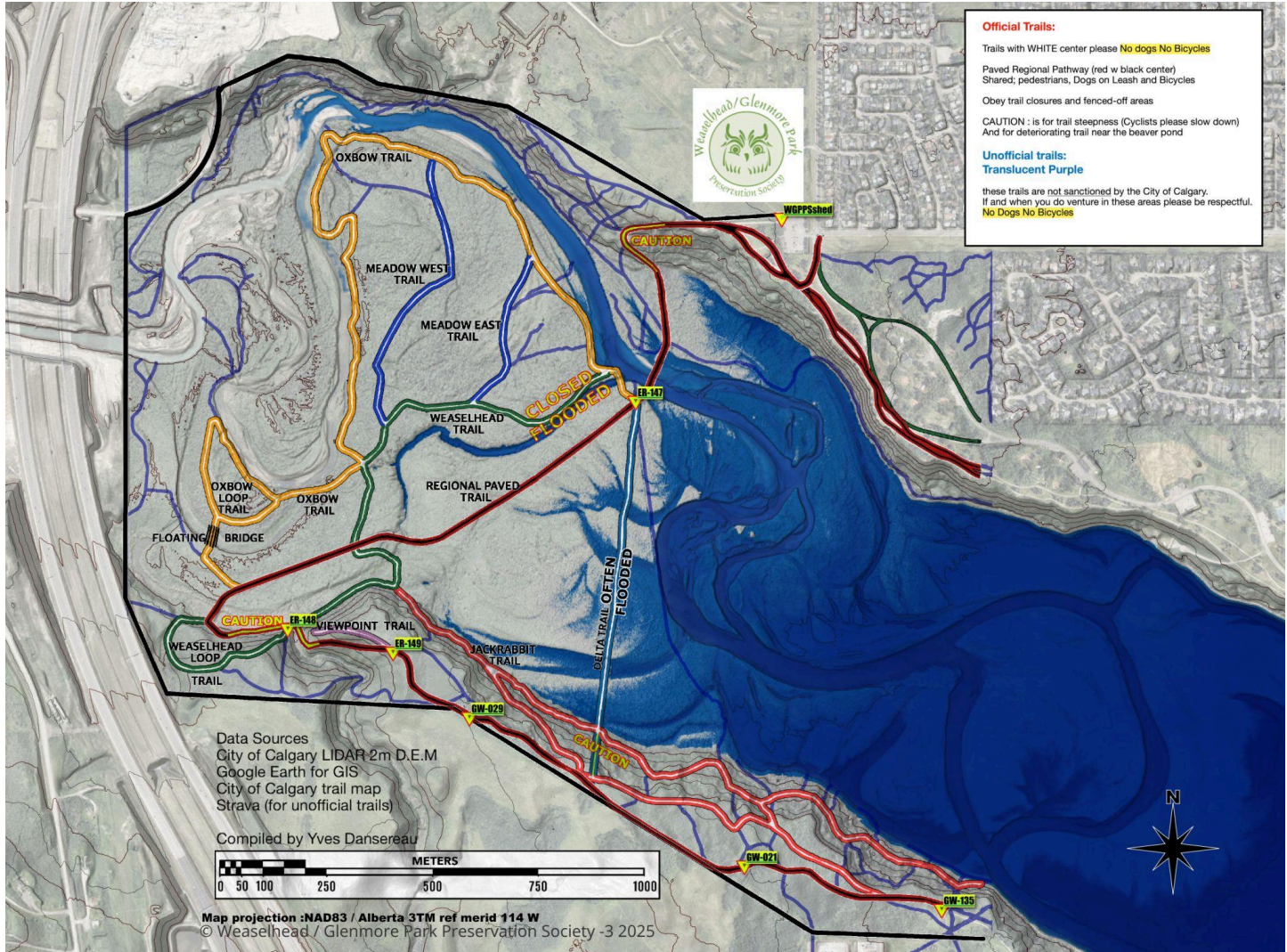
NOTE: This entire program is held outside with no indoor facilities. Students must be prepared for all weather and conditions. They will be hiking approximately 3-5 km on dirt trails. Appropriate footwear is a safety requirement.

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.
- **Cell phones are not to be used, unless there is an emergency. This applies to parent volunteers as well.**

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">● Hiking and identifying various Ecosystems in the Weaselhead.
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 with stops to learn about plants and animals, interactions and local history.● Activity: Beaver Ecosystem drawing/game
11:40 – 12:10 pm	<ul style="list-style-type: none">● Lunch
12:10 – 2:15 pm	<ul style="list-style-type: none">● Hike with stops to learn about plants and animals, interactions, and local history.● Activity: Applying the Scientific Method, students test a hypothesis, conducting a controlled and measurable experiment to use evidence to answer their questions about the park ecosystems.
2:15 – 2:30 pm	<ul style="list-style-type: none">● Walk back to parking lot● Wrap up

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.

In Class Activities

Students predetermine the day's activities based on the scientific study they have chosen to conduct.

Teachers are asked to fill out the Google form sent by the Education Coordinator prior to their visit. This will prepare for the day and the scientific method inquiry the children will be exploring.

Examples of Ecosystem Studies

- **Pond Study:** Our wetlands are not always accessible and fluctuating water levels can impact the quality of our pond studies. Students may wonder how the biodiversity between wetlands varies, conducting a study to complete a pond study at two locations, identifying and counting species abundance and presence.
- **Vegetation Survey:** Students will have access to plant identification books, survey quadrant squares, ropes, and measuring tapes to conduct vegetation surveys. They may wonder how the presence and distance to water impacts plants, or wonder which ecosystems are more diverse. Students may choose to explore how the north and south escarpments compare in vegetation diversity based on the direction of the sun.
- **Beaver Trees:** Students might hypothesize on the abundance and location of trees fallen by beavers. They can conduct a study by recording and marking on a map the location of beaver trees and evidence found.

- Bird/bug Diversity Study: Students may choose to explore the differences between birds or bugs in different ecosystems.

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

[Google form to be filled out ahead of your 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/xbFm2MdWKF5?si=Aw90p_EjD1mVHItN

Chaguzagha-tsi <https://youtu.be/UxMcWXzEYwk?si=FbHHIFMI8ZiGlkkz>

Cycles https://youtu.be/iU4PICAKY_Y?si=Z6iBmjra5jOJR_84

Talk to the Machines https://youtu.be/95jg6-0EuXg?si=_MjjCgGKWtKQNRU

The Human and the Other https://youtu.be/LG5XP_ert10?si=sgs-N_kBUya1L1bB

The Other <https://youtu.be/kCFh47-6j4w?si=Cb8UbzxfUc0uT89P>

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.

