

A GLACIAL CONNECTION (B.C. - IDAHO)

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Description:

This activity will give students the opportunity to discover some similar topographical features shared by Canada and the United States. The glacial movement during the Cretaceous time, about 70 to 80 million years ago, has provided the opportunity. Through the use of maps, the students will be able to trace the carving of the Kootenai River Valley that is shared by both countries. They will compare and contrast the present cities of the valley, with illustrations of past glacial flows in the region of the northwest US and southwest Canada.

Grade Level(s):

Grades 6 – 8

Subject:

Social Studies/Geography

Duration:

5 – 7 class periods

Goal:

The goal is to encourage the students to be aware of the geological formations created in the Kootenai Valley of Northern Idaho and Southern British Columbia, and provide them experience for learning the topography of their valley.

Objectives:

The students will:

- Identify the location of the Purcell Trench in British Columbia and Northern Idaho with laminated maps of North America
- Label present day cities of Northern Idaho on a blank map and then, with an overlay of a map of Northern Idaho, record the location of the Purcell Trench
- Observe photos of evidence of the trench in the Kootenai Valley
- Label the latitude and longitude of present day U.S./Canadian border
- Define the geological vocabulary on the list included

Standards:

This lesson meets Idaho State and Boundary County School # 101 Standards

- #463-01 a and b
- #463-03 c

Background Information:

The students will use an atlas of North America to locate present day Canada and Northwestern United States. After becoming familiar with the physical and political map of the region the lesson will proceed.

Materials:

- overhead projector
- overheads of physical and political maps of North America, the northwestern U.S., Western Canada, Northern Idaho (each shown with a Purcell Trench overlay), and photos of topography displaying evidence of the trench
- overheads of the vocabulary lesson
- printed copies of the vocabulary list and maps of North America
- atlas of the world
- class set of overhead pens

Procedures:

1. Using the atlas and a blank laminated map of North America, students will locate:
 - North America
 - United States
 - Canada
 - Northwestern region of the U. S.
 - British Columbia, Canada
 - Bonner's Ferry, Idaho
2. Students will identify and record the latitude and longitude between British Columbia and the State of Idaho
3. Students will label a blank map of the Northwestern U.S. and British Columbia with the following cities and save it for future use:
 - Eastport, ID
 - Porthill, ID
 - Bonner's Ferry, Id
 - Naples, ID
 - Sandpoint, ID
 - Priest River, ID
 - Coeur d'Alene, ID
 - Spokane, WA
 - Creston, B.C.
 - Cranbrook, B.C.
4. Display photos of physical signs of glacial movement in Northern Idaho and British Columbia.
5. Discuss and hand out vocabulary list and have the students make flash cards
6. Provide "buddy study time" for practicing vocabulary list.
7. Provide the students with a duplicate blank map of North America on an overhead. Instruct the students to shade in the glacial flow as observed on the overhead example. (Option: Students could use thin tissue paper cut-outs of the glacial flow and tape upper side of the flow to present-day political maps of the northwest U.S. and B.C.)
8. Test vocabulary.

Assessment:

Students will be expected to turn in their labeled political map of northwestern U.S./British Columbia with the attached glacial overlay. They will also be expected to pass the vocabulary test with a 90% score or above.

Sources:

Alt, David. *Glacial Lake Missoula and Its Humongous Floods*. (Missoula, MT: Mountain Press Publishing Co., 2001)

Alt, David D. and Hynman, Donald W. *Roadside Geology of Idaho*.(Missoula, MT: Mountain Press Publishing Co., 1989)

GLACIAL VOCABULARY LIST

continent: one of the seven great land masses on earth

sea: a body of salt water that is partly enclosed by land

fjord: a long, narrow inlet of the sea between cliffs or slopes

river: a long body of water that flows over land

forest: a large area of land covered with trees and other plants

strait: a narrow body of water that connects two larger bodies of water

glacier: a large mass of ice that moves very slowly down a mountain or through a valley

peninsula: an area of land that is nearly surrounded by water

iceberg: a huge block of floating ice that has broken off a glacier

trench: a glacial trench is a channel, or ditch dug by a moving glacier

island: a piece of land that is surrounded by water

ocean: the body of salt water that covers most of the earth

glacial flow: glaciers moving along the ground

lake: an inland body of fresh trough, or salt water

Cretaceous Period: from 63 million to 135 million years ago; it marked the end of the age of reptiles but also the appearance of modern insects and flowering plants

MOUNTAINS FORMED IN THE KOOTENAI VALLEY

Purcell Mountains

Cabinet Mountains

Selkirk Mountains

Glacial Vocabulary Test

Match the following words with the correct definition.

trench sea ocean Cretaceous Period glacier
Selkirk island peninsula continent river strait fjord
Cabinet forest glacial flow iceberg lake Purcell

1. _____ the body of salt water that covers most of the earth
2. _____ an area of land that is nearly surrounded by water
3. _____ a long body of water that flows over land
4. _____ a large area of land covered with trees and other plants
5. _____ a piece of land that is surrounded by water
6. _____ an inland body of fresh or salt water
7. _____ one of the seven great land masses on earth
8. _____ glaciers moving along the ground
9. _____ from 63 million to 135 million years ago; end of the age of the reptiles; appearance of modern insects and flowering plants
10. _____ a long, narrow inlet of the sea between cliffs or slopes
11. _____ a narrow body of water that connects two larger bodies of water
12. _____ a huge block of floating ice that has broken off a glacier
13. _____ a body of salt water that is partly enclosed by land
14. _____ a glacial trench is a trough, channel, or ditch dug by a moving glacier
15. _____ large mass of ice that moves very slowly down a mountain or through a valley
16. _____ mountains formed by glaciers in the Kootenai River Valley
17. _____
18. _____