Mapping the Earth's Plates and Plate Boundaries

Geology 1P Mr. Traeger

Name: _____ Period: ____ Date: _____

Purpose

The purpose of this assignment is to become familiar with Earthôs plates, plate boundaries, and the principal structures that form at the three different kinds of plate boundaries.

Materials

▪ World Map	▪ Google Earth ® with Recent Earthquakes KML file
▪ pencil	▪ colored pencils
▪ *This Dynamic Planet* Plate boundaries website	▪ Textbook pages 176-179 and 712-713

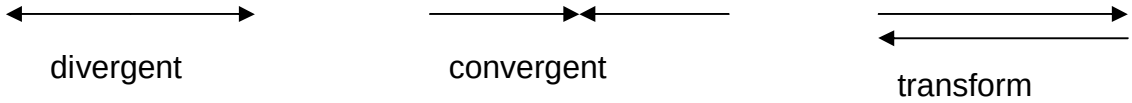
Procedure

Do the following on the world map on the back of this sheet.

1. Open the *This Dynamic Planet* and/or Recent Earthquakes KML file sites. These sites can be found under the Internet Investigations part of the class website. Select the ñM1+ Real Time Earthquakes, Past 7 Daysòfile. Open the file. This will automatically cause Google Earth® to boot up with the file being expressed from within Google Earth®. Inspect and use these sites to do the following.

2. *Color* the boundaries for Earthôs plates on the map on the back. Use the following color code. RED = divergent, BLACK = convergent collision, BLUE = convergent subduction. GREEN = transform

3. *Indicate*, using arrows next to the plate boundary, whether the movement at the plate boundaries is convergent, divergent, or transform.



divergent convergent transform

4. *Label* where you would find subduction zones.

5. *Label* where you would find mountain chains

6. *Label* where you would find spreading centers (mid-ocean ridges and rift valleys).

7. *Label* where you would expect to see earthquakes (use circles).

8. *Label* where you would expect to see volcanoes. (use triangles) You can turn on the volcanoes theme in Google Earth® by selecting Volcanoes under the Gallery theme in the layers window.

9. *Label* where you would expect to see mountain chains (use rectangles).

10. Estimate the direction of plate movement based upon the interactions at the plate boundaries. Do this by drawing an arrow ( ) in the center of the plate in the direction that the plate is traveling.

11. Write down the speed of plate motion in units of mm/year next to the arrow you made for #10. You will find these speeds next to the white arrows on either the Google Earth® map or the *This Dynamic Planet* web site.