Blender defaults to a non-unit based modeling process, but there are several advantages to using its measurement features. The first is that modeling is, despite the increased time in entering accurate values, more intuitive – we intuitively know how big a cup, or a table, or a house is, and can model them without referring to something else in the scene. The second is that clients and collaborators know that the models you’re using are a standard size. A third is that simulations such as fluid, cloth, rigid body physics, and smoke will behave realistically if objects are the correct size.

Blender offers several ways to model accurately, and many of them are explored in Claas Kuhnen’s video at https://youtu.be/9o7qv71gscU. It is just over an hour long, but describes many ways to model accurately using polygons – not an easy thing.

There are other advantages to having your units set correctly ...
Setting units
In a sense, you don’t need to do this, as Blender’s default unit is one meter. However, it’s always a good idea to have the units specified – and you may want to work in feet and inches in any case. Go to the Scene tab in Properties and under Units select Metric or Imperial. Keep the Scale at 1.000, but check Separate Units if you want centimeters or inches instead of a decimal unit.

Continuous measurement
In the right fly-in, in Edit mode, the Mesh Display panel offers Edge and Face information options. Check these to get continuously updated readouts of the length, area, and angles in your mesh.

Alignment
It’s possible to align objects by copying and pasting their location values in the right fly-in, but a quicker way is to select two or more objects, then use Object – Transform – Align Objects. You can align by maximum or minimum value in one or more axes and also by origin points. Alignment can be to the selected or active object, the 3D cursor, or the scene origin.

You can also align in Edit mode by selecting two or more faces and scaling them along their normal axis to zero. A useful technique is to combine two or more meshes into one to align them, then separate using P and Separate by Loose Parts.

Snapping
This is enabled by clicking on the magnet icon in the 3D window toolbar. I find snapping more useful in Edit mode than Object. Snapping can be by vertex, edge, face, volume, or increment.

The Ruler/Protractor
You can find this in the Grease Pencil tab. Click on Ruler/Protractor, and drag with the left mouse button in the scene. There is an article about its use at https://www.blender.org/manual/interface/ruler_and_protractor.html.

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