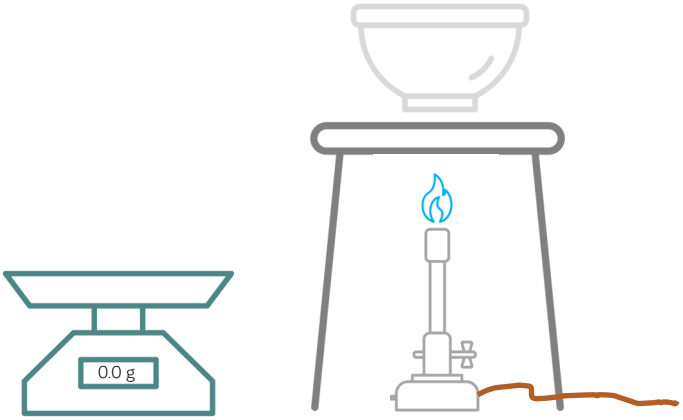
How to calculate soil organic content

To find the organic content of a sample of soil one must first find the mass of the soil sample with any moisture held in the sample removed. One measures the 'wet' mass and the 'dry' mass of the sample and the difference between these weights is taken as the mass of the moisture held in the soil.

The first step is to weigh a heat proof bowl (ideally a ceramic crucible style bowl) and record this mass. Then, the initial soil sample, bored from the ground using an auger, should be placed in that bowl. Together, these should be weighed as accurately as possible and the mass recorded. The soil sample should weigh at least 50g. This ensures that there will be a clear enough difference between the wet and dry masses for moisture content to be calculated. The wet soil sample and bowl is then placed into a hot oven. Specialist soil ovens do exist but a normal kitchen oven will also work well. The oven should be heated constantly to a temperature of 100°C or more for four hours.

After the four hours, the sample is thought to be dry soil. One then uses a pestle and mortar or similar to crush up the sample, returning the sample to the heat proof bowl afterwards. The dry sample is then heated over a strong Bunsen flame for at minimum of 30 minutes. This is to burn off all the organic matter found in the soil and create a 'burnt' sample. This is weighed and the mass recorded.



To find the percentage organic content of the soil, one needs to subtract the mass of the empty bowl from the

$$\% \text{ organic content} = \frac{(\text{mass of dry sample - bowl}) - (\text{mass of burnt sample} - \text{bowl})}{(\text{mass of dry sample - bowl})} \times 100$$

