



<p>changing of our environment over geological time</p> <ul style="list-style-type: none"> <li>• Interpret an indigenous story and find meaning in its words as well as relating the messages to real life</li> <li>• Understand and answer questions regarding the impact humans have on the environment and the power we have</li> <li>• Understand and answer questions regarding the responsibility that comes with such power</li> <li>• Understand and answer questions regarding how nature can undo the harms done by humans and that we should help nature instead of fight it</li> </ul>	<p>based on validity rather than incorrect versus correct)</p> <p>Informal:</p> <ul style="list-style-type: none"> <li>• Walking around during group working gauging how well and inclusive students are working together</li> <li>• Visiting each group during group working to gauge if students are understanding the material (steering students in the right direction if needed)</li> <li>• Gauging group cooperation and organization during whiteboard answers and oral answers</li> </ul>
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**Prerequisite Concepts and Skills:**

None

**Indigenous Connections/ First Peoples Principles of Learning:**

Use of the of the First Peoples Principle of Learning “*Learning involves recognizing the consequences of one’s actions*” through use of an indigenous story about nature over time and how humans interact with it.

**Origin of The Chilcotin Canyon**

This case is taken from a story entitled Origin of the Chilcotin Canyon in James Teit, “The Shuswap” in Franz Boas, ed. The Jesup North Pacific Expedition: Memoir of the American Museum of Natural History Vol II, Part IV (Leiden: EJ Brill/ New York: GE Stechert, 1909) at 642.

It is said that as recently as about sixty years ago, the falls at the mouth of the Chilcotin Canyon were so steep, and the water so rapid, that very few salmon were able to ascend, and that before this time they could not ascend at all. Thus, there were no salmon in the Chilcotin country. The falls there have gradually worn down, until at the present time salmon ascend freely, and reach spawning-grounds on the Upper Chilcotin River. It is further said that the falls in the Chilcotin Canyon were created by a dam or barrier of rock which Coyote placed across the river for the express purpose of hindering the salmon from ascending. Coyote kept the salmon from the Shuswap.

(Page 172 of SNTC Law Book July 2018 PDF)

<https://www.uvic.ca/law/assets/docs/ilru/SNTC%20Law%20Book%20July%202018.pdf>

Indigenous worldviews and perspectives in education often use stories to either teach or assist the teaching of lessons. By use of an indigenous story that relates to the subject it gives students a whole different indigenous perspective in which to critically think about, and connect to, the material. The story is deceptively complicated and despite it being short there are many different interpretations to take out of it (encourages critical thinking to interpret unclear short stories or poems).

Analysis of the story:

- 60 years ago, the steep Chilcotin Canyon falls had such rapid water that few salmon were able to ascend
- Before few salmon could ascend no salmon could ascend at all
- Coyote stopped salmon from ascending
- Coyote purposely created the falls to stop salmon from ascending to the Shuswap spawning grounds by placing a barrier of rock
- Now the falls have worn down over time and the salmon can swim freely

Explanation of the story:

- Coyote caused the restricted access of salmon (an important resource) to the people of Shuswap
- It does not really matter what coyotes reasoning is, it is wrong to restrict access to important resources
- Nature helped fix the harm done by coyote

- Some things people can't fix, and instead they should be patient and allow nature to undo harms done to the land instead of messing with natural processes.
- For better or for worse we have the power to change the environment

Questions I would ask students:

- Coyote caused the problem but what caused the solution?
- What do you think this story is trying to teach?
- What were the consequences of Coyote's actions? Try to name more than just one.
- Do you know any parallels to this story that you have seen in your life?
- What are some parallels to this story that you could think of or have affected other parts of the world?
- We obviously have the power to change the environment negatively like Coyote did but what are some ways we could change it in a positive way
- Do we have an obligation to be careful of what we do to the environment?

I would leave the students with questions for them to further think about after school such as:

- Why would the coyote block access to the Shuswap?
- Could Coyote's choice have been beneficial for the salmon?

All these questions and prompts are to steer the students toward critical thinking and learning a topic in a different format. I would also prompt the students to look at other stories and think deeper into unsaid meanings and what we can learn from them.

I believe I infused an indigenous worldview/perspective into my lesson plan by including a traditional indigenous style of teaching. That being teaching through story and promoting critical thinking into unsaid meaning. I also infused the First Peoples Principle of Learning; "*Learning involves recognizing the consequences of one's actions*" and elaborated upon our responsibilities as humans with such power to the resources and environment around us as well as how we are connected to the land.

I had difficulties at first finding an indigenous story that could relate to any of the BC curriculum big ideas. However, I realized I was trying to be too specific when in reality most of the stories I read had meanings that were not readily apparent and that just, for example, a story did not talk about adapting to your environment did not mean that a story didn't relate or did not have a theme that couldn't be related to a topic. I had to switch my way of thinking from the incredibly specific way that a biochemistry degree had taught me to look for scientific articles and instead be more interpretive and critical thinking. After I had found a story, I did not have issue with integration, but this may be because I started with a curriculum big idea then found a story instead of vice versa.

### **Universal Design for Learning:**

Having students come up to the board to write answers supports tactile learners and gets students moving in the classroom

Electing a representative allows students who are not comfortable or do not want to answer in front of everyone an option

Pairing higher level students with less proficient students will provide the more advanced students more of a challenge and a learning experience (high ceiling) while the less proficient students receive more support and less responsibility (low floor)

Having a virtual version of the premade worksheet and Indigenous story so students who only use, or prefer to keep everything online have that option

Writing answers on the board will support visual learners and allow students to better follow and keep track of what was said

Having a projected powerpoint with pictures supports visual learners

Reading the story out-loud supports auditory learners

### **Differentiate Instruction (DI):**

This Lesson plan is almost completely group oriented which can be very anxiety inducing for some students or simply struggle when working with others. The lesson is designed in a way that if a student asked to work alone then that would be completely fine.

## Materials and Resources

Projector  
 Whiteboard and markers (or chalkboard and chalk)  
 Prepared worksheets for Intro and Story activity  
 Prepared Powerpoint of effects of and on nature with and without human intervention  
 Online links to material and worksheets

## Lesson Activities:

Teacher Activities	Student Activities	Time
<p><b>Introduction:</b>            Teachers will</p> <ul style="list-style-type: none"> <li>Organize students into predetermined groups of 2 or 3 and hand out prepared question worksheet</li> <li>Present a two-part powerpoint about what causes changes in the environment (<b>part 1</b>) and a timeline of before and after pictures of our environment over time, with and without human interference (<b>part 2</b>)</li> <li>Show the images and descriptions in <b>part 1</b> of the powerpoint of things like ancient Greek statues and eroded tropical islands then present questions such as: <i>do you think these landscapes and objects always looked like this? What factors do you think cause them to look the way they do in the pictures?</i></li> <li>Allow groups some time to gather answers while visiting each group to monitor group cohesion and help guide answers if needed</li> <li>Ask for at least 1 volunteer from each group to write their answers up on the board or put a check next to an answer from a different group they also had. (looking for answer like rain, wind, tides, or most importantly for some pictures; Humans)</li> <li>Show the images and descriptions in <b>part 2</b> of the powerpoint of things such as side by side pictures of: rivers many years in the past and a present-day picture of that river and its new altered path (shows how over time rivers will erode down and change). A river years in the past and that same river in present day that has been completely altered and diverted due to human interference (shows how humans can completely change a river). A spot of land years in the past that now has a manmade lake and a present picture of that same spot with the manmade lake (shows how humans can even just create things in the environment)</li> <li>Instruct the same groups of students write in their notebooks and answer the questions: <i>order the sets of pictures from most time difference between picture 1 and picture 2 from most time to least time</i> (The trend being the more human intervention the shorter time it took, illustrating the immense amount of power humans have), <i>What are some impacts on the flora and fauna in these environments? What did you feel about these images if anything?</i></li> <li>Open up the classroom to group sharing of answers and discuss, elaborate, or highlight some of the answers given</li> </ul>	<p>Students will</p> <ul style="list-style-type: none"> <li>Listen and watch <b>part 1</b> of the teacher presented powerpoint</li> <li>Work in a group to answer the posed questions and fill in their worksheets</li> <li>Elect a representative to write group answers on the whiteboard</li> <li>Listen and watch <b>part 2</b> of the teacher presented powerpoint</li> <li>Work in the same groups to answer the teacher posed questions</li> <li>Write down question answers on worksheet</li> <li>Have the same or different group representative to share answers orally (multiple representatives is fine)</li> </ul>	<p>30 min</p>

<ul style="list-style-type: none"> <li>• Share the actual timelines of the pictures</li> </ul> <p>*This introduction is meant to shock the students into realizing the power that humans have over the environment and how fast it can be destroyed</p>		
<p><b>Body:</b> Teachers will</p> <ul style="list-style-type: none"> <li>• Project and read the story “<b>Origin of The Chilcotin Canyon</b>” orally to class</li> <li>• Prompt the students to read along as the teacher is talking for better retention (provide option virtual version of story)</li> <li>• Provide Students with paper and/or virtual version of second worksheet with questions pertaining to the story</li> <li>• Read the story a second time (feel free to repeat more times)</li> <li>• Instruct the students to work with their same groups and try to answer questions such as: <i>Coyote caused the problem but what caused the solution?</i> <i>What do you think this story is trying to teach?</i> <i>What were the consequences of Coyote’s actions? Try to name more than just one.</i> <i>Do you know any parallels to this story that you have seen in your life?</i> <i>What are some parallels to this story that you could think of or have affected other parts of the world?</i> <i>We obviously have the power to change the environment negatively like Coyote did but what are some ways we could change it in a positive way</i> <i>Do we have an obligation to be careful of what we do to the environment?</i></li> <li>• Give the students time to think and try to answer questions while walking around to each group and gauge how they are doing and help or hear their thoughts on answers</li> <li>• Open up the classroom for oral answering of questions</li> <li>• Write student answers on board so students can better follow along</li> <li>• Explain the “actual” meaning of the story to the class and allow students to add to their answers but not change their original answer.</li> </ul>	<p>Students will</p> <ul style="list-style-type: none"> <li>• Listen to story read orally and follow along on the board or on a tech device</li> <li>• Work with their same groups to try and answer all of the worksheet questions</li> <li>• Use interpretive skills to understand the story, relate the story to real life, and relate the story to the first part of the lesson</li> <li>• Same or different group representative will participate in sharing groups answers to the class and teacher orally</li> <li>• Add to answers on worksheet to show better understanding (without changing original answers)</li> </ul>	<p>35 min</p>
<p><b>Closure:</b> Teachers will</p> <ul style="list-style-type: none"> <li>• Present a powerpoint that shows more side by side pictures and descriptions of places like the Chernobyl nuclear power plant and how the earth will heal itself from the harms we have done, further supporting the idea in the story</li> <li>• Answer any questions students may have</li> <li>• I would leave the students with questions for them to further think about after school such as: <i>Why would the coyote block access to the Shuswap?</i></li> </ul>	<p>Students will</p> <ul style="list-style-type: none"> <li>• Listen to a guided powerpoint</li> <li>• Ask any questions they have (if any)</li> <li>• Write down extra questions (optional)</li> </ul>	<p>10 min</p>

<p><i>Could Coyote's choice have been beneficial for the salmon?</i></p> <ul style="list-style-type: none"> <li>• Collect student worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Hand in worksheets</li> </ul>	
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**Organizational Strategies:**

Representatives to reduce amount of time and chaos  
 Predetermine groups to save time with deciding groups  
 Premade worksheets instead of note will help students organize answers  
 Checking for problems with group dynamics to stop problems from happening and making sure groups are working well and being inclusive

**Proactive, Positive Classroom Learning Environment Strategies:**

Electing representatives for each group will reduce amount of time needed for writing answers on board by having less people coming up to the board all at once. This also reduces amount of chaos present (more orderly and structured).  
 Premade worksheets instead of notebook copying to save time and keep things clear for students  
 Groups are premade in a way that groups higher level students with less proficient students to assist the less proficient students and give the more advanced students more of a challenge.

**Extensions:**

If students were interested, wanted to be further challenged, or really enjoyed the indigenous storytelling lesson teaching style there are multiple different stories in the same link the “Origin of The Chilcotin Canyon” was from.  
<https://www.uvic.ca/law/assets/docs/ilru/SNTC%20Law%20Book%20July%202018.pdf>  
 The teacher could select a few of the stories that relate to different science topics and provide the link (or print out the pages) to a student with a premade worksheet similar to this lessons story activity worksheet.

Worksheet question guideline:  
*What do you think the message of this story was?*  
*Did this story provide a different perspective for you? If yes, then what was that perspective?*  
*What science topic (or other area) do you think this story could relate to and why?*  
*Do you know any parallels to this story that you have seen in your life?*  
*What are some parallels to this story that you could think of or have affected other parts of the world?*

Students can finish this activity on their own time and hand in their worksheet to a teacher for ungraded assessment and feedback if they so choose.  
 Alternatively the link also has explanations and questions that

**Reflections (if necessary, continue on separate sheet):**

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