25.1 Earthquakes Volcanoes & Tsunamis



Summarize main points from each video.

Video Title / topic						
Video Title / topic						
Video Title / topic						

Topic Introduction



Summarize your understanding of each paragraph.

An earthquake is the shaking of the surface of the Earth, resulting from the sudden release of energy in the Earth's lithosphere. They range in size. The seismic activity of an area refers to the frequency, type and size of earthquakes experienced over a period of time.
A volcano is a rupture in the crust of a planetary-mass object, such as Earth, that allows hot lava, volcanic ash, and gases to escape from a magma chamber below the surface. Earth's volcanoes occur because its crust is broken into 17 major, rigid tectonic plates.
A tsunami (also known as a seismic sea wave) is a series of waves in a water body caused by displacement of a large volume of water, generally in an ocean or a large lake. Earthquakes, volcanic eruptions and underwater explosions have the potential to generate one.
Each of these large-scale occurrences have an impact on the Earth's surface and life occupying that space. Combined, these have had a significant influence on the Earth – its landscape, its capacity to support life, and other crucial aspects - for billions of years.

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.

1994 Northridge earthquake

Re-write words you underlined

The 1994 Northridge earthquake occurred on January 17, had its epicenter in Reseda, a neighborhood in the north-central San Fernando Valley region of Los Angeles, California. It had a duration of approximately 10–20 seconds. The blind thrust earthquake had a moment magnitude of 6.7, which produced ground acceleration that was the highest ever instrumentally recorded in an urban area in North America.

It was felt as far away as Las Vegas, Nevada, about 220 miles from the epicenter. The death toll was 57, with more than 8,700 injured. In addition, property damage was estimated to be between \$13 and \$50 billion, making it one of the costliest natural disasters in U.S. history.

https://en.wikipedia.org/wiki/1994 Northridge earthquake

	,				3
Using a comple	te sentence, s	<u>summarize o</u>	r rephrase th	e passage	4

1

2

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.

2011 Tōhoku earthquake and tsunami

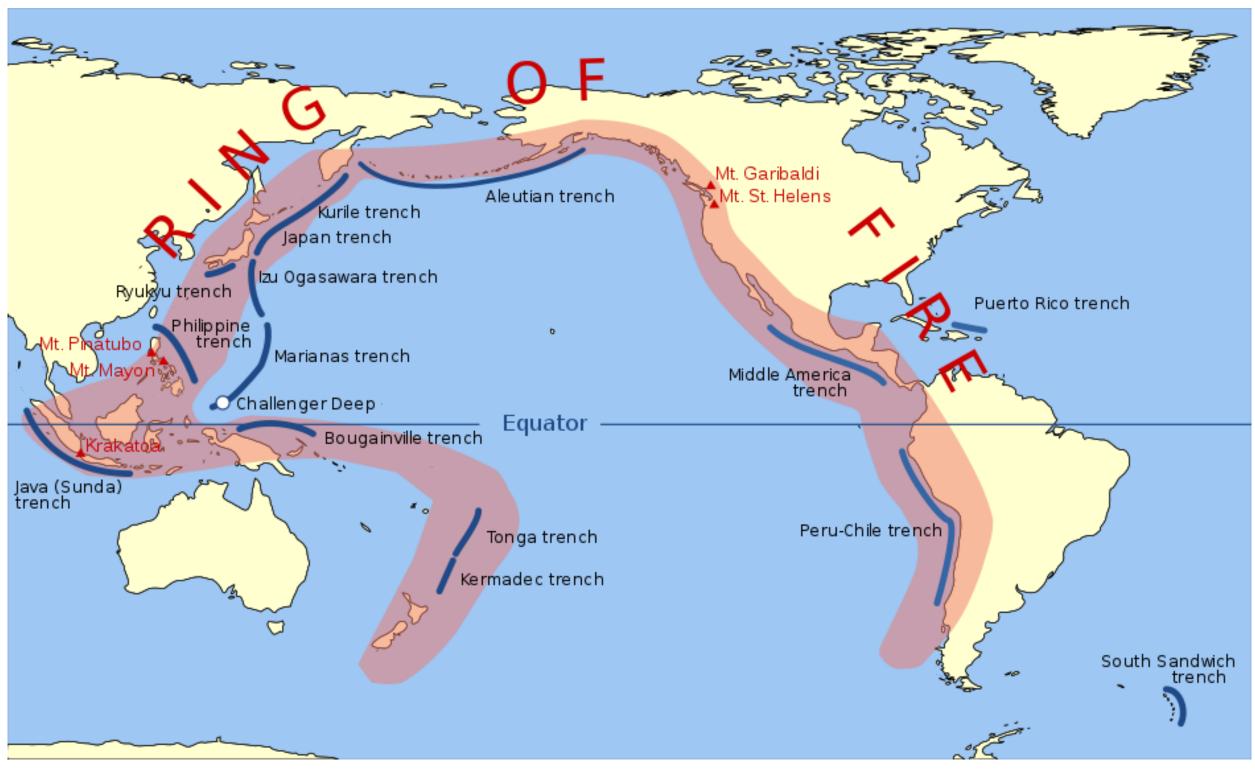
The 2011 earthquake off the Pacific coast of Tōhoku was a magnitude 9.0–9.1 (Mw) undersea megathrust earthquake off the coast of Japan that occurred at 14:46 JST (05:46 UTC) on Friday 11 March 2011, with the epicentre approximately 70 kilometres (43 mi) east of the Oshika Peninsula of Tōhoku and the hypocenter at an underwater depth of approximately 29 km (18 mi). The earthquake is often referred to in Japan as the Great East Japan Earthquake and is also known as the 2011 Tōhoku earthquake, and the 3.11 earthquake. It was the most powerful earthquake ever recorded in Japan, and the fourth most powerful earthquake in the world since modern record-keeping began in 1900.

The earthquake triggered powerful tsunami waves that reached heights of up to 40.5 metres (133 ft) in Miyako in Tōhoku's Iwate Prefecture, and which, in the Sendai area, traveled up to 10 km (6 mi) inland. The earthquake moved Honshu (the main island of Japan) 2.4 m (8 ft) east, shifted the Earth on its axis by estimates of between 10 cm (4 in) and 25 cm (10 in), increased earth's rotational speed by 1.8µs per day, and generated infrasound waves detected in perturbations of the low-orbiting GOCE satellite. Initially, the earthquake caused sinking of part of Honshu's Pacific coast by up to roughly a meter, but after about three years, the coast rose back and kept on rising to exceed the original height of the coast.

Draw Illustration



Copy and Label the Illustration in the Space Provided



https://en.wikipedia.org/wiki/Ring of Fire

Draw (Copy) the Illustration Here

Interpret a Graph



Write the	title of the g	graph	
	_		

Circle the type of chart this represents

Bar Chart Line Chart Pie Chart Other

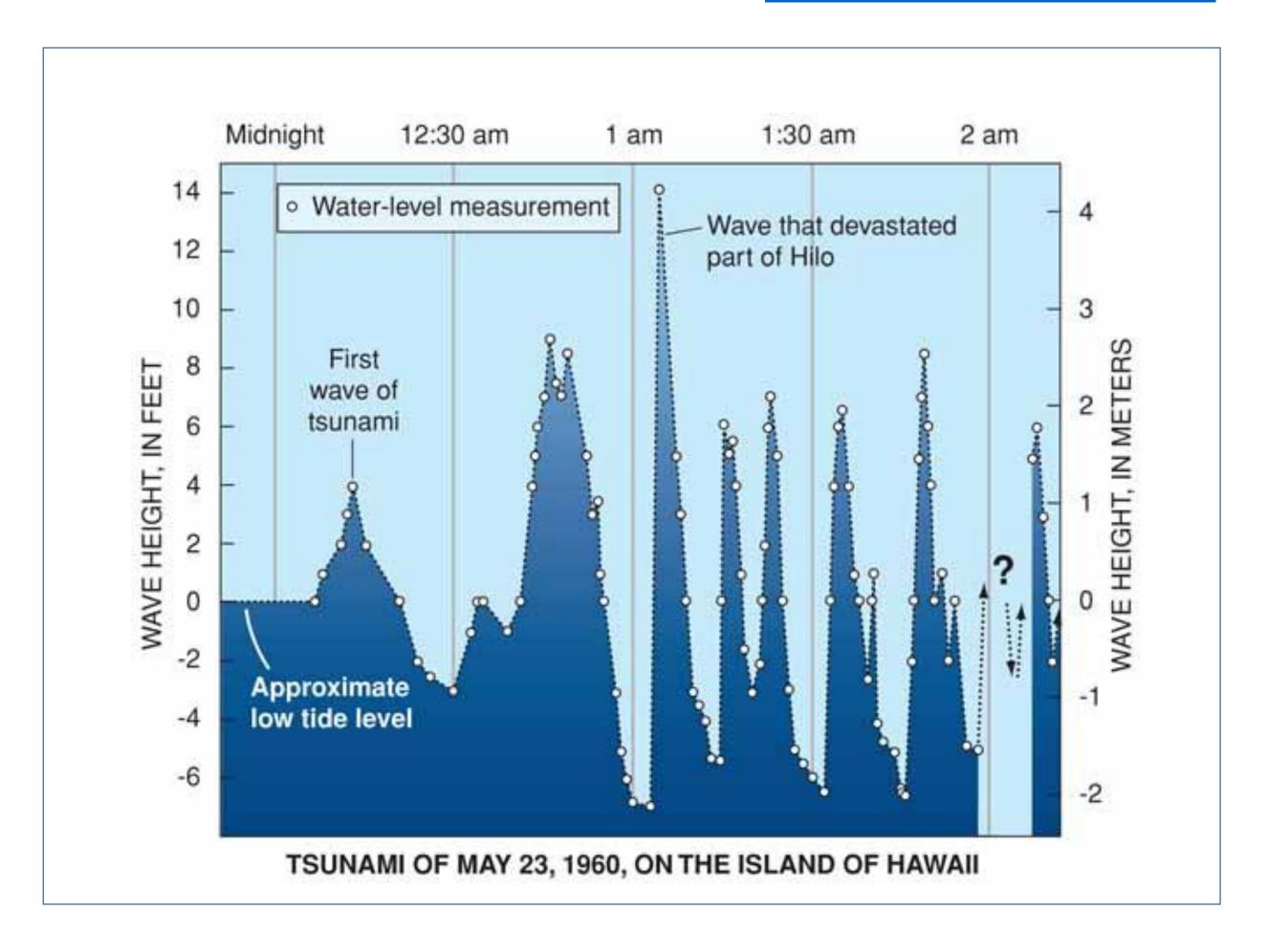
If applicable,

What does the X-axis represent _____

What does the Y-axis imply _____

Summarize what this graph represents or conveys

https://pubs.usgs.gov/circ/c1187/RL



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 this information be applied to a young-person's life?
Q2. How does this information apply to (or impact) communities?

- Q3. When do scientists need to apply this information? How?
- Q4. How would a person from 100 years ago view this information?
- Q5. How does this topic connect to other science topics or math?

Write down at least three words introduced or covered by this topic.

			_	
_				
1.				
2.				
3.				
4.				
5.				
6.				
l .				

Make a Poster

