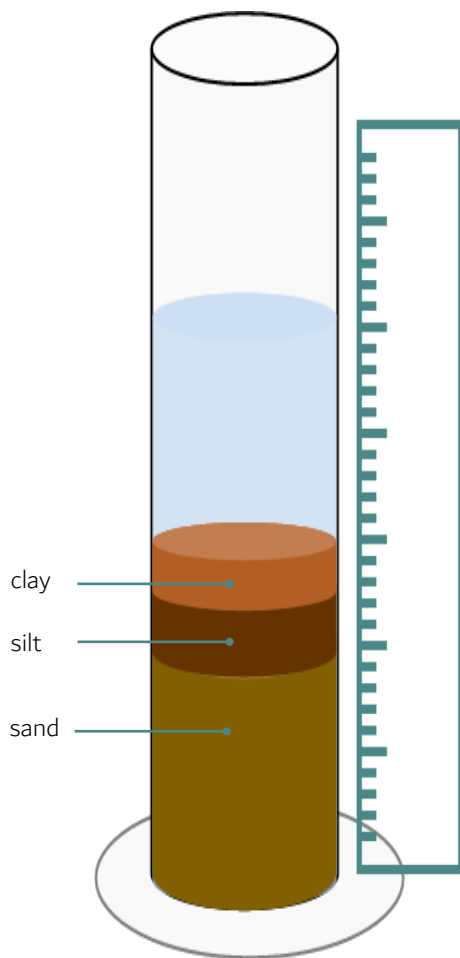
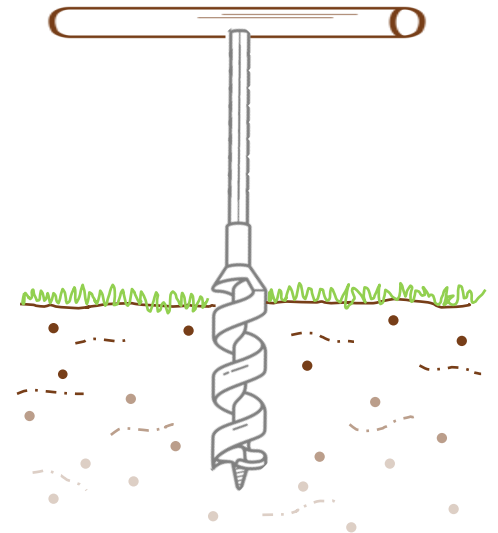


A sample of soil is obtained using an auger (a boring device that uses a metal thread to 'unscrew' a sample of soil from beneath the surface - see right). This is placed into a glass or clear sided measuring cylinder such that the sample fills roughly a third of the cylinder. Any grass or loose vegetation should be carefully removed from the sample if possible. The measuring cylinder is then topped up with water so that roughly two thirds of the cylinder is now full with both the soil sample and the water. Placing one hand over the top of the cylinder, it should be shaken vigorously so that water reaches throughout the sample and from one end of the cylinder to the other.



The measuring cylinder should then be left on a flat surface for 48 hours. During this time the largest particles within the soil (the sand) will settle to the bottom of the cylinder creating a visible layer. This will be followed by silt, and finally clay will form a layer closest to the top of the measuring cylinder. After 48 hours the total height of all three layers should be measured and recorded. Then the size of each layer can be measured using either the scale on the measuring cylinder itself or a ruler held against the outside of the cylinder.

The size of the layers as a percentage of the whole soil sample can then be calculated:

$$\% \text{ clay content} = \frac{\text{size of clay layer (mm)}}{\text{total size of sample (mm)}} \times 100$$

These percentages can then be used in a soil texture triangle (see Guide 34) from which the type of soil can be read.