LESSON 2 http://www.gardeners.com/Building-Healthy-Soil/5060,default,pg.html

Understanding soil:

Every soil has a different combination of these five basic components. By balancing them you can dramatically improve your soil's healthy and your garden's productivity. But first, you need to know what kind of soil you have.

Soil Texture and Type

Soil texture can range from very fine particles to coarse and gravelly. You don't have to be a scientist to determine the texture of the soil in your garden. To get a rough idea, simply place some soil in the palm of your hand and wet it slightly, then run the mixture between your fingers. If it feels gritty, your soil is sandy; if it feels smooth, like moist talcum powder, your soil is silty; if it feels harsh when dry, sticky or slippery when wet, or rubbery when moist, it is high in clay.

Every soil has unique physical characteristics, which are determined by how it was formed. The silty soil found in an old floodplain is inherently different from stony mountain soil; the clay soil that lay under a glacier for millions of years is unlike the sandy soil near an ocean. Some of these basic qualities can be improved with proper management—or made worse by abuse.

Identifying your soil type: Soils are generally described according to the predominant type of soil particle present: sand, silt or clay. By conducting a simple soil test, you can easily see what kind of soil you're dealing with. You may want to repeat this test with several different soil samples from your lawn and garden.

ACTIVITY

1. Fill a quart jar about one-third full with topsoil and add water until the jar is almost full.

2. Screw on the lid and shake the mixture vigorously, until all the clumps of soil have dissolved.

3. Now set the jar on a windowsill and watch as the larger particles begin to sink to the bottom.

4. In a minute or two the sand portion of the soil will have settled to the bottom of the jar (see illustration). Mark the level of sand on the side of the jar.

5. Leave the jar undisturbed for several hours. The finer silt particles will gradually settle onto the sand. You will find the layers are slightly different colors, indicating various types of particles.

6. Leave the jar overnight. The next layer above the silt will be clay. Mark the thickness of that layer. On top of the clay will be a thin layer of organic matter. Some of this organic matter may still be floating in the water. In fact, the jar should be murky and full of floating organic sediments. If not, you probably need to add organic matter to improve the soil's fertility and structure.