WHERE IS THE SAFEST PLACE TO LIVE?

1. Use the topographic features on land and the depths of the seafloor to identify possible plate boundaries. Draw lines showing the location of each plate boundary on the map in the worksheet. Label the boundaries as either divergent, convergent, or transform. Use colored pencils or different types of lines to better distinguish the different types of boundaries. Provide a legend that explains your colors and lines.

2. Draw circles [O], or use color shading, to show places, on land or in the ocean, where you think earthquakes are likely.

3. Draw triangles [▲] at places, on land or in the ocean, where you think volcanoes are likely. Remember that not all volcanoes form directly on the plate boundary; some form off to one side. For different plate-tectonic settings, consider where volcanoes form relative to that type of plate boundary.

4. Determine a relatively safe place to build one city on each continent. Show each location with a large plus sign [+ on the map. On the worksheet, explain your reasons for choosing these as the safest sites.
Procedures for the Cross Section

The worksheet contains a modified version of this figure for you to use as a starting point for making a cross section. Add lines and colors to the front of the diagram to show the geology in the subsurface. Use other figures in this chapter as guides to the thicknesses of the lithosphere and to the subsurface geometries typical for each type of plate boundary. Your cross section should only show features on the front of the block diagram, not features that do not reach the front edge. Your cross section should clearly:

1. Identify the crust, mantle, lithosphere, and asthenosphere, and show an accurate representation of their relative thicknesses.
2. Show the locations and relationships between lithospheric plates at any spreading center or subduction zone.
3. Include arrows to indicate which way the plates are moving relative to each other.
4. Show where melting is occurring at depth to form volcanoes on the surface.