17. These two portions of the soil are strikingly distinct, and they are therefore used as the foundation of a system upon which we can base a general **classification of soils.** The manner in which the quantity of clay and sand in a soil is determined is exceedingly simple. When a sample of soil is to be so examined, measures are taken to separate the stones and portions of rock which are present. These are not a part of the true soil; they are simply rock or stone mixed with the soil. The soil upon which the farmer has to rely for his crops is the fine earthy matter, and not the stones which are mixed with it. It would, however, be a serious error to consider these stones and pieces of rock as useless to the farmer. These have their duties to perform, as we shall hereafter see; but, for the present purpose, they must be distinguished from the soil which has to be examined.

18. To obtain the fine earthy matter from a soil, a small sieve or piece of wire work should be used, and the coarser portions separated, and the finer carefully dried. Two hundred grains of the sifted soil may then be thoroughly mixed with about half a pint of water, and well shaken for some few minutes. As soon as this has been accomplished, the vessel may be allowed to remain quiet for a short time, during which the sand falls to the bottom. Whilst the fine particles of clay are still floating in the water, it should be quickly poured into another vessel, leaving the sand behind in the first. If the clay be not entirely removed in the first attempt, the sand may be again washed, and any clay poured into the vessel containing that first removed. You have thus made a separation of the soil, which will enable you to determine its character, and to classify it accordingly. More advanced and accurate processes are sometimes adopted (see Professor Church's "Laboratory Guide"), but this simple process gives results which are sufficiently satisfactory for all ordinary purposes.