When we start a new project in Blender, the Metric system is used by default, with one Blender unit of distance set equivalent to one metre. This means that our default Cube is 2 metres in all three directions.


m is short for *metres*
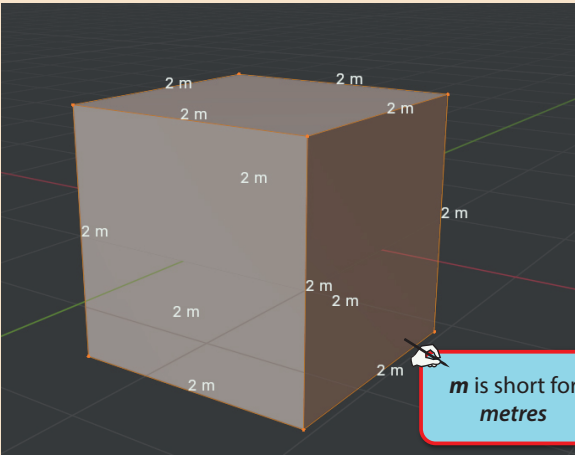
We can see the size of an object in both the *Last Op* panel when the object is created, and also in the *Sidebar's Item* page where the size in each of the three dimensions is given.
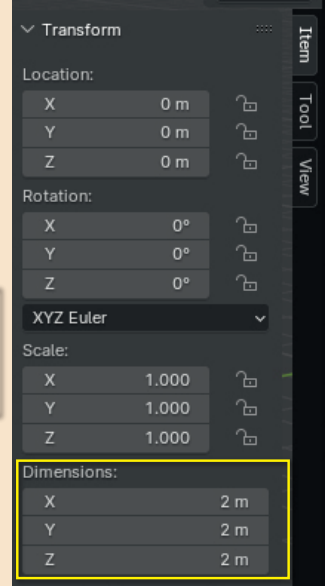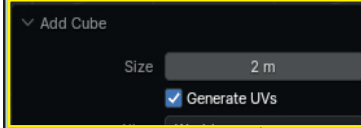

The units we are using can be set in the **Scene** page of the *Properties Editor*.
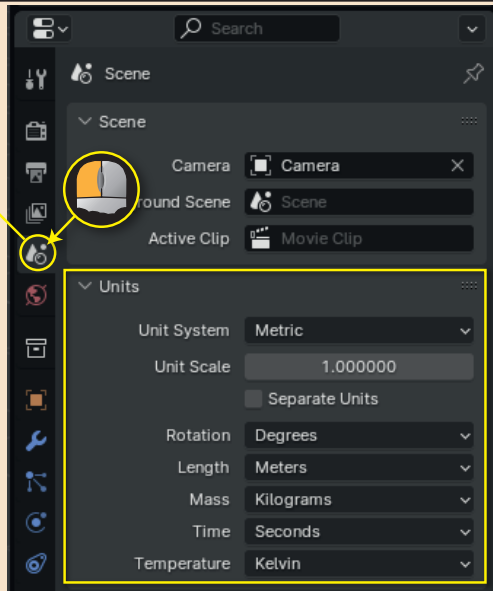

Unit System gives us a choice of *Metric* or *Imperial* with a third option, *None*, removing any link between real-world size and Blender measurement units.
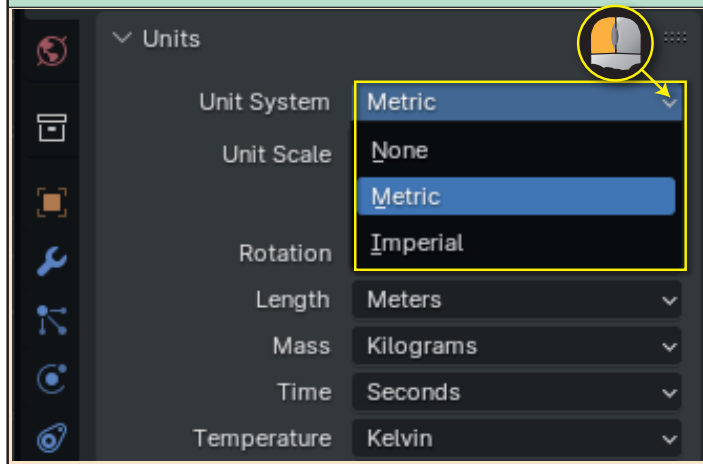

When we choose *Metric*, the **Length** field lower down the list of fields offers measurement units of anything from a kilometre down to a micrometre.
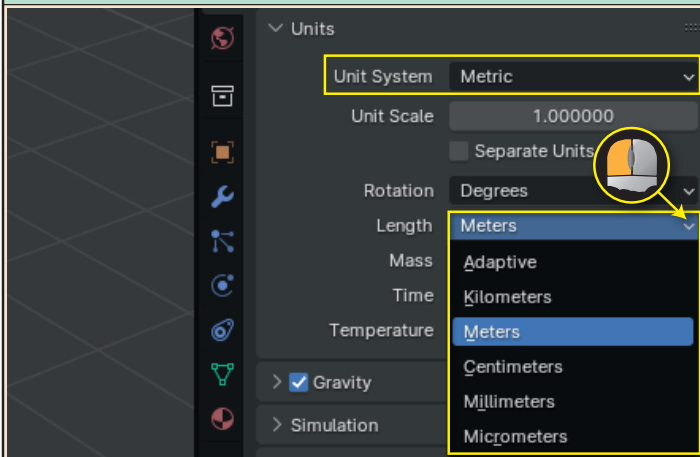


When we choose *Imperial*, we get the old British measurements which are still used in the USA. This ranges from miles to thou (one thousandth of an inch).
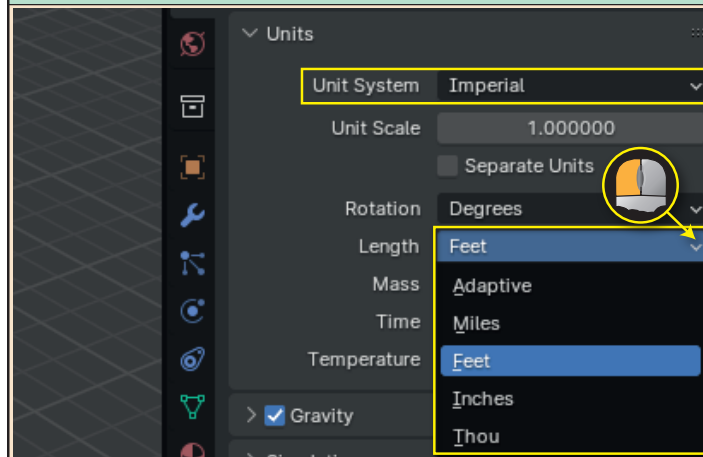
Both *Metric* and *Imperial* have a *Length* option labelled **Adaptive**. This allows Blender to use the most appropriate units when displaying values. For example, if we are working in Metric and create a Cube defining it size as 0.5 metres, Blender displays 50cm.
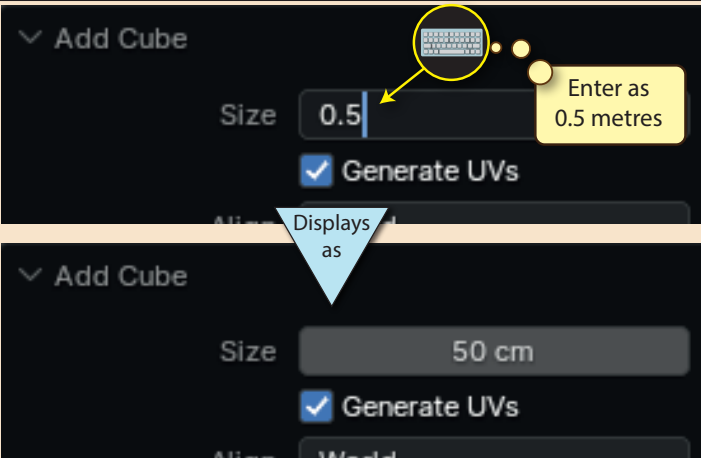
Separate Units is a checkbox, which, when selected, shows named units rather than fractions where possible. Here, when working in *Imperial*, we have created a Cube which has a size of 2.5 feet this is then displayed as 2 feet 6 inches.
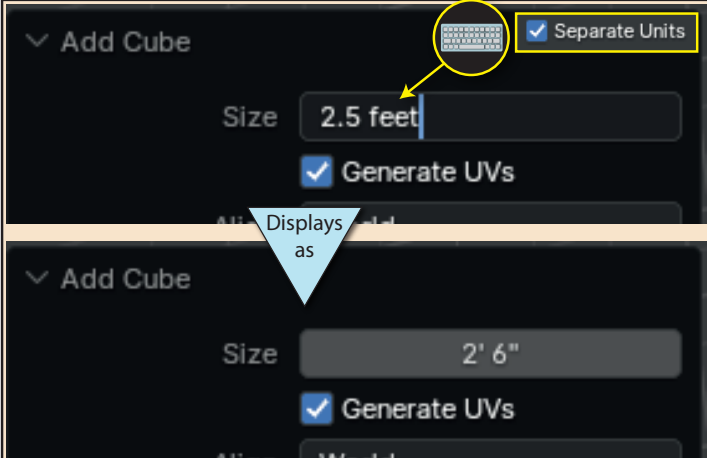

If you are not familar with the Imperial system, the tick marks by the numbers - properly called "prime" and "double prime" - are the shorthand used for "feet" and "inches".
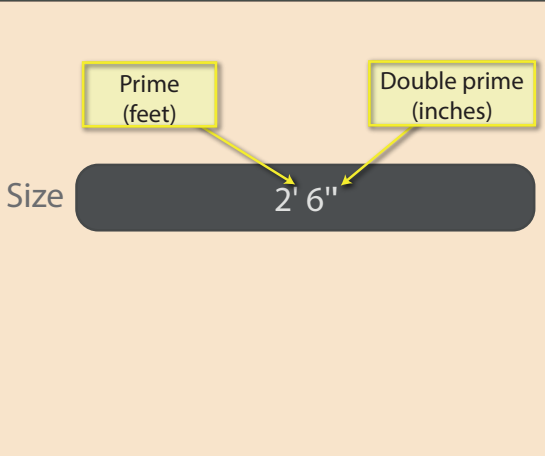

Rotation can be set to *degrees* or *radians*.

Mass, **Time**, and **Temperature** are only of use when we are using physics to create realistic animations. But note that *Mass* and *Temperature* have different settings for *Metric* and *Imperial*.
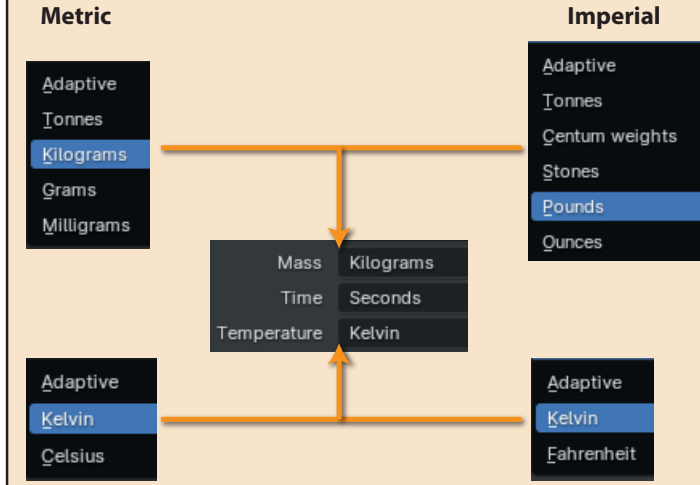
Unit Scale should scale distances appropriately. But, making use of it causes display problems as shown below when a 2 metre Cube is created. So, it is best to ignore this field, leaving it set to 1.0.
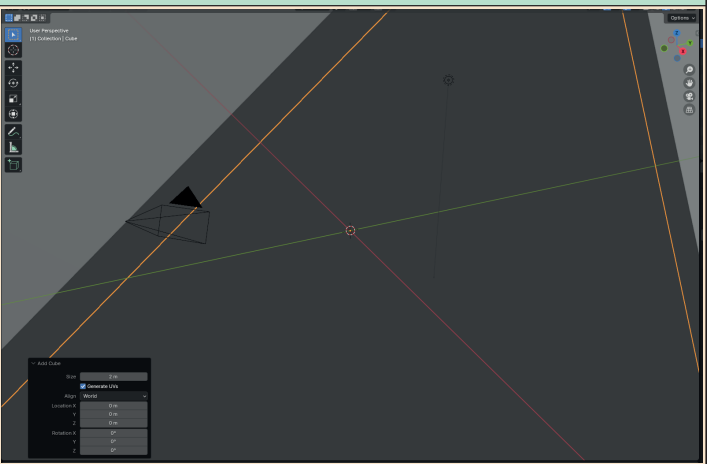
However, *Scale* in the *Viewport Overlays* panel can be adjusted when working on a different scale from the default metres or feet. For example, setting *Scale* to *0.001* when using metric, will set the smallest grids shown in named and user views to exactly 1mm.