

Archaeology and Superposition

Cross-Curricular Lesson

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Established Goals (Big Ideas):

Science: Earth materials change as they move through the rock cycle and can be used as natural resources.

Math: Computational fluency and flexibility with numbers extend to operations with larger (multi-digit) numbers.

Social Studies: Interactions between First Peoples and Europeans lead to conflict and cooperation, which continues to shape Canada's identity.

Rationale

Departure Bay was once home to the Snuneymuxw village of Sti'ilup. It was a winter village where several families lived in houses that included a large long house. While no above surface evidence exists today of this village, prior archaeological excavations have resulted in the uncovering of some 5,000 artifacts, human burials, and longhouse postholes. Through exposure to basic archaeology methods, students at DBES will gain an increased understanding of the need for preservation of cultural resources and the significance of Sti'ulup for the Snuneymuxw people.

Essential Questions

What is the BC Heritage Act and how does it apply to artifacts we may find?

What can oral storytelling tell us about the village of Sti'ilup?

Why is the Law of Superposition essential to understanding archaeology and geology?

Students will be able to:

- Construct arguments defending the significance of individuals/groups, places, events, or developments.
- Sequence objects, images, or events, and determine continuities and changes between different time periods or places (continuity and change).
- Take stakeholders' perspectives on issues, developments, or events by making inferences about their beliefs, values, and motivations (perspective).

Students will know:

- First Peoples concepts of interconnectedness in the environment.
- The rock cycle.
- Addition and subtraction of whole numbers to 1 000 000.
- Area measurement of squares and rectangles.
- First Peoples land ownership and use.

<ul style="list-style-type: none"> ● Identify questions to answer or problems to solve through scientific inquiry. ● Choose appropriate data to collect to answer their questions. ● Use equipment and materials safely, identifying potential risks. ● Communicate ideas, explanations, and processes in a variety of ways. 	
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Learning Intentions

Learners will understand the how oral storytelling acted as a funnel for knowledge transformation for First Nations peoples.

Learners will understand how the law of superposition creates a chronological sequence that can be applied to archaeology and geology.

Learners will understand why cultural artifacts are significant and must not be kept by individuals but instead must be turned over to the Archaeology Branch or museums.

Prerequisite Concepts and Skill:

- Ability to make good observations in written or recorded format.

Materials and Resources with References/Sources (per group):

1. Law of Superposition activity.
2. Scissors, glue and cardstock.

Differentiated Instruction (DI):

- Tactile activity that will encourage participation amongst all levels of learners.

Lesson 1: Oral Storytelling

Activities	Student Activities	Pacing
<p><u>Intro</u></p> <ul style="list-style-type: none"> ● Students will gather at Departure Bay beach and listen to a Snuneymuxw elder share stories about the old winter village of Sti'ilup. 	Listen	15m

<p><u>Body</u></p> <ul style="list-style-type: none"> • Students will then have the opportunity to ask questions and learn more about why the village was important to the yearly cycle of the Snunexmuxw. Elder Jim Johnny is also a carver and created the Portal at the beach, he will share more information about carving with the students. • Other members of the band will be there and they will bring a collection of artifacts and photographs that the students will be able to examine. • Following stories the students will have free time to explore and play on the beach. They will be asked to imagine themselves as children from Sti'ilup and explore how the children of that time may have played. <p><u>Assessment</u></p> <ul style="list-style-type: none"> • Formative through the type of questions asked and student participation in viewing the artifacts. 	<p>Questions and observe</p>	<p>15m</p>
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Lesson 2: Law of Superposition Activity

Activities	Student Activities	Pacing
<p><u>Intro</u></p> <ul style="list-style-type: none"> • Using a glass chemistry column, the teacher will explain the process of superposition. By burying several different types of materials under successive layers of sand, students will get a glimpse into how a chronology or sequence can be created. 	<p>Listen and ask questions</p>	<p>10m</p>
<p><u>Body</u></p> <ul style="list-style-type: none"> • Students will then begin on their own activity which will increase their understanding of superposition. They will be divided into three groups, within each larger group they will receive separate activity sheets that they will cut out. 	<p>Paper cutting and gluing activity</p>	<p>25m</p>

<ul style="list-style-type: none"> • After cutting out the images of artifacts, they will then stick these to a piece of coloured cardstock. Depending on the colour of the cardstock, each group will sequentially place the cardstock down on the ground, with each group following to place their own down on top of the other. This will act to show how superposition occurs. • Once the layers are all down, they will then work together to examine the different layers and see if they can identify which layers are the youngest and which are the oldest. <p><u>Assessment</u></p> <ul style="list-style-type: none"> • A cumulative written activity or quiz will follow where the students will get to apply their knowledge to a more complicated situation. 		
	Quiz	10m