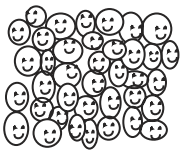
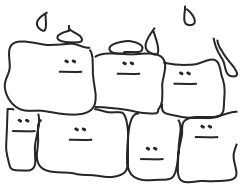
Structure

Soil structure is the way in which the individual particles – sand, silt, and clay – are arranged into larger distinct aggregates. These aggregates are called peds and can usually be separated easily, particularly in dry soil. Structure is the major factor determining how fast air and water enter and move through the soil.
The main types of soil structure are granular, platy, blocky, prismatic, and columnar. Soil may not have a visible structure because it is either single grain or massive. These types of structure are shown in the diagrams below.

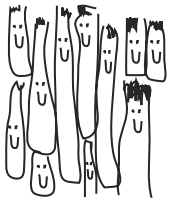


GRANULAR
This type of structure consists of small, porous aggregates that tend to be somewhat rounded in shape. Granular aggregates form very desirable seed beds for crops and allow rapid entry of water into the soil. Granular structure is commonly found in surface layers of soils developed under grassland.

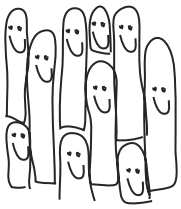
PLATY
This type of structure consists of aggregates that have longer horizontal faces than vertical faces. The fragments are flat and thin.



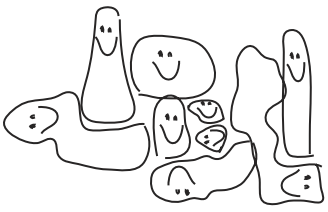
BLOCKY
This type of structure consists of aggregates clinging together in nearly square or angular blocks having sharp edges. Large blocks normally do not allow rapid entry of water into the soil. This condition is mainly found in the subsoil.



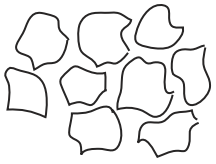
PRISMATIC
This type of structure consists of aggregates in which the vertical faces are longer than the horizontal faces. The tops of the units are flat.



COLUMNAR
This type of structure is similar to prismatic. The main difference is that the columnar units have rounded biscuit-like tops. This type of structure indicates conditions of slow permeability; in fact it is an indication of a soil layer in the subsoil that is not readily penetrated by plant roots.



No Visible Structure
MASSIVE
This represents a soil condition where there is no evidence of aggregation. The soil particles tend to stick together in no definite pattern or arrangement.



SINGLE GRAIN
This represents a soil condition consisting primarily of sand-sized particles that tend to remain separated. This type of condition is common in coarse textured soils.