

### TD N° 4: The Morphological Organization of Soils

#### 1) Rearrange the following Coarse Elements according to their size :

Blocks, Clay, Stones, Gravel, sand, large stones, silt, Pebbles.

#### 2) Why the surface area of soil particles is so important?

#### 3) Exercise 1:

Knowing that:  $1 \text{ eqg} = \text{ions gram} / \text{valence} = \text{Mass} / \text{Valence}$

$1 \text{ meqg} = \text{Mass} / ? \times \text{valence}$

Calculate Calcium  $\text{Ca}^{++}$  retention capacity for 1 gram of: sand, silt and clay.

#### 3) Silty soil texture is unfavorable for agriculture due to their:

- High porosity
- Low cohesion
- Low water and nutrient retention capacity.
- The particles tend to clog soil pores.

#### 4) Complete the following statement with the proper term:

- The set of layers or horizons observed in this vertical trench : .....
- Soil heterogeneous parallel divided layers or strata of varying thicknesses : .....
- The distribution of mineral particles according to their size category : .....
- The physical characteristics of the soil profile, which provide insights into its formation: .....

#### 5) Complete the picture with the horizons indication and describe the composition of each horizon

