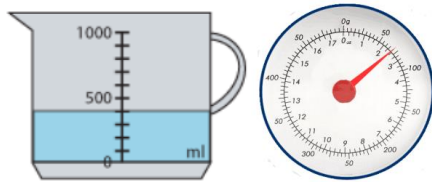


Maths within Design & Technology

You need to work out how much each division is worth when reading scales.



Sometimes recipes are given in the form of ratios. This allows you to make as much or as little as you want, as long as the ingredients stay in the same ratio to one another.

Technical drawing is an important skill in Design and Technology. Your working drawings should include all the details needed to make your design. In mathematics you will also need to produce accurate drawings which show the exact details of 3D shapes using 2D diagrams.

You use proportion with recipes in order to work out how much of each ingredient you need to serve a different number of people from the number given in the recipe.

D&T scale diagrams often use plan drawings (looking down from above) and incorporate Compass directions, a key and a scale.

In D&T a representation of a 3D solid on a 2D surface is called a projection.

Isometric projection uses vertical lines and lines drawn at 30° to horizontal.

In D&T, orthographic projection is used to show a 3D object using a front view, a side view and a plan. Orthographic projection may be done using first angle projection or third angle projection.

In maths we use the same method to show 3D shapes – the views are described as plan view, front elevation and side elevation. An arrow on the 3D image shows which direction is the front.

In both Design and Technology and Mathematics it is at times necessary to give measurements to a certain degree of accuracy. The measuring equipment you use will determine what accuracy you can measure something to. Being able to measure things accurately is an important skill in both D&T and mathematics. Estimations can also be used to carry out calculations quickly.



At Stanley High School