**Earthquakes and Seismic Waves Guided Notes**

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| What is an **earthquake**? |  | | | |
| What is a **focus**? | The point \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ where rock under stress breaks to cause an earthquake. | | | |
| What is an **epicenter**? | The point on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ above the \_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | | |
| What is the relationship between the location of the **FOCUS** and **EPICENTER**? | The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the distance between the focus and the epicenter, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the earthquake. Therefore, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the focus is to the surface, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (and more damaging) the earthquake. | | | |
| **Elastic Rebound Hypothesis** | DRAW what you observed and answer the question *WHAT IS THE ELASTIC REBOUND HYPOTHESIS*? | | | |
| What is a **fault**?  THINK🡪  GRAVITY!!! | It is a \_\_\_\_\_\_\_\_\_\_\_\_ in the crust where the earthquake began, between two pieces of rock that have moved past each other. | | | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   * Hanging wall drops \_\_\_\_\_\_\_\_\_ * http://earthquake.usgs.gov/learn/glossary/images/FAULT.GIFCreates \_\_\_\_\_\_\_\_\_\_\_\_ forces | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   * Hanging wall moves \_\_\_\_\_\_\_ * http://earthquake.usgs.gov/learn/glossary/images/FAULT.GIFCreates \_\_\_\_\_\_\_\_\_\_\_ forces | | \_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_   * Walls move \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * http://earthquake.usgs.gov/learn/glossary/images/FAULT.GIFCreates \_\_\_\_\_\_\_\_\_\_\_\_\_ forces |
| DRAW the locations of the **FAULT**, **FOCUS** and **EPICENTER**. | | | Circle your answer choice for the NCFE quiz.  A B C D  Explain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| What are **SEISMIC WAVES**? | Seismic waves are the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ caused by earthquakes. | | | |
| What are the **THREE TYPES OF WAVES**? |  | | | |



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|  | **Primary (P) Wave** | **Secondary (S) Wave** | **Surface (L) Wave** |
| **DRAW** |  |  |  |
| **Describe its movement** | Travel the \_\_\_\_\_\_\_\_\_\_ | Travel \_\_\_\_\_\_\_\_\_ than P waves | \_\_\_\_\_\_\_\_\_\_\_\_ type of seismic wave |
| **Arrives** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Additional Information** | * Travel through solids, liquids, and gases * Move through the Earth at different speeds, depending on the density * Called “push-pull” waves (compress and expand the ground like an accordion) | * Travel only through solids * Move through solids at different speeds depending on the density * Cause rock particles to move from side to side & up and down | * Move along the Earth’s surface like waves travel in the ocean * Cause most of the damage during an earthquake |

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| What is a **SEISMOGRAPH**? | **Seismographs** are used by scientist to detect, measure & record the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of seismic waves. |
| What **two rating scales** are used to measure an earthquake? | 1. \_\_\_\_\_\_\_\_\_\_\_\_\_ Scale: This scale rates earthquakes according to the \_\_\_\_\_\_\_\_\_\_\_ of seismic waves as measured by the seismograph. 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Scale: This scale rates earthquakes by estimating the total \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ they release.  The moment magnitude scale can be used to measure earthquakes of all sizes, near or far! |

**Additional Notes: Use this space to summarize what you learned and write down any questions that you have.**