# Lab 15: Volcano (Model)


**Summarize main points from each video.**

**Title / topic** _____

**Title / topic** _____

**Title / topic** _____

# Topic Introduction

**Summarize your understanding of each paragraph.**

A volcano is a mountain with a hole where lava (hot, liquid rock) comes from a magma chamber under the ground. Volcanologists are scientists who study volcanoes using methods from geology, chemistry, geography, mineralogy, physics and sociology.

Most volcanoes have a volcanic crater at the top. When a volcano is active, materials come out of it. The materials include lava, steam, gaseous sulfur compounds, ash and broken rock pieces.

When there is enough pressure, the volcano erupts. Some volcanic eruptions blow off the top of the volcano. The magma comes out, sometimes quickly and sometimes slowly. Some eruptions come out at a side instead of the top.

Volcanoes are found on planets other than Earth. An example is Olympus Mons on Mars. On Earth, there are two basic kinds of volcanoes: shield volcanoes, and stratovolcanoes.

*Extracted from:* https://simple.wikipedia.org/wiki/Volcano

# Read/Summarize Text

1. **Read the passage.**
2. **Underline key expressions in each sentence.**
3. **Re-write each word (or expression) you underlined.**
4. **Summarize the passage.**

*Types of volcanoes*

1

2

**Shield volcanoes** are built out of layers of lava from continual eruptions. They are not explosions.  The hot lava is fluid. The lava spreads out over a wide area. Shield volcanoes do not grow to a great height. Layers of lava spread out to give the volcano gently sloping sides.

**Stratovolcano** are also called composite volcano. They are tall. They are conical – shaped like a cone. They are built up of many layers of hardened lava, tephra, pumice, and volcanic ash. Unlike shield volcanoes, stratovolcanoes are steep. Lava that flows from stratovolcanoes cools and hardens before spreading far.

*Re-write words you underlined*

3

_____ _____ _____

_____ _____ _____

*Using a complete sentence, summarize or rephrase the passage*

4

https://simple.wikipedia.org/wiki/Volcano

# Read Text for Comprehension

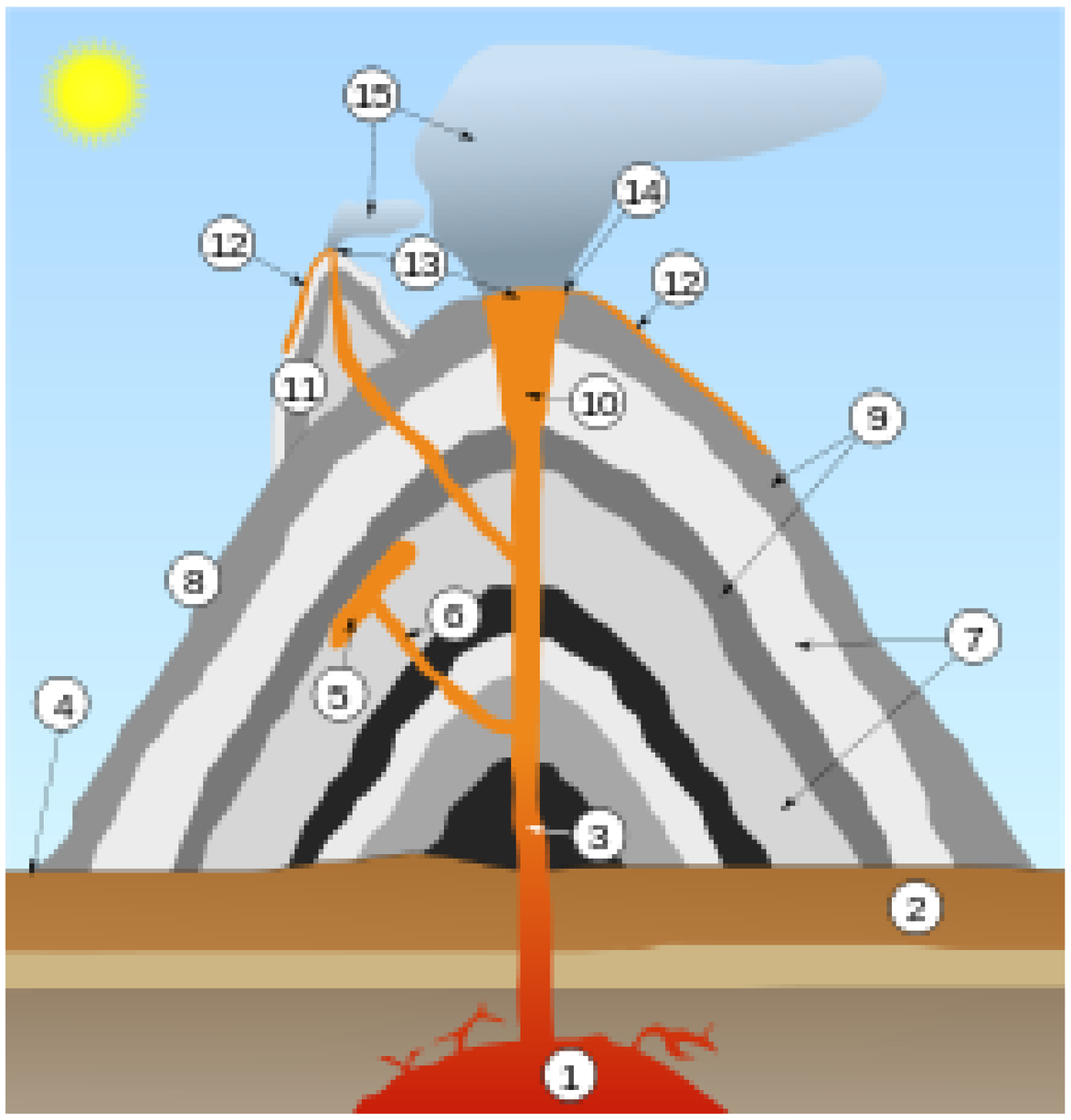
Read this article for deeper understanding.  No summary is required, although you may want to circle, underline, or mark key ideas and words.

Review the illustration. Identify the parts of a volcano using the list below.

**Parts of a volcano:**

1. Large magma chamber
2. Bedrock
3. Conduit (pipe)
4. Base
5. Sill
6. Branch pipe
7. Layers of ash
8. Flank
9. Layers of lava
10. Throat
11. Parasitic cone
12. Lava flow
13. Vent
14. Crater
15. Ash cloud

**Illustration**




**Classification**

A traditional way to classify or identify volcanoes is by its pattern of eruptions. Those volcanoes which may erupt again at any time are called active. Those that are now quiet called dormant (inactive). Those volcanoes which have not erupted in historical times are called extinct.

https://simple.wikipedia.org/wiki/Volcano

# Discuss Illustration

**View and Discuss this Topographic Map**


https://www.topozone.com/mt-st-helens-map-before-and-after/

**Explanation: Mt. St. Helens – Before and After Maps**

(*Before explosion*) In the old USGS top level map shown above, it shows the volcano used to be a cone with a 9677 foot summit elevation.

Topographic maps of mountains typically don't change much over the years. Even volcanoes are unlikely to change for thousands of years. Mount St. Helens is a different story. When it blew on May 18th of 1980, the topography of the mountain and the entire landscape around it changed dramatically. The surveyors at USGS had to redraw the map to show the massive crater, the mudflows, and the new dome building in the center.

# Interpret a Graph

**Write the title of the graph _____**

**Circle the type of chart this represents**

*Bar Chart* *Line Chart* *Pie Chart* *Other*

**If applicable,**

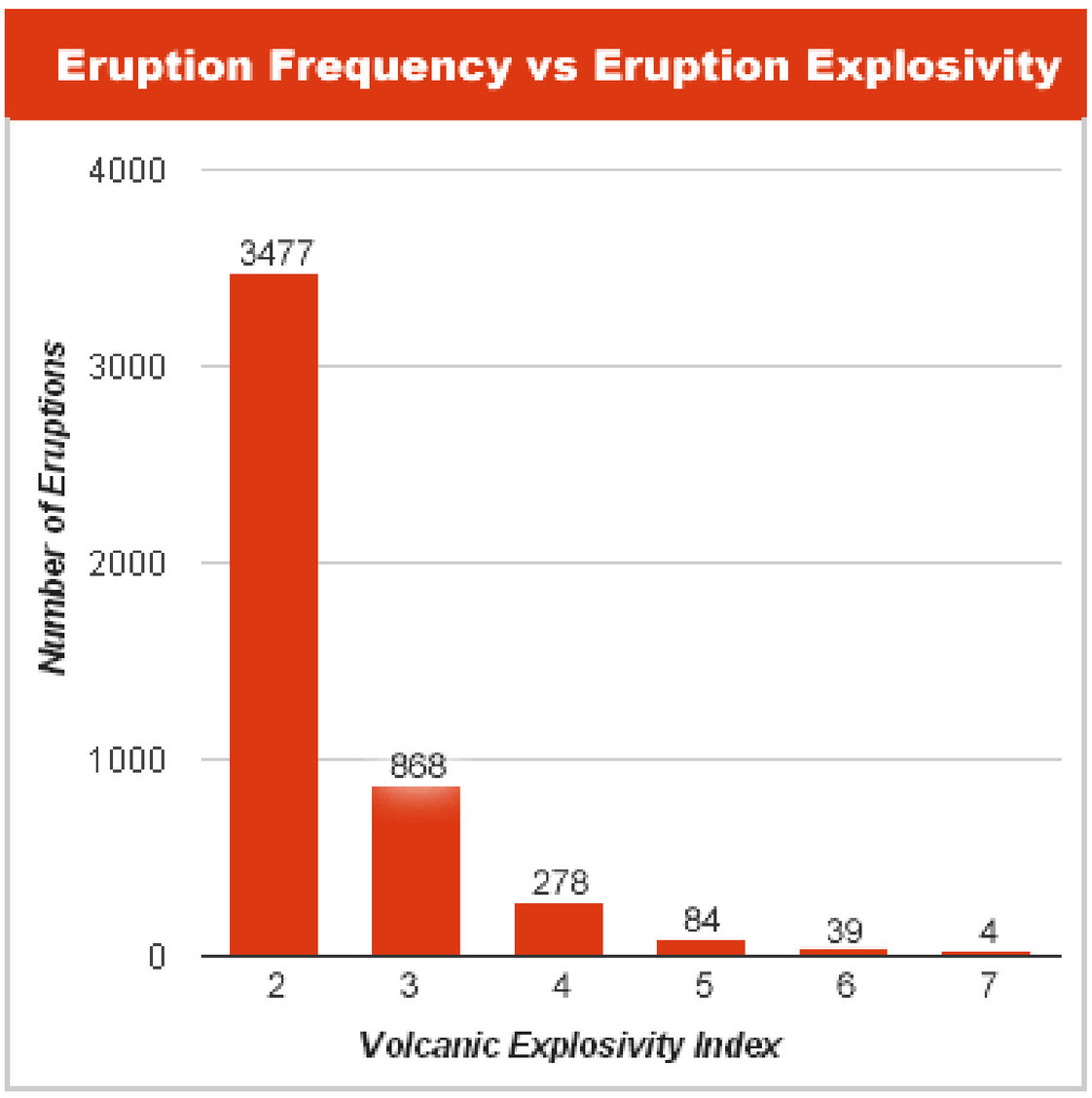
**What does the X-axis represent _____**

**What does the Y-axis imply _____**

**Summarize what this graph represents or conveys**

_____

https://geology.com/stories/13/volcanic-explosivity-index/




**<u>VEI vs. eruption frequency</u>**: This chart shows how small, less explosive eruptions are much more frequent than large eruptions. This chart shows recorded and historic eruptions that occurred between about 10,000 years ago and 1994.

# Show-Off Your Smarts!

**Instructions**

- Complete as an individual or small group.
- Discuss your ideas/answers/responses in a small group.
- Select one person to present your responses to the class.

**Q1. How can information be applied to your life *(today, or in the future*)?**

**Q2. How might this information apply to (*or, impact*) communities?** (*Hint – this question especially applies to communities near an active volcano*).

**Q3. How will future generations view the Mt. St. Helen's event from 1980?**

# Write a “Mt. St. Helens” Story

Write a 70-word fiction story about a person living in 1892 near Mt. St. Helens. Note that a real person (Professor Plummer) presented an academic paper called "Recent Volcanic Activity” in February 1893. The paper included possible activity of Mt. St. Helens.

https://volcanoes.usgs.gov/observatories/cvo/Historical/volcanoes_plummer_1893.shtml