

To find the moisture content of a sample of soil 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 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. The bowl and soil sample together should be reweighed. The difference between the wet and dry sample is the mass of moisture in the soil.

To find the percentage moisture content of the soil, one needs to subtract the mass of the empty bowl from the wet mass and the dry mass before carrying out the calculation:

$$\% \text{ moisture} = \frac{(\text{mass of wet sample} - \text{bowl}) - (\text{mass of dry sample} - \text{bowl})}{(\text{mass of wet sample} - \text{bowl})} \times 100$$

