

Soil Erosion

Why is a balanced diet important?

- We need carbs, fats, proteins, vitamins and minerals for our bodies to function



Food and Agricultural Organization of the UN

925 million people are malnourished (15.7% of the world's population)



Agriculture is very important in relieving world hunger

Agriculture

- Farmers clear the land, plant seeds, grow crops, and harvest them



Arable land

Arable land is the top 6 inches of soil

- Determines the productivity of our crops



What is soil?

Soil is the thin surface layer of the Earth's crust

4 components of healthy soil:

- 1) minerals
- 2) **humus** = dead plants and animals
- 3) air
- 4) water



How is soil formed?

Rocks are broken down through **weathering** (*desgaste*). This forms **sediment** (*sedimento*).

These small pieces of rock are then **eroded** (*erosionado*).

These small pieces of rock form **soil** (*suelo*).



Factors that Form Soil

The most important: CLIMATE (*clima*)

- 1) Water (*agua*)
- 2) Wind (*viento*)
- 3) Temperature (*temperatura*)

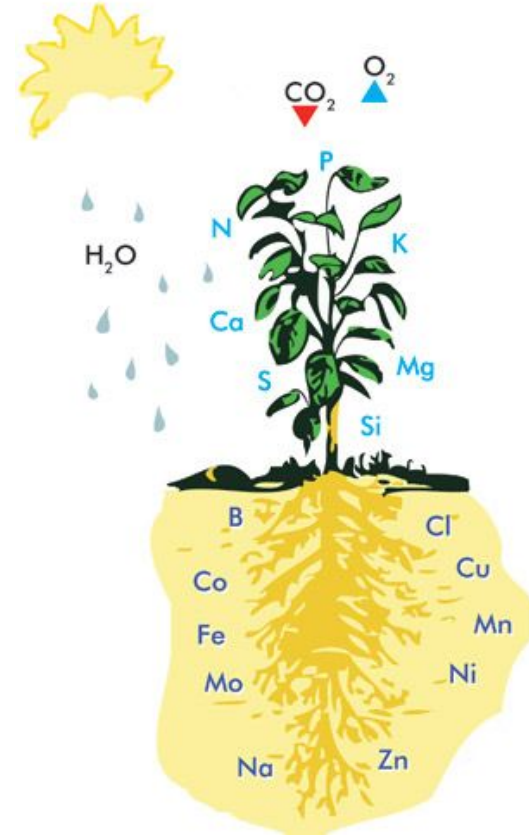


Why is soil important?

Why is soil important?

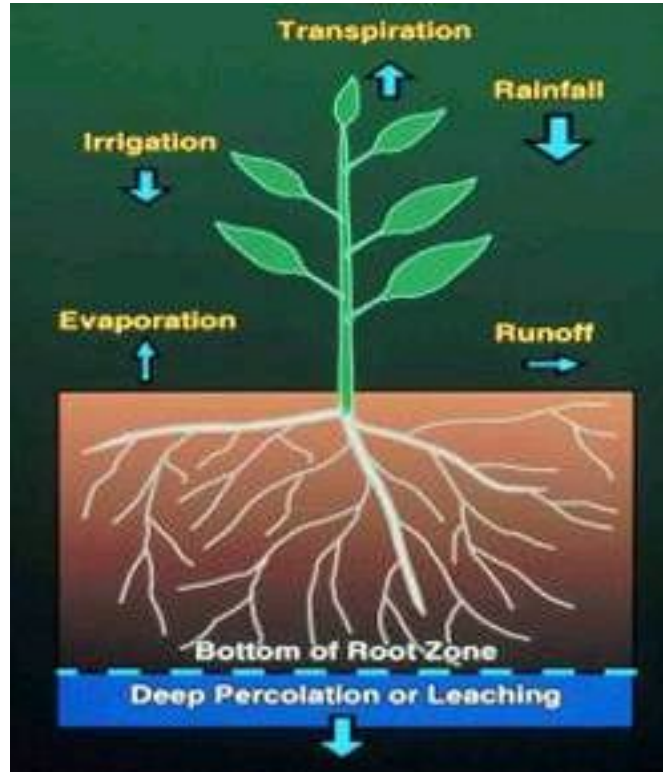
1) Soil has nutrients

- phosphorus
- nitrogen
- potassium
- calcium
- magnesium



Why is soil important?

2) Soil holds water.



Why is soil important?

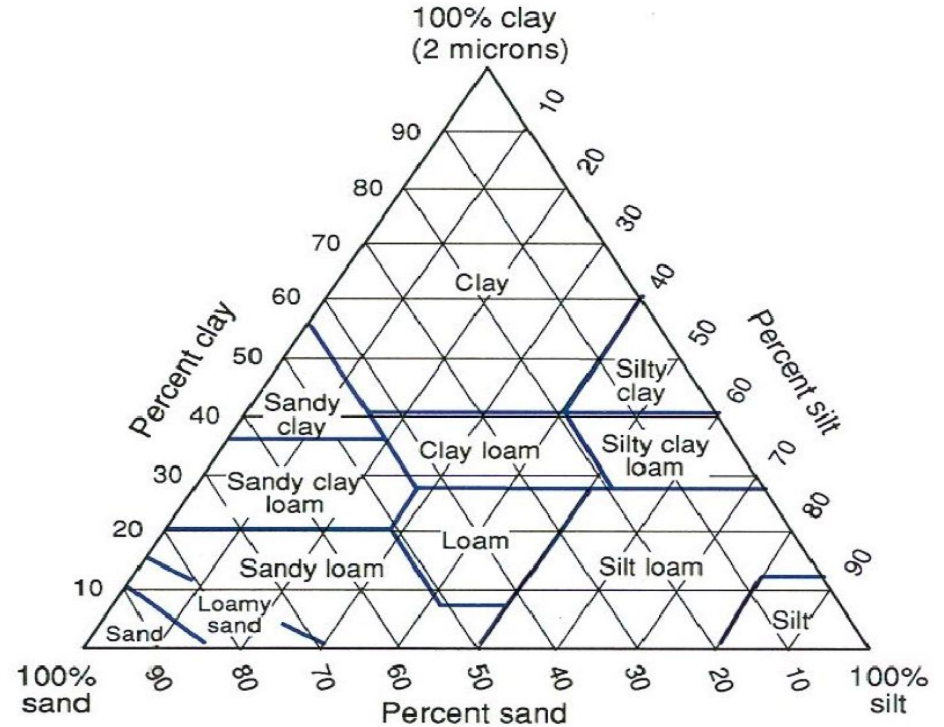
3) Soil provides support for buildings.



Health of Soil

Soil is made of **silt, sand, and clay**

A **soil texture diagram** can tell us the percentage of each.

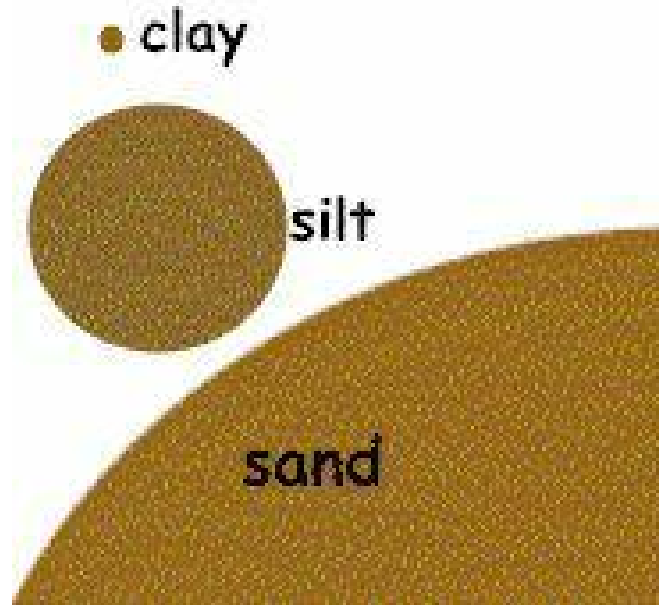


Why is soil texture important?

<u>Property</u>	<u>Sand</u>	<u>Silt</u>	<u>Clay</u>
Water holding	Low	Med-high	High
Aeration	Good	Med	Poor
Nutrient supplying	Poor	Med-high	High
Pollutant Filtering	Low	Med	High

Different soil textures (*textura*) and soil types (*tipos*) offer different uses.

Size Order of Soil



Types of Soil

- There are 6:
 1. **Clay** – supports plants with shorter roots (i.e. squash)
 2. **Silt** – wide variety of plants!
 3. **Sand** – lose nutrients easily, but can quickly warm up
 4. **Chalk** – don't support acidic plants, more lime based
 5. **Peat** – lots of fruit and vegetables
 6. **Loam** – most diverse, many types of soils

Soil Erosion

Soil erosion (*erosión*) = When pieces of soil are moved by water, wind or other forces

1. Water erodes soil

--flowing water or raindrops (*agua o gotas de lluvia que fluye*)



2. Humans cause soil erosion by:

- Removing vegetation (*eliminando la vegetación*)
- Logging (*la explotación florestal*)
- Farming (*agricultura*)
- Construction (*construcción*)



Effects of Soil Erosion

- 1.) Lower **land productivity** (*baja productividad de la tierra*)
- 2.) **Poorer crop quality** (*Más pobre calidad de los cultivos*)
- 3.) **Threaten world food supply** (*Amenazar suministro mundial de alimentos*)



Soil Texture Diagram

- 1) What type of soil is made of 60% clay, 10% silt, and 30% sand?
- 2) What type of soil is made of 30% clay, 60% silt, and 10% sand?
- 3) What type of soil is made of 20% clay, 40% silt, and 40% sand?

