

## Formative Assessment #3

### Earthquake Informational Brochure

#### Concept(s) Addressed

Earthquakes indicate plate movement along faults in California. Forces in the Earth (tension, compression, shearing) cause stress at plate boundaries. Movement at plate boundaries produces different types of faults: normal, reverse/thrust, and strike-slip. Exposed rock layers indicate the type of fault. California has a strike-slip fault where constant movement occurs over millions of years (San Andreas) on the transform boundary between the Pacific and North American Plate. *Energy is transmitted through the earth in the form of seismic waves, which are classified as body waves and surface waves. Body waves (primary P and secondary S) have different movements. Primary and secondary waves travel through Earth's layers in different ways. The epicenter of earthquakes can be determined by triangulation using the difference in arrival times of "P" and "S" waves.* Observable phenomena are used to determine the intensity of earthquakes using the Mercalli Scale. Seismographs determine the magnitude of an earthquake by measuring its force and duration. This is reported on a Richter Scale that increases by powers of ten. Damage from an earthquake is dependent on local geology, the magnitude of the earthquake, and building construction. Earthquake preparation includes safety and supplies.

#### Time

1 day in class to introduce and begin, 2<sup>nd</sup> day in class to continue working, several days homework time and several days of computer lab time for typing information.

#### Materials

##### Individual

Earthquake Brochure Direction sheet  
12 x 18" drawing paper for rough draft  
9 x 12 white construction paper  
Earthquake Brochure Grading Scale

#### Advance Preparation

1. Duplicate prompt for each student

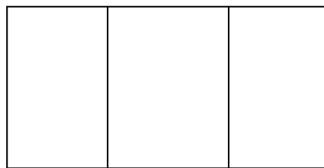
**Procedure:**

1. Tell students they will prepare an earthquake brochure showing many of the things they have learned about earthquakes.
2. Distribute the prompt to each student and ask him/her to do his/her best work.
3. Distribute the grading scale to each student and remind student's check the criteria on the scale before they turn their work in.

# EARTHQUAKE INFORMATIONAL BROCHURE!

You will prepare an earthquake brochure showing many of the things you have learned in this chapter. This brochure will be in place of a unit test.

Fold your paper in thirds



You will use both sides. The first panel is your title page, then the other pages will include the following information. Use your book to find the accurate information.

- Title Page with illustration and author
- Causes of Earth Quakes
- Ways of Measuring Earth Quakes
- Ways to Earth Quake Proof your home
- What to do when an Earth Quake occurs
- The Contents of an Earth Quake prepared kit

The paper you are given will be your rough draft. Decide what will be written and drawn. Put in the writing, then in computer class, we will type in the written parts in each section. You will put in the illustrations after that. This will be a several day project which will be turned in on the due date of \_\_\_\_\_.

# Earthquake Brochure Grading Scale

Student: \_\_\_\_\_

Title Page: correct spelling, appropriate illustration, student name \_\_\_\_\_ (5)

Cause of Earthquakes:

∞ Plate Boundaries (Convergent, Divergent, Transform) & description \_\_\_\_\_ (10)

∞ Types of Faults (at least 3 listed) & description \_\_\_\_\_ (10)

∞ Types of Stress (Compression, Tension, Shearing) & description \_\_\_\_\_ (10)

Ways of Measuring Earthquakes:

∞ Seismic Waves (P, S & Surface Waves) & description \_\_\_\_\_ (10)

∞ Measurement Scales (Mercalli, Moment Magnitude & Richter)  
& description \_\_\_\_\_ (10)

∞ Monitoring Devices (Creep Meter, Laser-Ranging Devices,  
Tiltmeters & Satellite Monitors) & description \_\_\_\_\_ (10)

Ways to Earthquake Proof Your Home: \_\_\_\_\_ (10)

What To Do When an Earthquake Occurs: \_\_\_\_\_ (10)

Contents of an Earthquake Prepared Kit: \_\_\_\_\_ (10)

Overall Appearance: \_\_\_\_\_ (5)

Assignment Turned in Late (10 points per day) -- \_\_\_\_\_

Comments:

Total: \_\_\_\_\_

Grade: \_\_\_\_\_