Earthquakes in California Practice Test

Directions: Answer each of the following questions. Make sure to pay attention to the multiple parts of each question and thoroughly explain your answers.

1. Write a **paragraph** explaining plate tectonics and the mechanism that allows the plates to move (how and why do plates move)**.**
    a. Make sure to list at least four pieces of evidence supporting the theory and explain how each piece of evidence supports plate tectonics.
2. **Sketch** and **label** a cross-section of a Transform Plate Boundary, a Divergent Plate Boundary, and a Convergent plate boundary (you may draw any one of the 3 types of convergent boundaries) for **a total of 3 diagrams**.
    a. Label the **Asthenosphere** and **Lithosphere**.
    b. Label as many **geologic structures** as that plate boundary makes.
    c. Draw **two arrows** showing the direction of each plate's movement.

3. Draw a **sketch** of the interior of the Earth and **label** all the layers.
    a. Draw and **label a P and S** wave coming from an earthquake near the surface
    b. Show what that wave does as it moves through Earth.
    c. **Explain** the differences between P and S waves.

4. **Explain** in **detail** how an earthquake happens.
    a. Describe the different waves that are a result of the earthquake.
    b. What is the difference between a direct impact and an indirect impact of an earthquake?
    c. List as many direct and indirect impacts you can.
    d. Explain why some earthquakes the same size might have different impacts in different parts of the world.
    e. **Draw** a series of diagrams or visuals showing **how** a scientist uses those waves to **find** the **epicenter**.

5. Our planet has been tectonically active for the past 4.56 billion years. Give a **detailed explanation** of why the Earth doesn't have rocks older than 3.9 billion years.
    a. Explain what the future of our planet will look like in terms of ocean sizes and shapes, as well as sizes and positions of the continents.