break up quickly when running water knocks them against each other. Even running water alone wears away rock. Water weathers rock in other ways too. When water cools, it contracts like other matter. But just before it freezes, it expands a little bit! Say a small amount of water enters a tiny crack in the rock. When the water freezes, it expands, making the crack a little wider. More water enters the crack, freezes, and widens the crack even more. Eventually this wedging can split apart the two sides of the crack (see Figure 4).

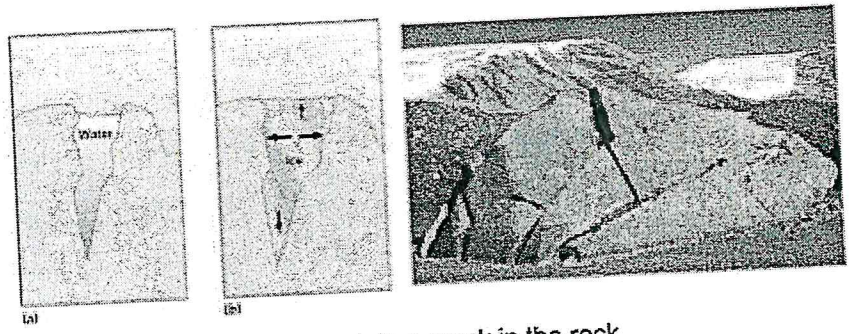

Figure 4. (left) Water seeps into a crack in the rock. (center) Water freezes, and expands a bit. (right) With repeated freezing/thawing cycles, rock breaks.

Cause

1. Wind
2. water (liquid)
3. Freezing water

→

Effect

Physical Weathering
(The breaking down of rocks)

Weathering Rock Chemically

When rain falls and snow melts, not all the water evaporates or becomes runoff. Some water soaks into the ground, fills openings in the soil, and trickles into cracks and spaces in layers of rock. This water found underground is called **groundwater** and can also shape land underground.

9. Use these words to define underground water: **runoff, soak, soil, layers of rock**
Runoff water that soaks into soil and layers of rock.

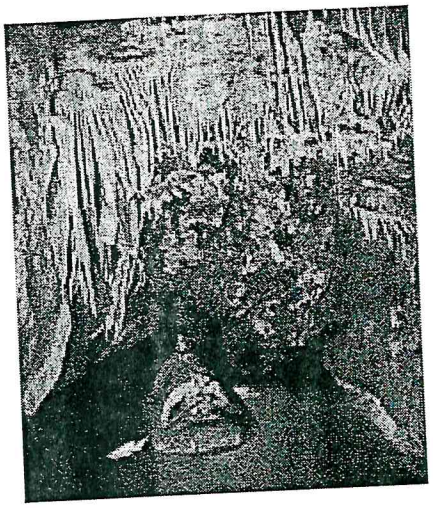

Figure 5. Underground rafting in a California cavern formed from years of chemical weathering.