

LESSON PLAN

TEACHER NAME: Katherine Rycroft

LESSON SUBJECT: Alpine and Continental Glaciation

LESSON TITLE: Glacier Sand Boxes

GRADE: 12

LESSON DATE: April 5, 2018 (8:45-10:07)

RATIONALE

This lesson will reinforce the previous lesson on glaciation theory. Rather than simply labeling graphs students will build the forms using indoor sandboxes. Students will show their understanding of depositional and erosional feature glacial landforms by building and labeling the landforms.

CURRICULUM CONNECTIONS

PLO: Gradational Processes: Glaciation

LEARNING INTENTIONS

- Students will review erosional and depositional landforms created by glaciers and show their understanding by creating the structures.
- (If time) students will examine an article on Glacial Archaeology in order to understand how glaciers are disappearing and what consequences/opportunities result.



PRE-REQUISITE CONCEPTS AND SKILLS

Students have reviewed the landforms created by glaciation, examined photos and have practiced labeling diagrams.

MATERIALS AND RESOURCES (REFERENCES) NEEDED FOR THIS LESSON

Large containers for sand pits, sand sufficiently wet for molding, ice with frozen sand and pebbles, pebbles, larger stones, extra water, masking tape, toothpicks, news article about glacial archeology, students notes.

DIFFERENTIATED INSTRUCTION (ACCOMODATIONS)

Students will be working together to label the various landforms before sandbox activity starts. In case some students were away for the previous class, or do not yet know the names of all land forms, they can observe their peers in their discussion, labeling and drawing of glacial features. Students will also be working together to build the sandpit landforms. They can use their notes to support their construction for alpine and continental glacial landscapes.

ASSESSMENT AND EVALUATION

Observation of students working together to create landforms in small indoor sand boxes. Students will explain the formation of their glacial landscape (or...sandscape) after they have created all the applicable landforms, so I can check their understanding. I will be looking for their understanding of depositional vs. erosional formations in both alpine and continental contexts. Students can then walk around the class and view how each group designed their sanscapes.

LESSON ACTIVITIES

TEACHER ACTIVITIES	STUDENT ACTIVITIES	CLASS MANAGEMENT CONSIDERATIONS	PACING
<u>INTRODUCTION</u> Present a few photos of various glacial landscapes	Students will label the images that will be projected directly onto the whiteboard to ensure that they understand the different landforms. They will label depositional features with black and erosional	Having students work in two different groups will allow them to use the images and terms on each other's boards to scaffold their	10-15

<p>BODY Break class into three groups (the class is small) and give each group their sandbox supplies.</p> <p>CLOSURE (If time) hand out article on glacier archeology.</p>	<p>features with blue.</p> <p>Write the names of various landforms on the other whiteboard. Another group will work on drawing a diagram of a glacier landscape with those features</p> <ul style="list-style-type: none"> - Students will use small sandboxes (with other materials) to create models of both alpine and continental glaciers to show their understanding of resulting land formations - Students will be given toothpicks and tape to label their features, using one colour pen for depositional features and one for erosional features. - Once they are finished with one landscape, they will call me over to check their landscapes. - We will clean up by placing all materials in the boxes. <p>- (If time) students will read an article about glacial archaeology https://news.nationalgeographic.com/2018/01/glacier-archaeology-norway-oppland-mountains-climate-change-melting-ice-spd/ and answer some questions.</p>	<p>understanding.</p> <p>Ask questions of each member of the group about how the formations are made.</p>	<p>30-40</p> <p>(10-15)</p>
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REFLECTIONS

Students loved this lesson. There was definitely no time for the article.