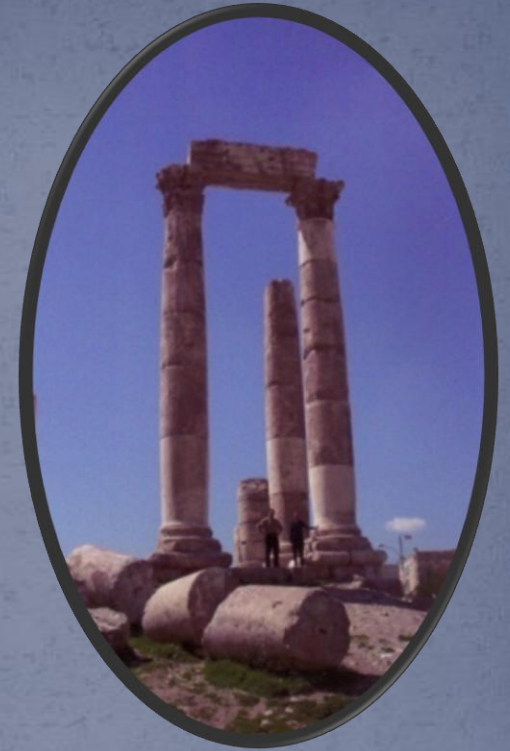


Weathering, Soil and Erosion



Weathering

- The breakup of rock due to exposure to processes that occur at Earth's surface.
- Mechanical weathering – when rock is split or broken into smaller pieces of the same material without changing its composition.
- Chemical weathering – when the rock's minerals are changed into different substances.

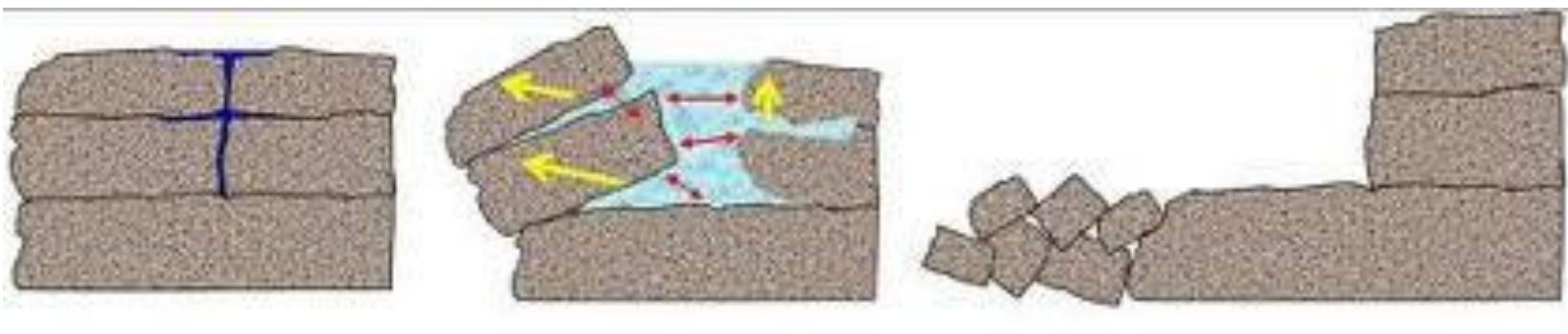


Mechanical Weathering

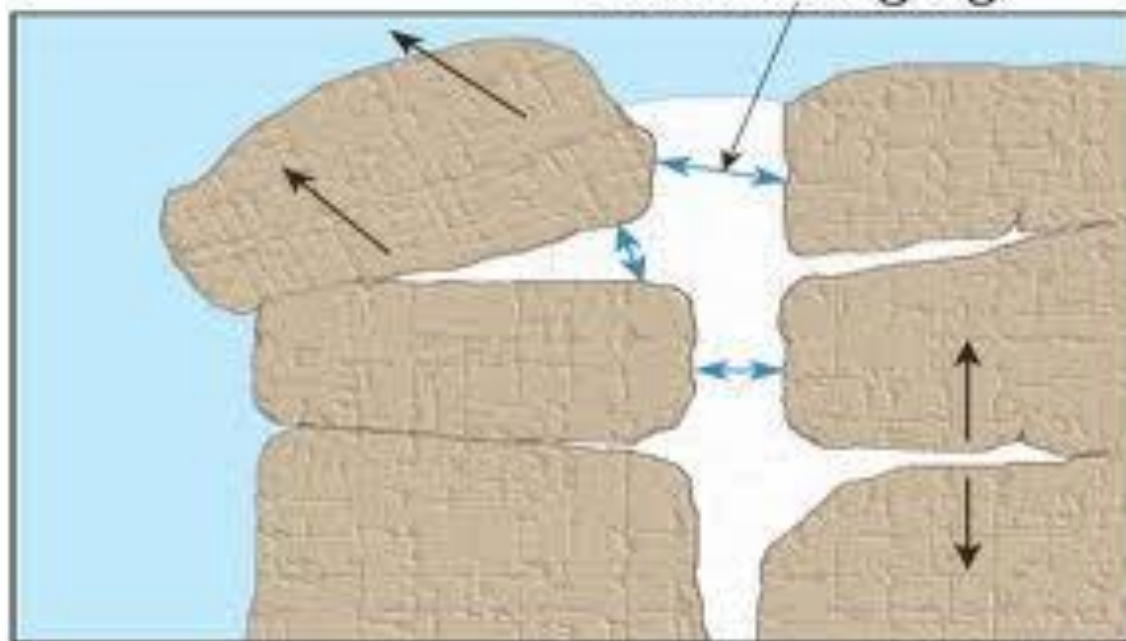
Effect of temperature:

- Frost Wedging
 - When water freezes, it expands and increases in volume.
 - When water collects in the cracks of rocks and rock layers and then freezes, it puts pressure on rocks causing them to crack





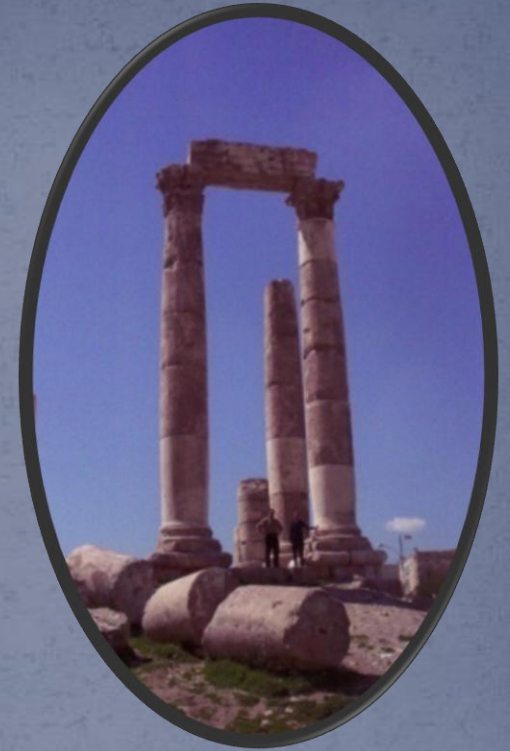
Frost wedging



Mechanical Weathering

Effects of Wind

- Abrasion
 - Water, wind and ice are capable of moving rocks.
 - As moving sand, pebbles and larger rocks grind and scrape against one another, these rock materials are worn away.

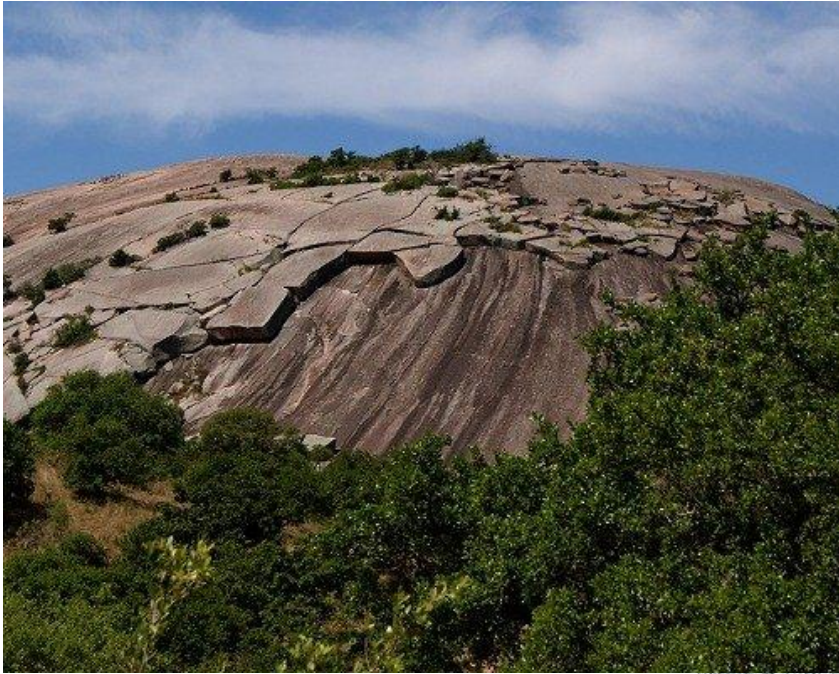


Mechanical Weathering

Effect of pressure:

- Exfoliation
 - The upward expansion of rocks that are formed deep underground causing the top layers of a mountain to peel off.





Chemical Weathering

- The composition of rock determines the effect that chemical weathering will have.
- Granite, marble and sandstone are rocks that weather easily.



Chemical Weathering

Effect of water:

- Water dissolves many kinds of minerals and rocks.

Effect of oxygen:

- Iron is found in many minerals and rocks. It will react with oxygen in the air to form iron oxide (rust).



Chemical Weathering

Effect of carbon dioxide:

- When carbon dioxide combines with water in the atmosphere, it forms a very weak acid called carbonic acid that falls to earth as acid precipitation.
- The slight acidity of precipitation causes it to dissolve certain rocks.

