8.1: Weathering and the Rock Cycle

-Rocks are constantly changing, being worn away.

-rocks are broken by the actions of plants (roots grow and split the rocks open), animals that burrow and run across the surfaces, water (chemically weathers, and by freeze/thaw cycles which fracture the rock as the ice expands in the cracks)

-WEATHERING is the process of breaking down rocks into smaller pieces

-Physical (mechanical) weathering means the rock ‘stays the same’ but gets into smaller bits

-Chemical weathering means the rock is decomposed into different chemicals

-Once weathered, the bits are carried away by wind and water (and gravity)

-Weathering happens to ‘everything’, including buildings and statues

-happens over thousands and millions of years

Mechanical weathering

-minerals (water dissolved, and dissolved with the help of chemicals in plants and animals) and water trapped in the rocks support life.

-roots and plants grow and force the rock cracks wider (think of the grass growing in cracks)

-freeze/thaw cycles, as water expands when it freezes, exerting huge forces on the rocks (maybe the Frank Slide?). You can hear rock falls in the fall and spring in the mountains as water freezes and thaws in the shade… (think of the cracks in highways!)

Chemical weathering

-when rock is dissolved by chemical action (acids in rain, chemicals in mosses and lichens)

-changes the chemical make-up of the rock

-when water evaporates, the minerals dissolved in the water will be left behind (p. 230, and the deposits in your kettle and coffee makers)