

Name Key
Period _____ Date _____

Unit 11 Weathering and Erosion
Earth Science

I. Weathering

- a. Weathering - the breakdown of rock
- b. Rocks are weathered when they are uplifted and exposed to the hydrosphere, atmosphere and Biosphere.
- c. precipitation at or near the Earth's surface supplies the moisture to the Earth's surface that contributes to the weathering of rocks.
- d. There are two types of weathering Mechanically
- physical weathering is the weathering that changes the physical form without changing the chemical composition.
 - Harder minerals and rocks breakdown slower than softer minerals and rocks.
 - There are different types of physical weathering
 - frost action important agent of weathering in areas with seasonal temperature changes
 - Water seeps into cracks in rocks
 - Water will expand when it freezes.
 - This makes the cracks larger
 - The alternating freezing and thawing will cause the rock to breakdown.
 - Root Action roots grow in the cracks and push the rock apart.
 - Burrowing Animals expose new surfaces of rock to weathering.
 - Abrasion - collisions that bump and break rocks apart.
 - chemical weathering that breaks down rock by changing the rock's chemical composition.
 - Happens when the rocks reach the Earth's surface. The rocks become unstable and the rock changes chemical composition.
 - *Takes place more rapidly in warm, moist climates.
 - acid precipitation can chemically breakdown very durable rocks (Marble)
 - Some minerals are more resistant to chemical weathering (granite).

also called
ice wedging
frost wedging

II. Factors affecting weathering

- exposure - the more exposure that the rocks have to the environment, the faster the rocks will weather.
- Size - the smaller the particles, the faster it will weather (because a pile of small particles has more surface area).
- Composition - different minerals have different hardnesses. (calcite is soft, quartz is harder)