Weathering= rocks and sediments break down

Erosion= smaller pieces are moved to new locations

Three types:

1. Physical (mechanical)
2. Chemical
3. Biological

|  |  |  |
| --- | --- | --- |
| What is physical weathering? | What is chemical weathering? | Why is biological weathering? |
| * NO changes in composition * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_change * Factors:   **Temperature**  \_Frost wedging\_: water freezes and expands, cracking rocks  **Pressure**  \_Exfoliating\_: pressure of overlying rocks are removed, underlying rocks can expand | * Mineral composition \_\_CHANGES\_\_\_   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   * NEW minerals form * Agents:   + Water🡪 Hydrolysis   + Oxygen🡪 Oxidation   + Carbon Dioxide🡪 ex. Cave   + Acid🡪 ex. Acid Rain | * Living organism cause changes in rocks or sediment * Ex: tree roots growing around a rock and splitting it * Ex: Humans displacing or removing rock surfaces |

Factors that affect weathering:

Climate for chemical weathering: more common/faster in areas of warmer temps and high rainfall

Example: “Painted deserts” of Arizona/New Mexico

Climate for physical weathering: more common/ faster in areas of cool dry climate

Example: NC Mountains

**Formation of Sedimentary Rocks**

Even though igneous rocks are the most common in Earth’s crust, most of Earth’s surface is covered in sediment.

Sediments:

Steps:

1. Weathered particles get moved downhill: \_Erosion\_
2. Get laid down/sink: \_Deposition\_
3. Deposits become layered: \_Sorting\_
4. Layers stack up on top of each other: \_Burial\_
5. These processes add material to \_Sedimentary\_
6. As burial occurs, layers are subjected to greater \_Heat and Pressure\_
7. These conditions cause \_Lithification\_
   * *lithos* = stone
   * Two steps:
     + Compaction: excess water and air are squeezed out
     + Cementation: new minerals form

The primary features of sedimentary rocks are horizontal layers called bedding.

* Graded bedding
  + Bigger on the bottom
* Cross-bedding
  + Slanted layers

**Sedimentary Rock Classification**

Organic sedimentary rocks: formed from once living things

Chemical sedimentary rocks: evaporities

Clastic sedimentary rocks: loose deposits on Erath’s surface - most common-