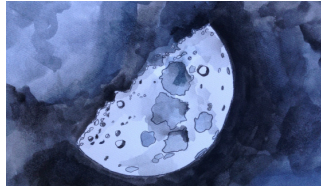


A Revolution Revival: Seismology

During the 20th century, worldwide improvements in technology used to study seismic events and greater use of earthquake-recording instruments (*seismographs*) enabled scientists to discover some interesting patterns! For the first time ever, better data from the *Worldwide Standardized Seismograph Network* in the 1960's allowed scientists to map earthquakes worldwide in a very accurate way.

What pattern did scientists notice?



Use your Simplified Plate Tectonic Map handout and use a small shape to mark the location of the earthquakes from the earthquake data handout given to you.

As you mark, color code the earthquakes by depth:

Orange: Shallow earthquakes are between 0 and 70 km deep

Green: intermediate earthquakes, 70 - 300 km deep

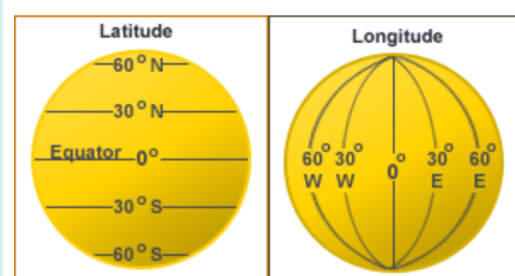
Blue: deep earthquakes, 300 - 700 km deep.



Discuss what pattern(s) your group notices and be ready to report back to your team.

Help box

In order to mark your map, you must understand the concepts of latitude and longitude. All lines of latitude run parallel to the equator. There are 90° of latitude to the north and 90° of latitude to the south of the equator. Degrees to the north are labeled as positive, while degrees to the south are labeled as negative. Each degree of latitude is approximately 111 km apart.



Source: http://www.dpc.ucar.edu/projects/revEdSite/lp3_subd_zone.html Narrative adapted from <http://pubs.usgs.gov/gip/dynamic/developing.html> Emoji from <http://emojipedia.org/smiling-face-with-sunglasses/>

Earthquake Data

**A selection of magnitude 4.5 and higher earthquakes
Southern Pacific Plate
May, 2015**

Date	Magnitude	Region	Location	Depth (km)
2015-05-03	4.5	Central East Pacific Rise	13.337°S 111.776°W	4.5
2015-05-14	4.5	Easter Island Region	23.144°S 114.756°W	10.0
2015-05-19	6.7	Pacific-Antarctic Ridge	54.331°S 132.162°W	7.2
2015-05-20	6.0	WNW of Pangai, Tonga	19.302°S 175.525°W	203.0
2015-05-21	4.6	Southern East Pacific Rise	54.215°S 119.474°W	10.0
2015-05-21	4.8	Pacific-Antarctic Ridge	53.977°S 132.316°W	10.0
2015-05-25	4.7	NW of Farallon de Pajaros, Northern Mariana Islands	20.784°N 144.537°E	202.5
2015-05-28	4.5	South of the Fiji Islands	23.734°S 179.952°E	527.6
2015-05-30	7.8	WNW of Chichi-shima, Japan	27.839°N 140.493°E	664.0
2015-05-30	4.5	W of Litayan, Philippines	7.351°N 123.856°E	587.2

[Link](#) to all 4.5 and higher earthquakes (371 of them) along the Southern Pacific plate in May, 2015