**Topic: Mechanical and Chemical Weathering**

Weathering: the breaking \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_near Earth’s surface

|  |  |
| --- | --- |
| Mechanical Weathering | Chemical Weathering |
| 1. When \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ break rock into smaller pieces 2. Does\_\_\_\_\_ change the rock’s\_\_\_\_\_\_\_\_\_\_\_\_ 3. **Frost Wedging**    1. Water enters cracks and crevices in rocks    2. Water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the cracks   Examples:   1. **Unloading**    1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of rocks overlying igneous rocks    2. **Exfoliation**: slabs of outer rock \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ loose   Examples:   1. Biological Activity    1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   Examples: | 1. The transfer of rock into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ new compounds 2. Agents of Chemical Weathering    1. Water   Examples:   * 1. Oxygen   Examples:   * 1. Carbon Dioxide   Examples:   * 1. Spheroidal Weathering   Examples: |

Topic: Erosion & Mass Movements

**What is Erosion?**

Removal and\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from one location to another

**Agents of Erosion**



**Deposition**:

* Materials are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in another location
* Final stage of erosion

**How does wind erode soil?**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Sand Dunes
  + Mounds or ridges of sand
  + Wind also can cause them to move

**How do humans control erosion?**

* Planting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ called windbreakers
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hillsides
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the contours of hills
* Rotating crops



**Soil**

Part of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the growth of plants

**Regolith**  
Layer of rock and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that cover most of Earth’s land surface

Soil Formation

Weathering of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that is carried away (Think rock cycle)

**Soil Formation Factors**

1. Parent Material
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the mineral matter in the soil
2. Time
   1. Important in all geologic processes
   2. The\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a soil has been forming, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ it will become
3. Climate
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on soil formation
   2. Influences of temperature and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ affect rate, depth and type of weathering
4. Organisms
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organic matter in soil
5. Slope
   1. \_\_\_\_\_\_\_\_\_\_\_\_ slopes often have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ developed soils

**Soil Composition**:

45% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
25% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
25% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
5% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Decayed remains of organisms  


Soil Texture

1. Sand (large size)
2. Silt (feels like flour)
3. Clay (small size)
4. Loam (mix of all three; best for plants)

Mass Movements

**Mass Movement**

* The transfer of rock and soil \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_due to gravity
* Classified by

Mass Movement Types:

Why mass movements are more frequent?

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Droughts
* Less vegetation
* Increased storms

Human Prevention of Mass Movements:

* Increasing soil stability:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ vegetation
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (maintaining) the landscape
  + Effective \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

