St. John's Academy, Inc.

Dinalupihan, Bataan

SCIENCE 10

Name: Kyle L. Garcia Raw Score:

Grade/ Section: 10-Ezekiel Perfect

Mini Performance Task 2: EARTH SHAKER

Big Ideas:

1. Earthquakes are vibrations caused by the rapid release of energy from the rupture of rocks that are stressed beyond their limit.
2. Earthquakes and volcanic activities occur along plate boundaries. The frequency and intensity of such events vary depending on the type of boundary.
3. Places where plates collide or move apart are known as subduction zones.
4. The epicenter of an earthquake corresponds to the geographical location of the earthquake.

Introduction:

Have you tried bending a small wooden stick repeatedly? As you continuously bend the stick, it will eventually snap once it goes over the maximum stress it can take. The same thing happens with earthquakes and faults. Plate boundaries are pushed together or pulled apart due to the movement of Earth's crust. As this movement occurs, the rocks will often break and then release an adequate amount of energy into the ground, which causes the Earth to shake. This worksheet will let you investigate the patterns of earthquakes to determine the type of motion that happens between the Earth's plates.

Standards for Success:

In this worksheet, I can

- Plot on a map the locations of recent earthquakes in the Philippines.
- Deduce the pattern of earthquake depths and their directions to explain why an earthquake's epicenter is located along plate boundaries.

Real World Problem:

You are a seismologist at the DOST- PHIVOLCS. You are tasked to submit a report to your supervisor by the end of the day. The report should contain a brief description of tectonic activities near the different plate boundaries in the country. It will be evaluated based on the accuracy of facts, comprehensiveness of data, logical flow of ideas, and organization.

Here are the steps you will follow in preparing your report:

1. Go to http://www.phivolcs.dost.gov.ph and obtain the exact locations (latitude and longitude) and depths (in kilometers) of the recent earthquakes in the Philippines. Then fill out the table below.

#	Date- Time (Philippine Time)	Latitude (◦N)	Longitude (◦E)	Depth (Km)	Magnitude	Location
1	04 July 2025 – 8:40 AM	18.77	120.84	013	2.4	024 km N 13° E of Pagudpud (Ilocos Norte)
2	04 July 2025 - 08:33 AM	09.99	126.25	019	2.2	019 km N 70° E of San Isidro (Surigao Del Norte)
3	04 July_ 2025 - 08:25 AM	08.94	126.03	033	1.5	001 km S 57° W of San Miguel (Surigao Del Sur)
4	04 July 2025 - 08:18 AM	08.46	08.46	033	1.7	033 km N 86° W of Jose Dalman (Zamboanga Del Norte)
5	04 July 2025 - 07:50 AM	08.63	126.55	030	3.6	034 km S 56° E of Marihatag (Surigao Del Sur) Q
6	4 July 2025 - 06:06 AM	09.01	126.64	021	3.0	039 km N 76° E of Cagwait (Surigao Del Sur)
7	04 July 2025 - 05:17 AM	06.74	125.95	034	1.9	017 km N 54° W of Governor Generoso (Davao Oriental)
8	04 July 2025 - 05:15 AM	09.93	126.22	018	2.6	015 km N 61° E of Pilar (Surigao Del Norte)
9	04 July 2025 - 04:49 AM	13.80	120.60	163	2.0	005 km S 42° W of Calatagan (Batangas)
10	04 July 2025 - 03:49 AM	15.03	119.94	013	3.2	015 km S 76° W of San Felipe (Zambales)
11	04 July 2025 - 03.29 AM	10.97	124.54	020	1.9	007 km N 06° E of Merida (Leyte)
12	04 July 2025 - 02:23 AM	12.19	125.11	033	1.9	015 km N 75° W of Maslog (Easter Samar)
13	04 July 2025 - 02:21 AM	13.82	119.93	016	2.1	022 km S 78° W of Lubang (Occidental Mindoro)
14	04 July 2025 - 01.58 AM	19.06	121.28	011	4.0	010 km S 54° E of Dalupiri Island (Calayan) (Cagayan)
15	04 July_2025 - 01:33 AM	08.26	125.88	017	2.0	008 km S 73° E of La Paz (Agusan Del Sur)
16	04 July 2025 - 01:32 AM	09.38	126.15	033	1.4	013 km N 21° W of Cortes (Surigao Del Sur)
17	04 July 2025 - 01:22 AM	08.22	126.39	110	1.6	009 km N 86° E of City Of Bislig (Surigao Del Sur)

18	04 July 2025 - 01:18 AM	06.02	126.31	133	3.1	071 km S 74° E of Don Marcelino (Davao Occidental)
19	04 July_2025 - 01:07 AM	09.46	122.39	026	.27	018 km S 29° W of Hinoba-an (Negros Occidental)
20	04 July 2025 - 12:54 AM	07.98	126.17	106	2.3	013 km S 64° E of Trento (Agusan Del Sur)

2. Plot on the Philippine map the location of each earthquake's epicenter. Use different colors of dots to distinguish the depths. Use the color-coding scheme below.

Depth (km)	Dot Color
0-33	
34-71	
72-151	
152-301	
302-501	
502-800	