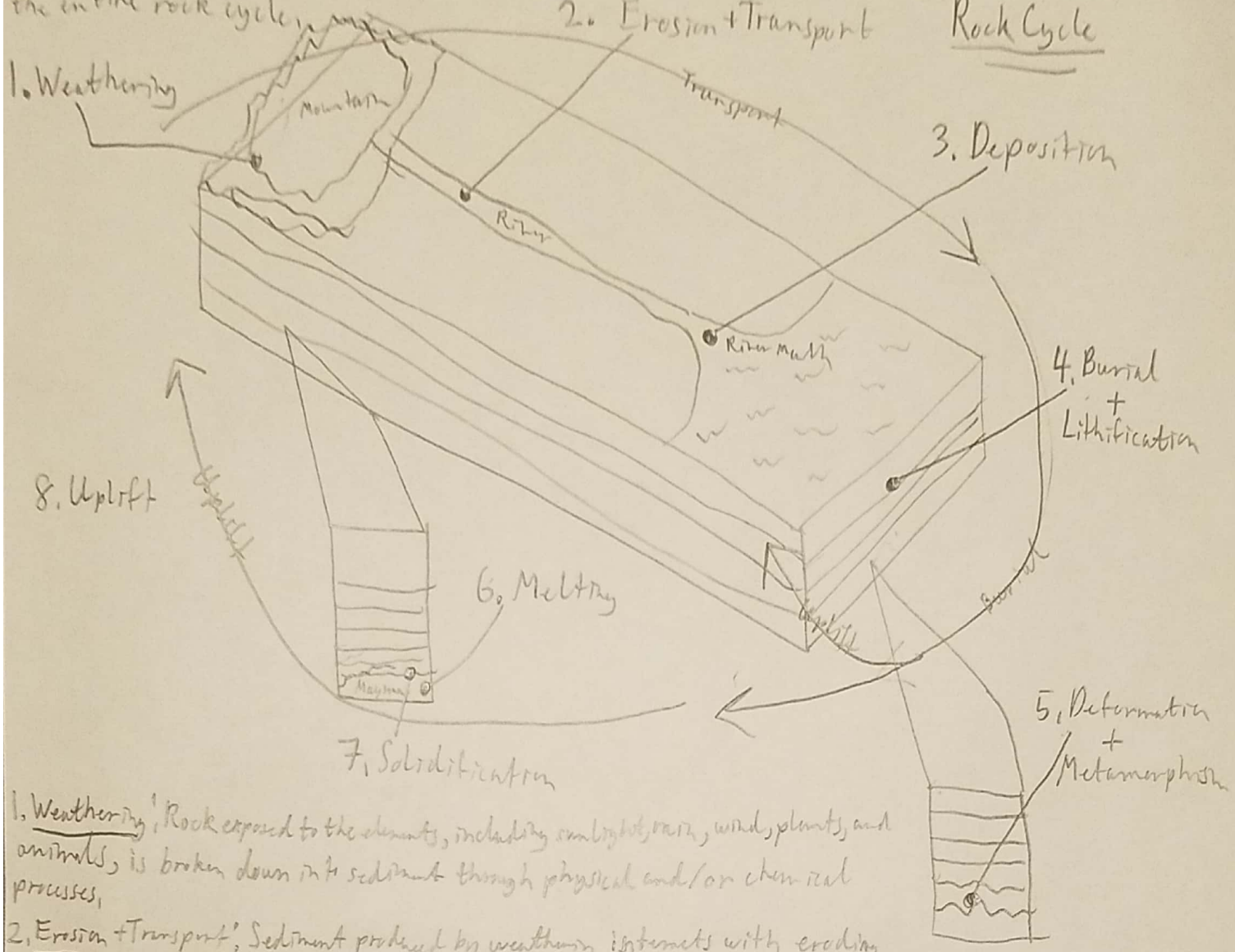
Question: Sketch, label, and explain the rock cycle. Your sketch should contain descriptions of all eight key processes. In addition, use sentences (no sketch) to describe why a rock might not experience the entire rock cycle.



1. Weathering: Rock exposed to the elements, including sunlight, rain, wind, plants, and animals, is broken down into sediment through physical and/or chemical processes.

2. Erosion + Transport: Sediment produced by weathering interacts with eroding agents, such as glaciers, flowing water, wind, and the gravitational force, causing the sediment to be transported to a new location.

3. Deposition: As transportation agents slow down, sediment is deposited. The diagram demonstrates sediment being deposited at a low-energy river mouth. Deposition can also occur through ion precipitation or by actions of various organisms.

4. Burial + Lithification: As more layers of sediment are deposited, the weight of above layers compacts after burial of sediment. Groundwater chemicals can cement nearby sediment grains through their dissolved minerals.

5. Deformation + Metamorphism: After lithification produces a rock, squeezing forces can fold and deform rock layers, which assists in the process of metamorphism in the presence of heat.

6. Melting: At high temperatures, rock may melt into magma. These high temperatures often occur in the lower crust or mantle.

7. Solidification: Magma solidifies back into rock as magma either deep underground or erupted, cools. Crystals can also form during solidification in a process called crystallization.

8. Uplift: Tectonic forces can force rock back up to the surface at any point during the cycle.

As a result, the entire rock cycle might not be experienced by a rock since numerous steps in the cycle can be done in different orders.