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**Topic:** Earth science, plate tectonic theory  
**Keywords:** Earthquake, geological activity, history  
**Suggested grade level:** Science 11  
**Estimated activity time:** 15 min

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## Earth Science – Science 11

### Plate Tectonic theories (theory and consequences of tectonic plate interactions)

**VR 360° exploration:** Earthquake: Evidence of a Restless Planet - fulldome trailer 360°  
<https://www.youtube.com/watch?v=z1xyb1W9kqI>

#### **General Introduction:**

Participating in a VR 360° exploration/expedition is like going on a vacation or trip. You have to plan your destinations, places to eat, relax, and where you would like to meet your friends and family. It means that you have to identify your objectives.

#### **For teachers:**

In this section, you will see a modified planning and preparation arranged into three steps. The steps are our suggestions. We hope they will help you maximize the learning opportunities a VR 360° exploration/expedition can potentially offer.

Three steps:

- 1) Pre-exploration: Preview the playlist exploration yourself. By doing this, you are identifying possible questions and activities that might enrich students' VR experience.
- 2) During exploration: Provide guide or key questions or ask the students to formulate new questions about the playlist and encourage students to refer to other resources (e.g., YouTube videos, articles, etc.) to connect and enrich the playlist.
- 3) Post-exploration: Follow-up on the new questions and wonders students have identified. These questions might lead to an interdisciplinary inquiry project, blog posts or short video clips to link with the original unit or chapter coverage.

**Description:**

In this 15-minute exploration activity, you'll see a 360° panorama of a fulldome trailer "Earthquake: Evidence of a Restless Planet".

"Earthquake: Evidence of a Restless Planet is a sweeping geological journey that explores the forces that transform the surface of our planet. Data-driven visualizations illustrate Earth's story, revealing how subtle motions and sudden ruptures have shaped our planet over eons — and how geological activity influences the course of human history. Earthquake: Evidence of a Restless Planet was written by Ryan Wyatt and produced by the visualization studio of the California Academy of Sciences." Loch Ness Productions Published on Mar 27, 2017

**Objective:**

The core learning outcome of this playlist is to enrich students' understanding about earthquakes and spread public awareness in the event of natural calamities, like earthquakes.

However, unlike a regular 2D video, this VR provides a 360° panorama, which allows your students to focus on different points of interest that might vary from student to student. So, take time to explore the playlist using different angles and positions.



Earthquake: Evidence of a Restless Planet - fulldome trailer 360°

**Suggested Guide:**

**1) Pre-exploration:**

Review how earthquakes link with tectonic plate interactions

Earthquakes 101 | National Geographic:

<https://www.youtube.com/watch?v=VSgB1IW6O4&feature=youtu.be>

How does the City of Vancouver prepare for the “Big One”?

<https://vancouver.ca/home-property-development/earthquake-facts.aspx>

<https://www.cbc.ca/news/canada/british-columbia/fault-lines-big-one-1.3795416>

**2) During exploration:**

What key questions could pique students’ interest as they watch this playlist?

As well, ask them to think of interesting questions they want to answer as they watch the playlist. Let them discuss these questions and their possible answers.

They can do this by groups of two or three.

With limited number of Google cardboards, let students work in pairs. Let them take turn to watch the playlist and do a Q & A. For example, Student 1 will describe to student 2 what he/she is seeing right now. Student 2 will explain the playlist, to Student 1 and each student will take turns doing Q & A.

**3) After exploration:**

Give time for the pair/class to think about the questions and answers they have generated after watching the playlist.

Then invite them to read the link below. With the playlist, let them express their understanding, reactions into any interdisciplinary inquiry projects, blog posts, short video clips, etc.

Earthquakes 101 | National Geographic:

<https://www.youtube.com/watch?v=VSgB1IW6O4&feature=youtu.be>

**References:**

[https://edu.google.com/products/vr-ar/expeditions/?modal\\_active=none](https://edu.google.com/products/vr-ar/expeditions/?modal_active=none)

<https://www.youtube.com/watch?v=z1xyb1W9kqI>

<https://www.youtube.com/watch?v=VSgB1IW6O4&feature=youtu.be>

<https://vancouver.ca/home-property-development/earthquake-facts.aspx>

<https://www.cbc.ca/news/canada/british-columbia/fault-lines-big-one-1.3795416>

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