

Name: \_\_\_\_\_

Period: \_\_\_\_\_

### Earthquake Depths

You learned earlier in this chapter that Earth's crust is broken into sections called plates. Movement of these plates generates stress within rocks that must be released. When the rocks pass the *elastic limit*, the release of stress is sudden and the *rocks break*, an earthquake occurs.

**Objectives:** Observe any connection between earthquake-focus depth and epicenter (the point on Earth's surface directly above the focus) location using the data provided below.

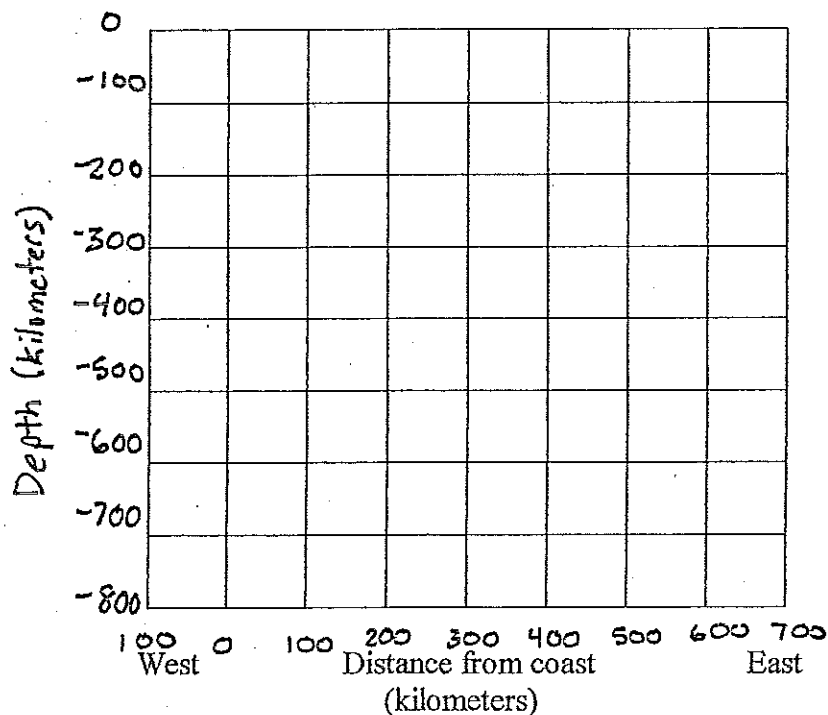
Describe any observed relationship between the earthquake-focus depth and the movement of plates at Earth's surface.

**Data:**

Quake	Focus Depth (Km)	Distance of Epicenter from Coast (Km)	Quake	Focus Depth (Km)	Distance of Epicenter from Coast (Km)
A	-55	0	L	-45	95 east
B	-295	100 east	M	-305	495 east
C	-390	455 east	N	-480	285 east
D	-60	75 east	O	-665	545 east
E	-130	255 east	P	-85	90 west
F	-195	65 east	Q	-525	205 east
G	-695	400 east	R	-85	25 west
H	-20	40 west	S	-445	595 east
I	-505	695 east	T	-635	665 east
J	-520	390 east	U	-55	95 west
K	-385	335 east	V	-70	100 west

#### Plotting the Data:

Plot the data in the table above using the graph below.



**Analyze and Apply:**

1. After you plot the data, describe any observed relationship between the location of earthquake epicenters and the depth of earthquake foci.

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2. Based on the graph create a hypothesis about what is happening to the plates at Earth's surface in the vicinity of the plotted earthquake foci?

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3. In your opinion, what process is causing the earthquakes plotted on your graph?

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4. Based on the data you have plotted from the data table, is the continent located east or west of the edge of the section of Earth's crust?

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5. Hypothesize why none of the plotted earthquakes occurs below 700 km.

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6. Based on what you have observed and plotted, do all earthquakes occur at the same depth?

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7. Based on what you observed, is there a relationship between earthquake depth and the movement of sections of Earth's crust?

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