

# Rock Weathering

> Rocks alter, disintegrate, and transform on the surface (weathering, erosion)

??? exposure to physical and chemical processes and unstable nature of material (natural, artificial)

## Mechanical Weathering

→ physical breakdown of material by water, air, biota

- **water** (freezing, crystal growth)      => pressure
- **sun** (heating, cooling)                      => temperature
- **biological activity** (roots)                => pressure

## Chemical Weathering

→ chemical reactions between material and water

- **dissolution**      => break-up of chemical bonds
- **oxidation**        => reaction with O<sub>2</sub> alters mineral chemistry
- **hydrolysis**      => chemical exchange transforms minerals

## Soil

→ mineral debris, organic matter, water, air

- main supplier of plants nutrients (food)
- vital for human life; strongly affected by surfaces use

## Sediments/Natural Resources

→ collection of residuals/chemical reaction products

- rock and mineral fragments (sandstone, shale, “dirt, mud”)
- major resource formation (clay, sand, Al, Au, Sn)

<> search terms and links (selection): weathering in the classroom, erosion, rock weathering, rock alteration  
<> <http://www.teachertube.com/video/weathering-and-erosion-classroom-activities-58210>;  
<> <http://geographyclassroom2014.weebly.com/weathering.html>  
<> <http://www.rsc.org/Education/Teachers/Resources/jesei/weather/teachers.pdf>