

Landslide activity 2: **The Frank Slide**

Description: This activity includes a word search puzzle, a map exercise, a classroom discussion, and a creative writing assignment on the historic Frank Slide, the worst landslide disaster in Canada.

Materials: Overhead (Frank Slide)
Student worksheets
Atlas

Duration: 2 periods

Teacher instructions and notes:

1. Introduce the concept of a landslide. Ask if they have ever seen a landslide. Tell the class that Canada has had many landslides, but because we are not a densely populated country, we have been lucky that most landslides have not hurt people. In this class we are going to learn about Canada's worst landslide.
2. Distribute the Student Worksheets. Have the class complete the puzzle and map before discussing the event.
3. **Puzzle:** Students complete a word search puzzle to discover where in Canada the worst landslide disaster occurred.
4. **Map:** Students use an atlas to find Frank and plot its location on a map of Canada.
5. **Discussion:** Teacher leads a class discussion about the event. (See background information.) Words used in the word search provide some clues for discussion. Teacher should write the key ideas on the blackboard to help the students in the essay activity. Students may take notes.
6. **Essay:** Students pretend to be a newspaper reporter in 1903 and write a short article for their 'newspaper'. This is intended to be a creative impression of what it might have been like at the time rather than a geological analysis of the event.

Background information on the Frank Slide

- Turtle Mountain is part of the Front Range of the Rocky Mountains in southwestern Alberta. The small town of Frank is situated at the bottom of the mountain and many of the people worked in the local coal mine.
- At 4:30 am on April 29, 1903, about 30 million cubic meters of limestone rock separated from the east side of Turtle Mountain and crashed down into Frank. Part of the town was buried under 82 million tonnes of rock.
- The Frank Slide was very fast, moving at an average velocity of 31.2 m/s. In about 100 seconds, a thick layer of rock rubble covered homes, roads, the Canadian Pacific railway and the Oldman River.
- After the event, there was a large light-coloured scar on the mountainside and a great blanket of huge rocks spread out below and covering much of the town. See photo of Turtle Mountain in Overhead 1.
- The Frank Slide was Canada's worst landslide disaster, killing at least 70 people. Coal miners, trapped in the mine, were able to dig themselves out safely.
- Although some people blamed the mining activity, the main cause of the Frank Slide was the unstable bedrock geology of Turtle Mountain. [The mountain had a fault cutting through the rock, and in places it had weaker types of rock (sandstone and shale) that were being eroded (worn away), and there were deep cracks in the limestone on the top of the mountain.] Other factors that helped to cause the landslide included the coal mining activity inside the mountain and a sudden freeze that night.
- The Alberta government is continuing to carefully watch Turtle Mountain for any signs of future landslides.
- For more information, visit the website of the Frank Interpretive Centre <http://www.frankslide.com/faq.html>

Overhead 1: **Frank Slide, Alberta, 1903**



Canada's worst landslide disaster. (GSC 132916)

Landslide

Word search

Find the following words in the puzzle and circle the letters. Be careful. Each letter in the puzzle is used only once. When all the words have been found, the remaining letters spell the name of the worst landslide disaster in Canada.

LANDSLIDE
 HAZARD
 MOUNTAINS
 ALBERTA
 BURY
 TOWN
 APRIL
 COAL
 MINE
 TOP
 TURTLE
 ROCK
 ON



1. The worst landslide disaster occurred at the town of _____.
_____.
2. This town is in the province of _____.
_____.
3. Find this town in an atlas and mark the location on this map of Canada.



4. Your teacher will lead a class discussion about this landslide that occurred at 4:30 am on April 29, 1903.

The words used in the word search offer some clues to what happened there. Pretend that you are a newspaper reporter living at the time of the landslide (1903) and write a short newspaper article about this disaster for your newspaper. Imagine how it would have looked, sounded, smelled, and felt during and after the event. You can include artwork.