

Natural Disasters in Canada

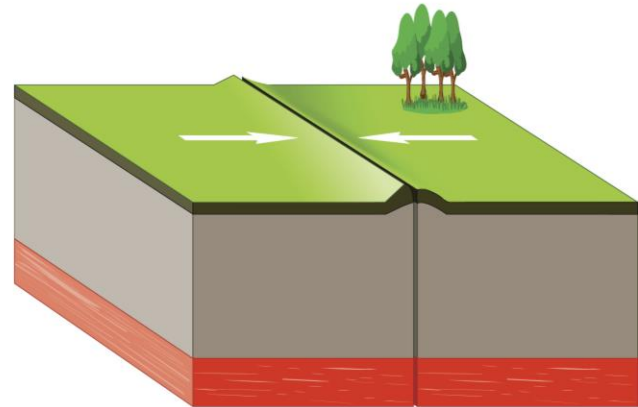
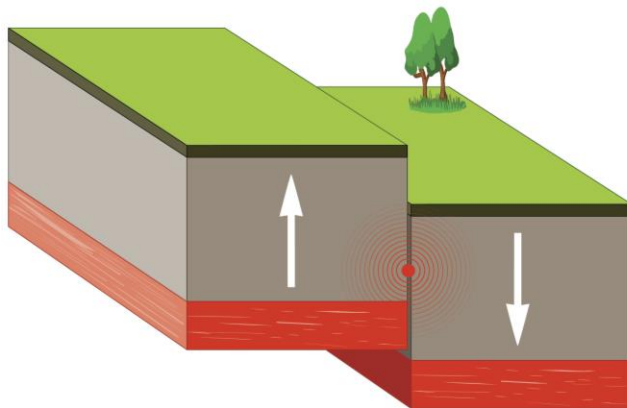
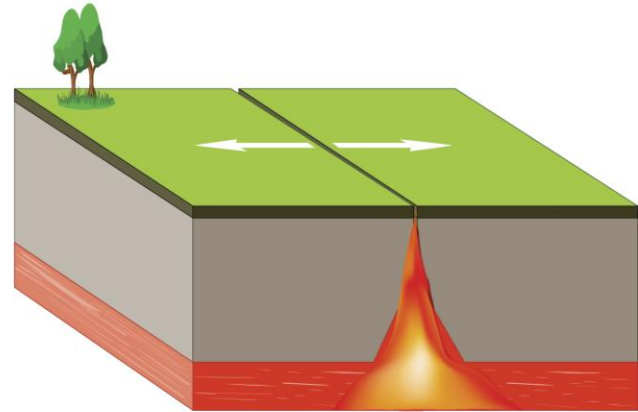
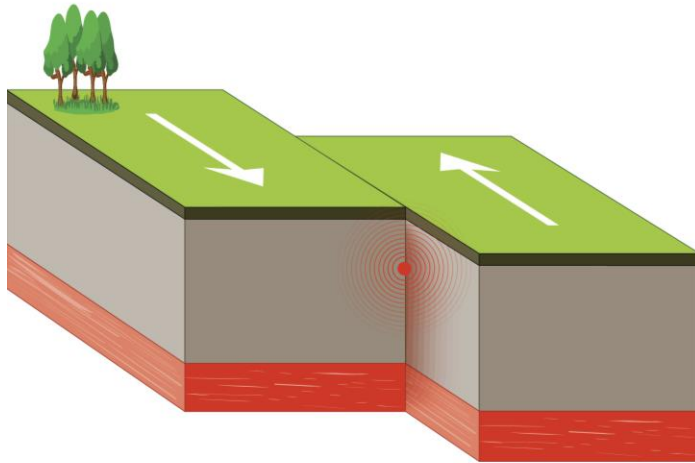
EARTHQUAKES

Earthquakes

- Most earthquakes are caused by the movement of tectonic plates
- Tectonic plates are large, broken pieces of the earth's outer crust
- These plates are always moving but very slowly, roughly a few centimeters a year

Earthquakes

- Earthquakes typically occur when tectonic plates either move apart, slide past each other or push against one another
- **Divergent:** the plates move apart
- **Convergent:** the plates push against one another
- **Transform:** the plates slide past each other

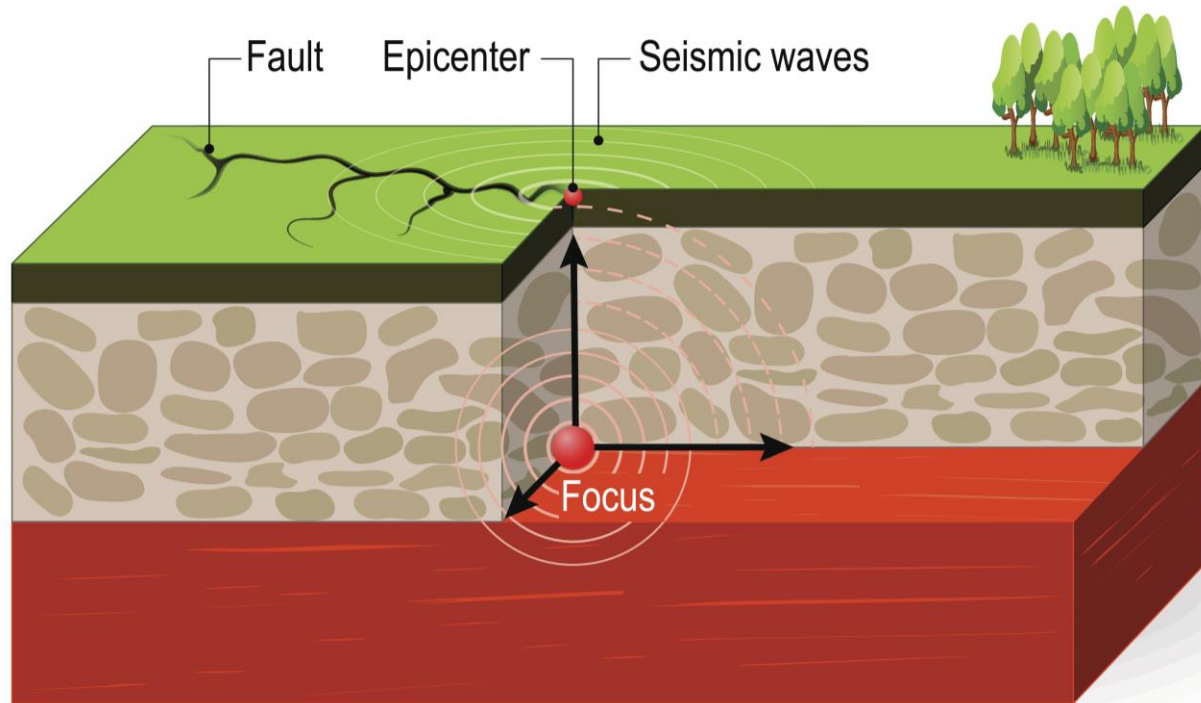


Earthquakes

- Fault lines are long cracks in the surface of the earth
- When tectonic plates and fault lines interact, stress and pressure build up which causes the rock to crack and shift
- This releases a lot of stored up energy
- This burst of energy causes the ground to shake which is what we feel as an earthquake

Earthquakes

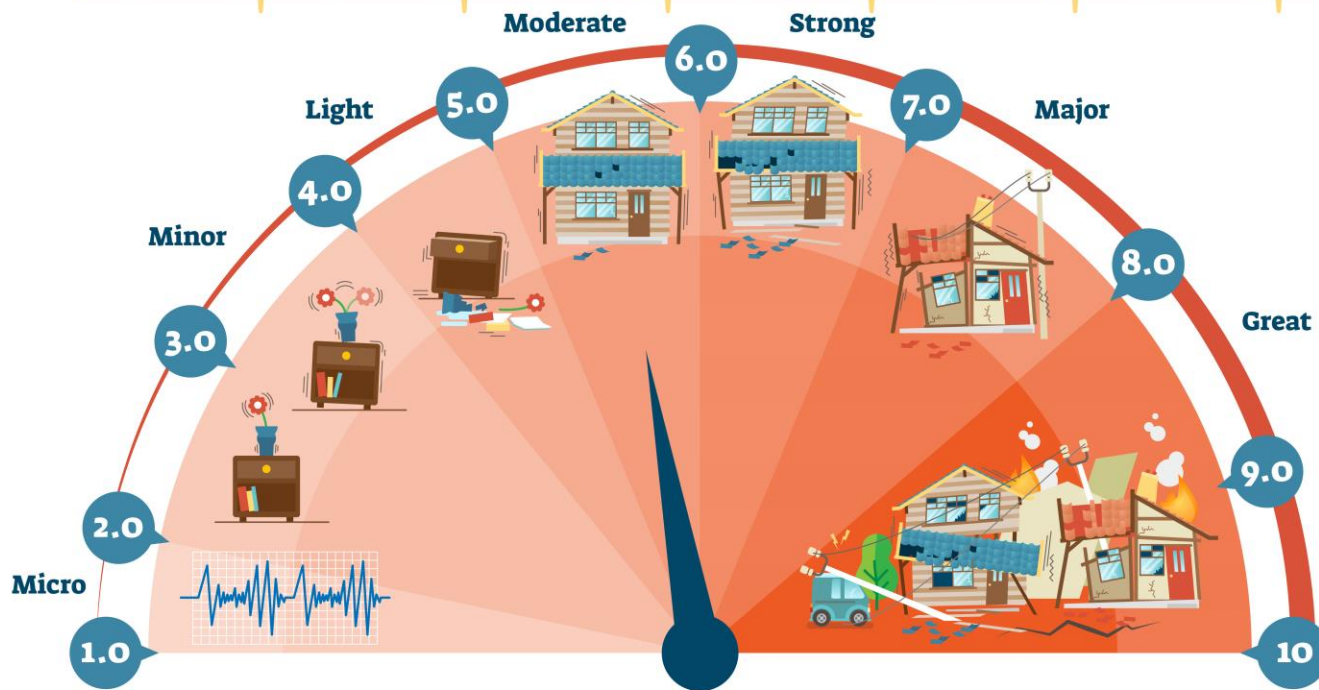
- The **focus** is the area underground where the rock breaks
- The **epicenter** is the spot in the ground directly above the focus



Measuring Earthquakes

- The Richter scale is the tool for measuring the amount of energy that is released during an earthquake
- It is a scale ranging from 1 to 10 where the increase of one whole number is 10x the magnitude
- For example, an earthquake that measures 7.0 is 100 times stronger than one that measures 5.0

EARTHQUAKE MAGNITUDE SCALE

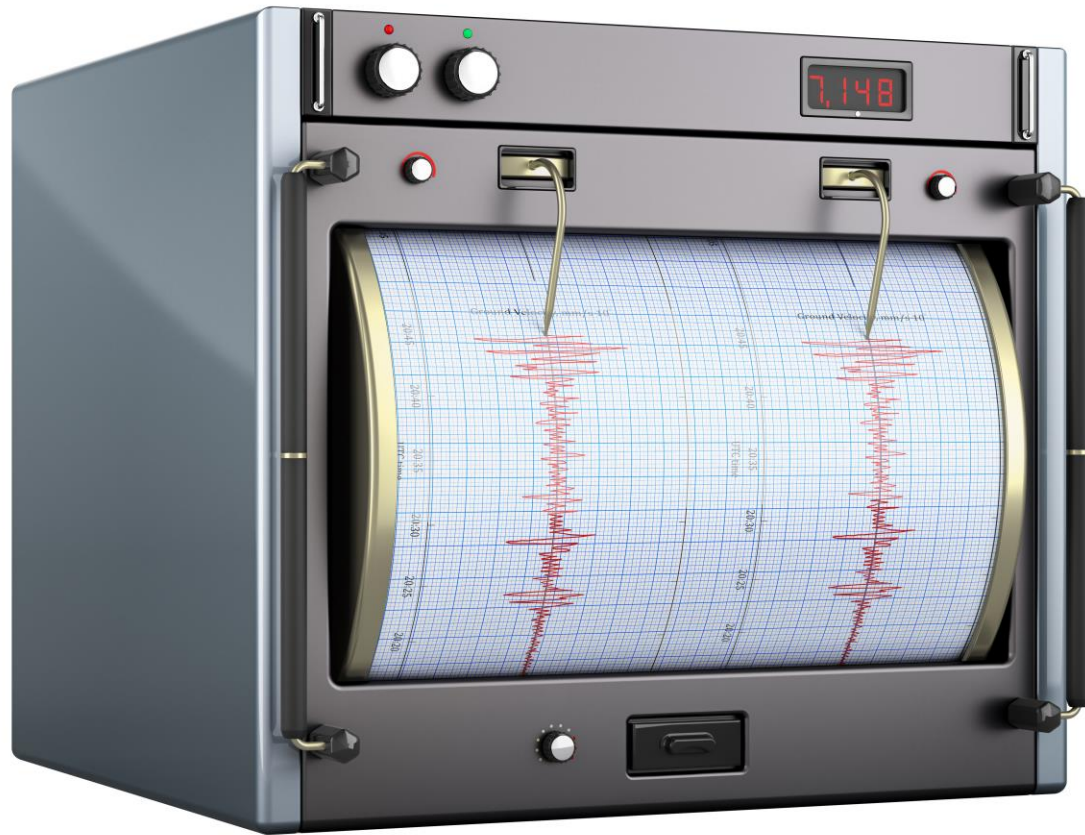


Measuring Earthquakes

- Scientists can detect the magnitude of earthquakes using a seismograph which measures the vibrations in the ground
- These vibrations are called seismic waves

Measuring Earthquakes

- The height of the largest waves is the measurement of the size of the earthquake
- The result is a seismogram which is a series of wavy lines that can help scientists record the location, intensity, and duration of the earthquake



Predicting Earthquakes

- Using historical data and measurements of ongoing tectonic plate movements, scientists can hypothesize how likely an earthquake will happen in the future
- Engineers strive to predict the magnitude of earthquakes to warn people of potential danger
- Building, bridges and other structures are designed and built to protect people from the devastating effects of earthquakes