Groundwater can cause erosion through chemical weathering. When water sinks into the ground, it combines with carbon dioxide to form an acid called carbonic acid. This acid can react chemically with certain types of rock, e.g. limestone and break it down. Over time, the products of this reaction, including some of the rock, can be carried away by the water, creating pockets in the rock and eventually caverns. This can also result in deposits that form caverns with unique structures caused by the dripping of water (see Figure 5).

10. Use the following words to explain how groundwater causes chemical weathering:
Water, carbon dioxide, carbonic acid, react chemically, rock, limestone

Water + CO_2 = Carbonic acid which reacts chemically with rocks such as limestone.

Plants can also cause weathering. Soil is formed as rock is broken down by weathering and mixes with other materials on the surface. Plant roots can weather the rock physically as they grow AND chemically as they release acid to break down the rock. The rate at which soil forms depends on the climate and type of rock.

Adapted from Oaklandlocal.com, NewsELA, CPO, and Prentice Hall

11. Plants cause weathering by:

1. Roots can physically break rock as it grows.
2. Plants release acid which break down rock.