

British Columbia's Changing Landscape

Location: Natural History Gallery

Intended grade level: K-7

Duration: 90 minutes

Objective: Students will be looking at the exhibit through the lens of **change**. The exhibit naturally follows a timeline from earliest to most recent, which lends itself to students noticing change over time. Students will be encouraged to consider natural history as it engages with human history, and how human activity in British Columbia has shaped the natural landscape of the province. In noticing patterns of change, students will be encouraged to think about how these patterns will manifest themselves in the future.



Introduction: 10 minutes

What is natural history?

The Natural History Gallery examines changes that the landscape of British Columbia has undergone over time. The start of the exhibit begins with a timeline extending back millions of years, and the exhibit slowly guides us into the present.

Have you visited the Natural History Gallery before? What do you remember?

Many people remember the woolly mammoth near the beginning of the gallery most clearly. When you go through the exhibit, try to think like historians and scientists, rather than passive observers. For example, when you are standing in front of the woolly mammoth, what are some questions you could ask yourself? Examples: *What happened to it? Why don't we see woolly mammoths anymore today?*

Historians and scientists are interested in patterns of change occurring over time. Instead of looking at an event in history as separate from others, it is important to think about how events are connected.

What is the difference between natural history and human history? Do they overlap? How?

There are no humans in the Natural History Gallery; however, the impacts from humans are everywhere. While you explore the gallery, try to imagine that the gallery includes human history as well. Think: What impacts have humans had on the natural history of B.C.? What kinds of things happen naturally, and what kinds of things happen because of interference by humans?

Orientation and First Exploration: 20 minutes

In order to orient groups to the gallery, guides will give a quick orientation tour. Important points to note are meeting places and bathrooms.

After the orientation, students will be given 10 minutes to explore that gallery before the focus questions are given. This is a good time for students to take photos if they have devices with them. The group will meet in the designated meeting place at the end of this first exploration to debrief.

Sample discussion questions: *What did you notice about the exhibit? What stood out to you? Is there something you would be interested to learn more about?*

Focus Questions and Second Exploration: 20 minutes

Now that they have had a chance to orient themselves in the gallery, students will be provided with prompting questions that will help explore the theme of **change**. The students will be divided into three groups (the groups are not required to stay together at all times). Each group will be assigned a focus question. The students are responsible for researching their focus question in the galleries and reporting back to the group.

1. How has the natural landscape of B.C. changed over time?
2. How has human activity impacted change in B.C.'s natural landscape?
3. What might the future of B.C. look like?

Students have time to explore the gallery again with these framing questions in mind.

Specific Points of Interest

These are prominent locations from the exhibit that can be highlighted while students are exploring to generate discussion.

- Back to the Future (Timeline)
 - *How long have humans existed on earth?*
- Woolly mammoth
 - *What happened to it?*
 - *Do you think it might still be alive today without human activity?*
- Climate Rules!
 - *How have humans contributed to global warming?*
 - *What are the implications for the environment?*
- Forests of the Coast
 - *What did you notice in the forests exhibit?*
 - *What might these habitats look like in the future?*
- Fraser River Delta
 - *Why have the wetlands diminished in B.C.?*
 - *What are the results of this for wildlife?*
 - *What would happen if the wetlands disappeared?*

Sharing Our Findings: 20 minutes

Each group will have a chance to present their findings about their focus question and to comment on other group's findings.

Options

At this point, the tour visit could take two different directions. The first (Option A) deepens the exploration of the three focus questions by asking students to gather evidence that supports their answers. The second (Option B) uses human-made artifacts to further explore humans' effect on the environment.

Option A: Gathering Evidence and Third Exploration (20 minutes)

Note: If students have devices from home (cell phones, iPads, cameras) these devices may be used at this time. If students do not have their own devices, RBCM iPads may be used.

Now that the focus questions have been discussed, students will be encouraged to think about how to *prove* their answers. *What evidence is there?* Students can take photos and videos in the galleries to gather evidence that relates to their focus question. See the "Extensions" section of this document for ideas on how to extend this activity into the classroom after the visit.

Option B: Human-made Artifacts and Third Exploration (20 minutes)

Guiding Questions: *How do our actions affect the world around us? How do our choices change the course of our natural history?*

Students will choose a human-made artifact from a box. They will work in small groups to examine their object in the galleries and think about how that object might affect the environment.

Questions to consider: *What kind of impact(s) can this object have on the natural world? What are the long-term consequences associated with this object? Are there ways to lessen the impact of that object on the environment?*

After this exploration of the gallery, the group will meet in the designating meeting place. Ask the groups to share their findings with the group and encourage discussion from other class members.

Sample discussion questions:

- *What kind of impact do these objects have on the natural world?*
- *What are the long term consequences associated with this object?*
- *Are there ways to lessen the impact of this object on the environment?*
- *What else can you do to help create positive change for our environment?*

Prior to Your Visit

This tour does not require preparation prior to your visit. However, some optional suggestions are provided below to prepare your students and enhance the tour experience.

Ask Some Preliminary Questions

These questions can help students prepare for the visit by encouraging them to think about the themes of natural history and change in a broad sense.

- *What do you think B.C. looked like 200 years ago? 2000? 2 million?*
- *What kinds of changes occur in nature (to plants, animals, ecosystems...)?*
- *What do you think B.C. will look like in the future?*
- *Do humans impact how nature changes?*

Visit the Learning Portal

The Royal B.C. Museum Learning Portal has many resources and themes for you to explore. For information related to this exhibit, see the playlist “British Columbia’s Changing Landscape” accessible at the address below:

www.learning.royalbcmuseum.bc.ca/playlists/continuity-and-change-in-b-c-s-natural-history/

Extensions

The following are suggestions for possible extensions that can be brought back to the classroom after your visit.

1. Give a formal presentation on the focus questions in class using the photos and evidence gathered at the museum. Possible formats include poster, power point, etc.
2. Create a Learning Portal playlist at www.learning.royalbcmuseum.bc.ca about the focus question and evidence gathered.

Resources

The following question cards will be distributed to students as per the “Focus Questions and Second Exploration” section of the tour.

Focus Question 1

How has the natural landscape of B.C. changed over time?

Focus Question 2

How has human activity impacted B.C.’s natural landscape?

Focus Question 3

What might the future of B.C. look like?

Curricular Connections

| | Social Studies | Science |
|---|--|---|
| <p>BC IRPs – Science K to 7 (2005), Social Studies K to 7 (2006)</p> | <p>Themes</p> <ul style="list-style-type: none"> • Exploration and contact (Gr.4) • Sustainability (Gr. 4) • Natural resources (Gr. 5) • Environmental effects of settlement (Gr.5) • Relationships between cultures and their environments (Gr.6) <p>Skills and Processes (Gr. 4-7):</p> <ul style="list-style-type: none"> • Critical thinking • Alternate perspectives • Forming strategies/a plan of action to address an issue | <p>Themes</p> <ul style="list-style-type: none"> • Environmental consequences of personal actions (Gr. 4) • Impact of weather and climate on living things (Gr. 4) • Living and non-living resources (Gr. 5) • Environmental impacts of using living and non-living resources (Gr. 5) • Sustaining healthy ecosystems (Gr. 7) • Human impacts on local ecosystems (Gr. 7) <p>Skills and Processes (Gr. 4-7)</p> <ul style="list-style-type: none"> • Hypothesizing • Interpreting observations and data • Making connections between science, society, and the environment |
| <p>B.C. Draft Curriculum (2013)</p> <p>Core Competencies: Critical Thinking Profiles</p> <ul style="list-style-type: none"> • Analyze and critique • Question and investigate | <p>Curricular Competencies Inquiry Processes (Gr. 4-7)</p> <ul style="list-style-type: none"> • Ask questions • Gather, interpret and analyze ideas • Communicate findings and decisions <p>Continuity and Change</p> <ul style="list-style-type: none"> • Determine continuities, changes, patterns, and trends between different time periods, places, and phenomena (Gr. 4) • Recognize the positive and negative aspects of continuities and changes in the past and present (Gr. 5) <p>Cause and Consequence</p> <ul style="list-style-type: none"> • Determine multiple causes and consequences of an event, decision, or development (Gr. 4-5) • Determine the long- and short-term causes and intended and unintended consequences of an event, decision, or development (Gr. 6-7) | <p>Curricular Competencies Questioning and predicting</p> <ul style="list-style-type: none"> • Demonstrate curiosity about the natural world (Gr. 4) • Make predictions based on prior knowledge (Gr. 4) • Make observations in familiar or unfamiliar contexts (Gr. 5-6) <p>Processing and analyzing data and information</p> <ul style="list-style-type: none"> • Identify patterns and connections (Gr. 5-7) <p>Evaluating</p> <ul style="list-style-type: none"> • Make simple inferences based on results and prior knowledge (Gr. 4) • Identify social, ethical, and environmental implications of their and others' actions (Gr. 4-7) |