

**Objectives:** Describe what affects the rate of weathering.

**Weathering occurs at different rates.**

Most weathering occurs over longer periods of time. Other times, it can occur quickly (within a matter of weeks). Three factors control how quickly or slowly a rock can weather.

1. \_\_\_\_\_ is how much of the rock's \_\_\_\_\_ is exposed to the \_\_\_\_\_ that can cause a rock to weather. The \_\_\_\_\_ of a rock that is exposed to air and water, the \_\_\_\_\_ it weathers. Mechanical weather tends to break the rock apart and \_\_\_\_\_ the rock's surface area. This allows chemical weathering to break down the rock faster. This is because the chemical reactions can interact with the rock in more places.
2. \_\_\_\_\_ is the \_\_\_\_\_ content of a rock that affects the rate of weather. Rocks made of \_\_\_\_\_ minerals will weather \_\_\_\_\_ than those made of \_\_\_\_\_ minerals. Rocks made of minerals (like \_\_\_\_\_) that react easily with acid will chemically weather faster than those that do not. Example: granite, which is made mostly of \_\_\_\_\_ and is a \_\_\_\_\_ mineral, weathers very slowly. Why? Quartz has a high \_\_\_\_\_ which makes it difficult to wear down and it does not react with \_\_\_\_\_. Compare this to limestone which is made mostly of \_\_\_\_\_ minerals. Limestone is a \_\_\_\_\_ mineral that easily reacts with acid. It will weather quickly.
3. \_\_\_\_\_ factors including \_\_\_\_\_ and \_\_\_\_\_ affect the rate at which a rock weathers. \_\_\_\_\_ is needed for a chemical weathering to occur and \_\_\_\_\_ speeds up chemical weathering. Therefore, chemical weathering occurs faster in hot, wet regions than it does in cold, dry regions.