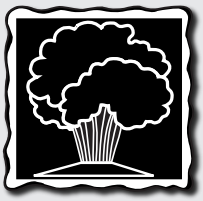
Volcano Hall of Fame



Grade Level: 5-9

Learner Objectives:

Students will:

- Become familiar with important aspects about each of the Cascade volcanoes
- Identify sources of information about Cascade volcanoes
- Recognize the long-term interaction between people and Cascade Range volcanoes

Setting: Classroom

Timeframe: 30 minutes

Materials:

- Copies of *"Volcano Hall of Fame Cards"* student page
- Internet access or library resources
- USGS Volcano Fact Sheets (optional)

USGS science for a changing world

Living with a Volcano in Your Backyard- An Educator's Guide with Emphasis on Mount Rainier

Prepared in collaboration with the National Park Service

U.S. Department of the Interior
U.S. Geological Survey

General Information Product 19

Overview

Students use fun facts to identify which Cascade volcano is being described.

Teacher Background

Refer to U.S. Geological Survey Fact Sheet 165-97 for general information about Cascade volcanoes and their locations in the Cascade Range. Find additional information at related activities, including **Cascade Volcano Timeline** and **Surrounded by Volcanoes.**

Procedure

Write a journal entry about a volcanic eruption to assess knowledge of volcanic processes and terms.

1. Give each student a ***"Volcano Hall of Fame"*** student page.

2. Explain procedure of matching facts to specific Cascade volcanoes.

3. Instruct students to use the Internet, library resources, or USGS Volcano Fact Sheets to match the facts to the correct volcano.

Adaptations

- Younger students can cut out the ***"Hall of Fame"*** cards and use as volcano trading cards.

Vocabulary: Cinder cone, Klickitat, Kulshan, lahar, lava tube, obsidian, Loowit, Mazama, Modoc War, Pahto, shield volcano, stratovolcano, Tahoma, Tehama, tephra, volcanic ash, Wy'east

Skills: Communicating, creative writing

Benchmarks:

Geography:

The students uses maps, charts, and other geographic tools to understand the spatial arrangement of people, places, resources, and environments on Earth's surface.

1 – The student understands the meaning of what is read

1.2 – Recognize spatial patterns on Earth's surface and understand the processes that create these patterns

1.2.2a – Locate physical and human features and events on maps and globes

Assessment

Use **A String of Volcanoes** as a learning tool, and **Volcano Hall of Fame** as an assessment of students' knowledge about important aspects of Cascade volcanoes. After completing these two activities, students should be able to identify important aspects of Cascade volcanoes and identify sources of information. Assess each student's ability to identify important aspects and to record them.

References

Dzurisin, D., Stauffer, Peter H., Hendley, James W., 1997, Living with Volcanic Risk in the Cascades: U.S. Geological Survey Fact Sheet 165-97, 2p.

Harris, S. L., 2005, Fire Mountains of the West: The Cascade and Mono Lake volcanoes. Mountain Press Publishing Company, 3rd edition, 454 p.

Tilling, R. I., Topinka, L. and Swanson, D.A., 1990, Eruptions of Mount St. Helens (Revised edition): Past, present, and future: U.S. Geological Survey series of General Interest Publications, 57 p.

Wright T.L., and Pierson, T.C., 1992, Living with Volcanoes–The U.S. Geological Survey's Volcano Hazard Program: U.S. Geological Survey Circular 1073, 57 p.

Refer to **Internet Resources Page** for a list of resources available as a supplement to this activity.

Volcano Hall of Fame Cards

Use Internet or library resources to match the volcanoes in the Cascade Range (listed below) to the facts in the Volcano Hall of Fame. Write the name of the volcano below the number on each card.

Crater Lake
Mount Baker
Mount Rainier

Glacier Peak
Mount Garibaldi
Mount Shasta

Lassen Peak
Mount Hood
Mount St. Helens

Medicine Lake Volcano
Mount Jefferson
Newberry Volcano

Mount Adams
Mount Meager
Three Sisters

VOLCANO
1

_____

- Highest volcano in the Cascade Range
- Most threatening volcano in the Cascades because of its closeness to large populations
- Produced one of the largest-known lahars (mudflows) in the world (5,600 year – old Osceola Mudflow)
- Covered by as much ice and snow as all of the Cascade volcanoes combined
- Native Americans named this volcano Tahoma

VOLCANO
2

_____

- Most recently erupting volcano in California (1914-1917)
- Home to only Cascade volcano with bubbling mud pots, roaring fumaroles, and boiling hot springs
- Volcanic ash blown as far as Nevada during 1917 eruption
- Native Americans named this volcano Tehama

Volcano Hall of Fame Cards continued...

VOLCANO 3

- A stratovolcano in southwestern British Columbia, Canada
- Ice-age glaciers confined lava and caused formation of thick lava layers–as much as 240 meters (800 feet) thick
- Melting of glacial ice could produce floods and lahars and endanger small communities in British Columbia

VOLCANO 4

- Cascade volcano that erupted most recently (1980-1986; 2004-2005)
- Most frequently active volcano in the Cascades during the past 4,000 years
- Eruptions and lahars caused $12 billion in damage–the most coslty volcanic event in United State history
- Known by Native Americans as Loowit

VOLCANO 5

- Large shield volcano–covers 1,300 square kilometers (500 square miles)
- Lava flows extend to the city of Bend, Oregon, and beyond
- More than 400 cinder cones dot the flanks of this volcano
- Produced a large glassy obsidian flow about 1,300 years ago

VOLCANO 6

- Largest shield volcano in California covers approximately 2,000 square kilometers (772 square miles)
- Well known for its extensive system of lava tube caves–at least 435!
- Rugged volcanic landscape sheltered Native Americans during the Modoc War of 1872-1873

Volcano Hall of Fame Cards continued...

VOLCANO 7

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- Only volcanic area in Oregon where rising magma forces uplift of land surface
- Volcanoes span the horizon in a group of three west of Bend, Oregon
- These three volcanoes have the closest spacing of any stratovolcanoes in the Cascade Range
- Volcano group named by Methodist preacher

VOLCANO 8

_____

- Second highest volcano in Washington
- Has the second largest lava volume of any stratovolcano in the Cascades
- Approximately 15 square kilometers (6 square miles) of lowland inundated by a lahar about 6,000 years ago and dammed a stream to form Trout Lake
- Known to Native Americans as Pahto or Klickitat

VOLCANO 9

_____

- Oregon's most recently erupting volcano
- Highest peak in Oregon
- Only Oregon volcano to produce yearly earthquake swarms
- In 1805, Lewis and Clark observed quick-sand remaining from a lahar caused by an eruption that occurred about two decades earlier
- Named Wy'east by Native Americans

VOLCANO 10

_____

- Largest eruptive volume of the Cascade Range volcanoes
- Viewed close-up from a nearby superhighway and railway in northern California
- Sustains Whitney Glacier, the largest glacier in California
- Partial volcano collapse about 300,000 years ago caused giant rock avalanche that came to rest as a field of small hills covering 174 square miles (450 square kilometers)

Volcano Hall of Fame Cards continued...

VOLCANO 11

- Most remote of the Cascade volcanoes within the United States
- Produced one of the most explosive eruptions in the Cascades about 13,000 years ago
- Lahars threaten communities in river valleys of northwestern Washington

VOLCANO 12

- Least active volcano in the Cascade Range–no known eruptions since the last ice age
- Erupted repeatedly for hundreds of thousands of years; last eruptive episode during the last ice age
- Lewis and Clark named this volcano in honor of America's third President

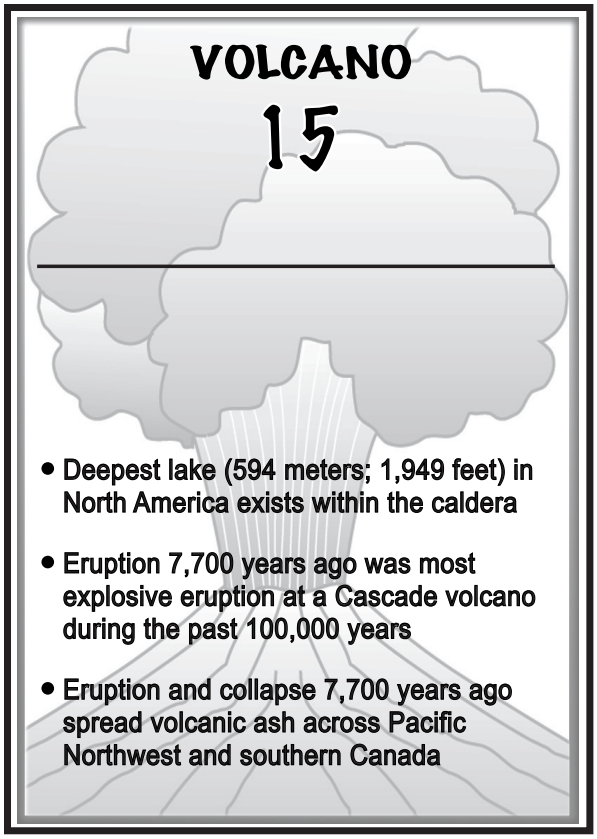
VOLCANO 13

- Lahars from this volcano threaten communities in northwestern Washington and southern British Columbia
- Increased steam activity caused small mudflows in 1975
- 1843 eruption formed new crater that continues to steam
- Known by the Native people as Kulshan

VOLCANO 14

- Volcano furthest north in the chain of volcanoes
- A complex of several volcanoes
- Widespread volcanic ash in southwestern Canada
- Most explosive eruption in Canada during past 10,000 years

Volcano Hall of Fame Cards continued...



Volcano Hall of Fame

The following volcano names match the clues given in the Volcano Hall of Fame.

1. Mount Rainier
2. Lassen Peak
3. Mount Garibaldi
4. Mount St. Helens
5. Newberry Volcano
6. Medicine Lake Volcano
7. Three Sisters
8. Mount Adams
9. Mount Hood
10. Mount Shasta
11. Glacier Peak
12. Mount Jefferson
13. Mount Baker
14. Mount Meager
15. Crater Lake