EXPLORING EARTHQUAKES, VOLCANOES AND FAULTS

Open ArcVoyager.

Under Point Me choose the World - Physical Geography project.

Click on the Magnifying Glass icon in the upper left corner.

When you open the project list the layers that are active.

1. ______________________________________________________________

Do not add any layers yet. Predict where you think major earthquakes have occurred in the world. Write your answer here.

2. ______________________________________________________________

Add the Major Earthquakes, 1970 - 93 layer. Describe what you see. Are there any global patterns? Do they match your predictions in question number 2? What are they?

3. ______________________________________________________________
4. ______________________________________________________________
5. ______________________________________________________________

Change the legend for this theme to yellow.
(Get your teacher's initials to show that you have made the changes. _________)

Zoom in to show the subcontinent of India.
(Get your teacher’s initials to show that you have made the changes. _________)
Zoom out to show the whole world.

Where do you predict earthquakes occurred last year?

4. ______________________________________________________________

Add the data layer for the most recent earthquakes. Choose View, then Add Theme. From the Voyager file choose Data, Geo, and then World. Then choose quakes96.shp. Where have the most earthquakes occurred in the last year? How did this information match your predictions?

5. ______________________________________________________________

©Rita Hagevik & Ann Thompson, 2002
Identify the other layers that you think are related to earthquakes.

6. ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

Display the volcano layer. How are the volcano layers different from the earthquake layers?

7. ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   How are they similar?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

Why do you think that there are so many earthquakes and volcanoes in Asia, the Rift Valley of Africa and Latin America?

8. ____________________________________________________________
   ____________________________________________________________

Add the layer for continental faults. Zoom in on regions to see the relationship between the layers. How are the earthquake, volcano, and continental fault layers related?

9. ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

Return to the view of the entire world.

10. Now add the plates layer to show the tectonic plates. Use the "I" for Identify tool to name each plate.

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

   How are the plates related to earthquakes and volcanic activity?
   11. ____________________________________________________________

   ____________________________________________________________

Turn off the major lakes, major rivers, faults, all quakes, and volcanoes. Turn on the plates theme, then turn on the country borders theme. How are the plates related to the continental land masses?

   ____________________________________________________________

   ____________________________________________________________