

Soil

Chapter 12

Geology

- Study of soil and rocks.



Soil Composition

- **Soil:** a mixture of minerals, water, gases and the remains of dead organisms that covers Earth's surface.
- **Soil Texture:** size of mineral particles



Size of Grains

• Three Soil Grain Sizes:

1. **Sand** – largest particles, loses water easily
2. **Silt** – medium particles, easily farmed
3. **Clay** – smallest particles, poor drainage



3 Subcategories of Soil

1) **Loam**

contains sand, silt, and clay
best soil for agriculture (loose)

2) **Peat**

contains more than 20% decaying organic material
acidic
used in fertilizer because of its ability to retain water

3) **Chalk**

solid but soft & breaks down easily
alkaline (basic)
poor for agriculture



Soil Profiles

- **Soil Profile:** Soil in a given area will have a unique sequence of layers (**horizons**) that are parallel to the Earth's surface.

Horizons

- **O:** uppermost layer; made mostly of **humus** (decaying organic matter)
- **A (topsoil):** dark; mixture of humus and minerals; where seeds sprout and plant roots grow
- **E:** light; mostly sand and silt; as water drips through, it **leaches** (carries away) most of the minerals and clay
- **B (subsoil):** contains the clay and mineral deposits that have been leached from the layers above
- **C:** partially broken-up rock; plant roots do not grow in this layer; very little humus
- **R:** solid rock



Horizons

