

EDIT MODE

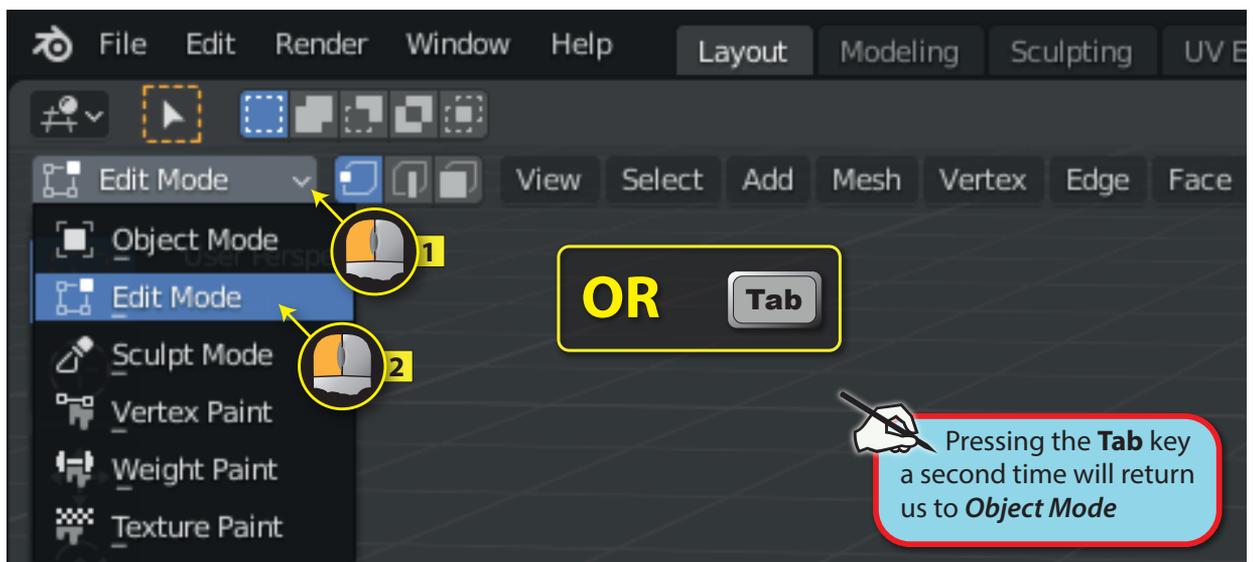
Whereas *Object Mode* restricted us to transforming complete objects, in *Edit Mode* we can manipulate the vertices, edges and faces that make up an object.

We can move, scale, and rotate the selected elements of an object as appropriate to gain much greater control over reshaping than could be achieved when working in object mode.

In addition, we can delete existing elements from an object as well as add new ones.

The biggest change to the *3D Viewport* when we move to *Edit Mode* is the contents of the *Toolbar* which contains a new and expanded set of options (as shown here on the left).

To enter *Edit Mode*, first select the object whose elements are to be adjusted and then either press the **Tab** key or select *Edit Mode* from the dropdown list in the top-left of the *3D Viewport*.

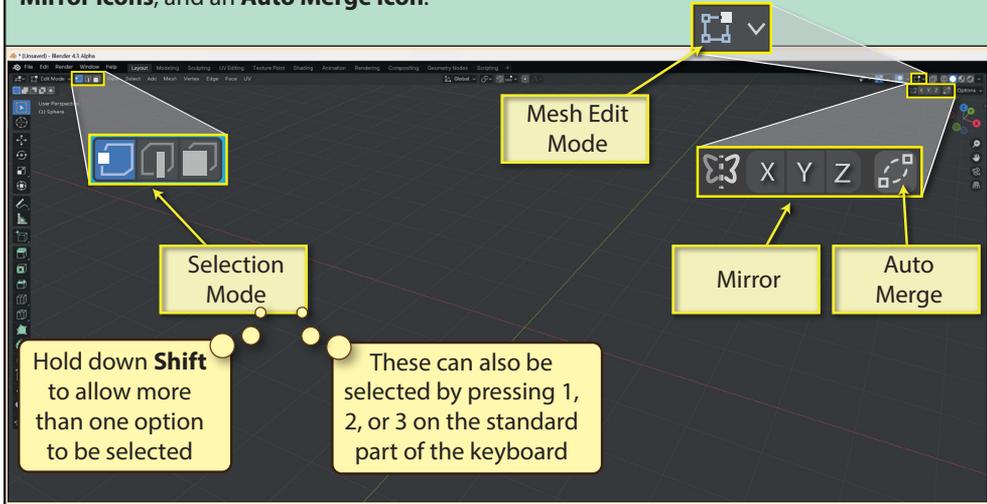


Intro to Edit Mode

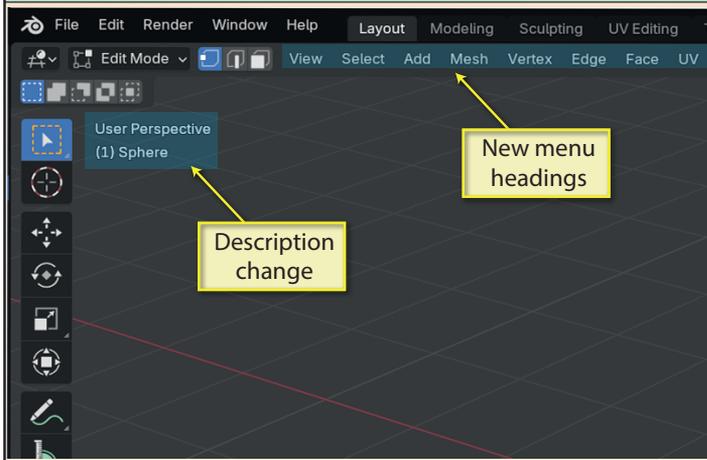
When we change to **Edit Mode**, we'll see a few differences in the 3D Viewport.

The most obvious change is the greatly expanded Toolbar which is shown on the previous page.

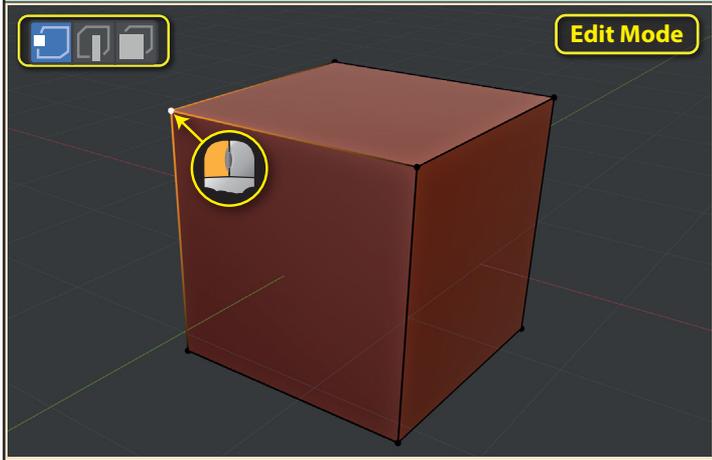
Additions to the 3D Viewport include the three **Select Mode icons**, where we choose which elements we'll be selecting (vertices, edges, or faces); a **Mesh Edit Mode icon**; a set of **Mirror icons**; and an **Auto Merge icon**.



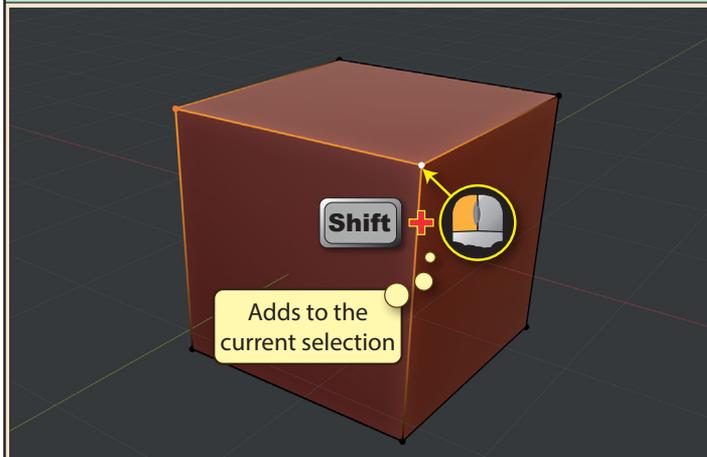
Other changes include a different set of menu headings and a change in the descriptive text.



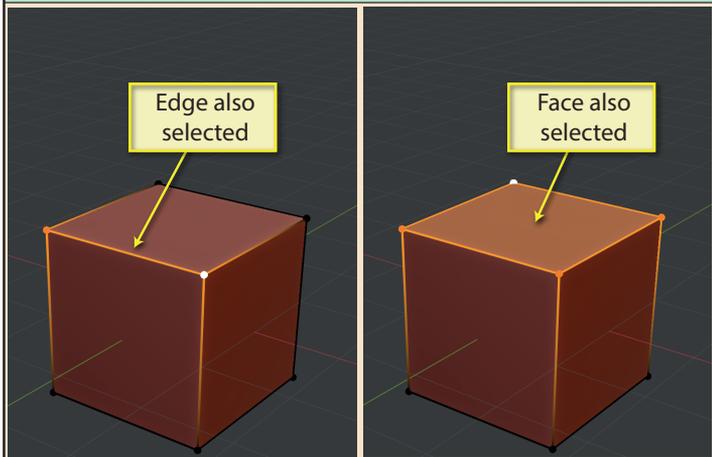
In Edit mode, and using **Vertex Select**, when we left-click on a vertex, Blender indicates that the vertex is selected by turning it white while the nearest part of each edge to which it is connected turns orange.



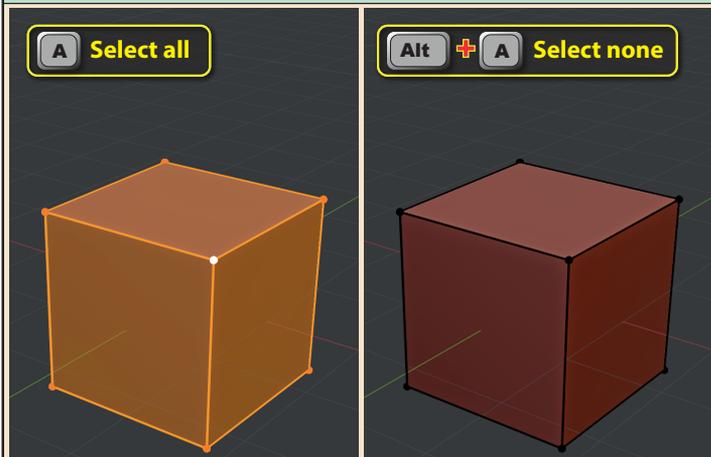
As in Object mode, holding down **Shift** allows us to add to the current selection. All other selected vertices are shown in orange.



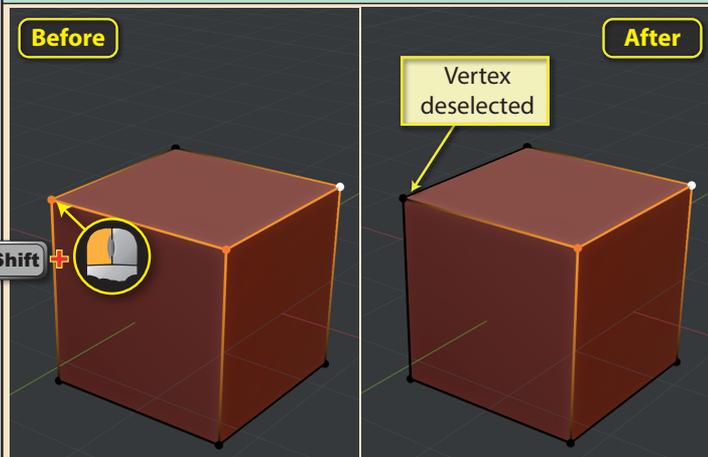
Selecting the two vertices at either end of an edge is the equivalent of selecting the edge itself. Selecting all the vertices or edges around a face is the equivalent of selecting that face.



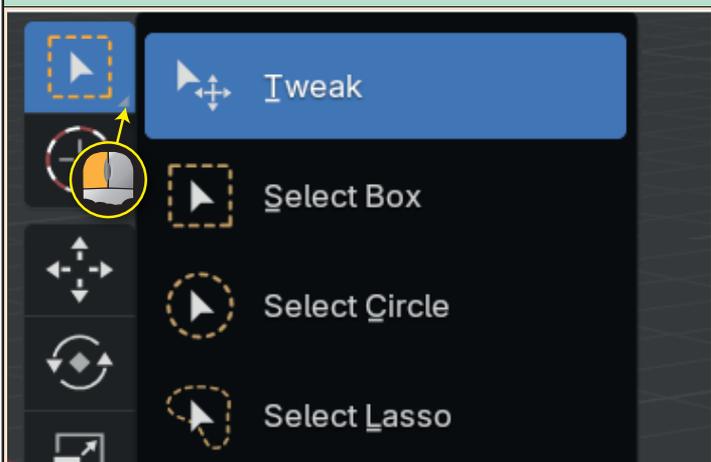
We can select every element in the currently selected mesh by pressing **A** and deselect everything by pressing **Alt+A**. An alternative way to deselect everything is to click in any empty space in the scene.



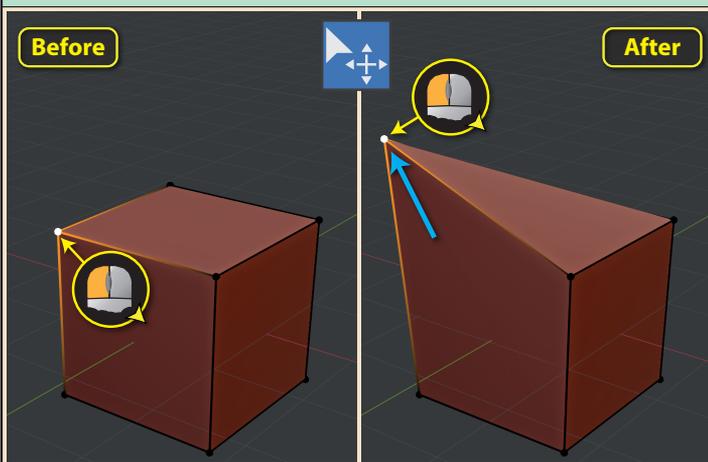
If we hold down **Shift** and click on an already selected element, it will be deselected.



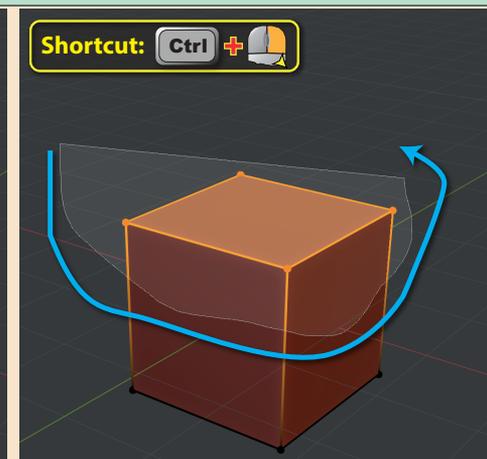
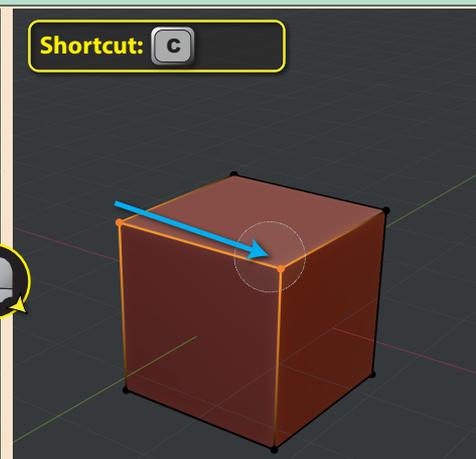
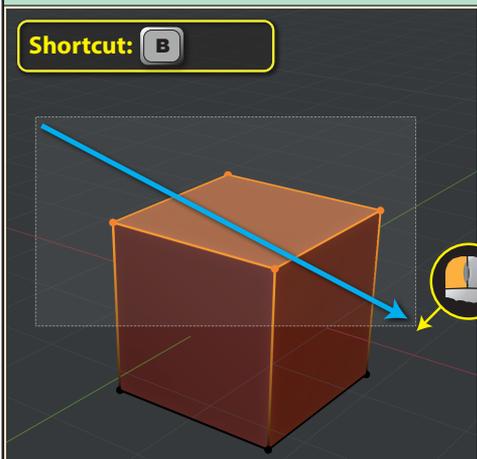
The first entry in the *Toolbar* is the same as it was in *Object mode*, giving us other ways of selecting the elements of the object being edited.



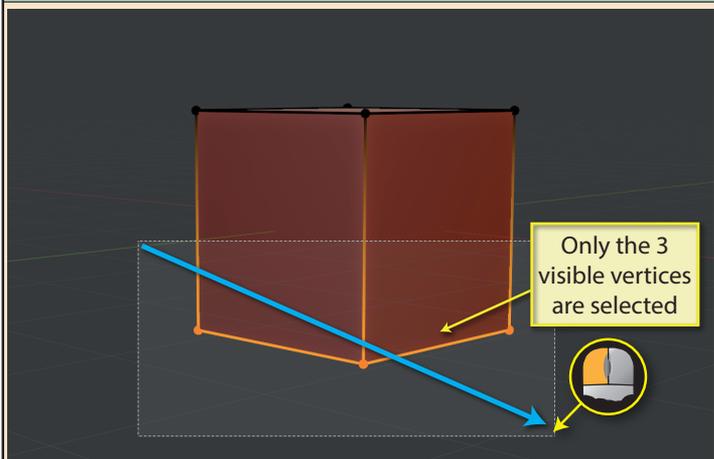
Tweak combines selection and move operations. Click on an element to select it and keep holding down the left mouse button and dragging to move the selected element.



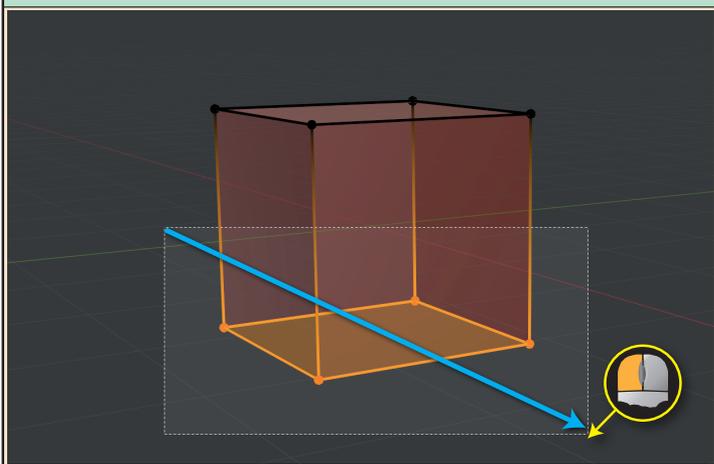
The other three selection methods, *Box*, *Circle* and *Lasso* work exactly as described earlier when using *Object mode*. When using **Circle Select**, the circle radius can be adjusted in **Radius field** the top-left of the 3D Viewport. However, when using the shortcut, **C**, the radius is adjusted using the mouse wheel.



When selecting elements in a mesh, with these methods, elements that are not visible on the screen will not be selected. For example, using Box select over the base of a Cube, will not select the vertex at the back of the Cube.



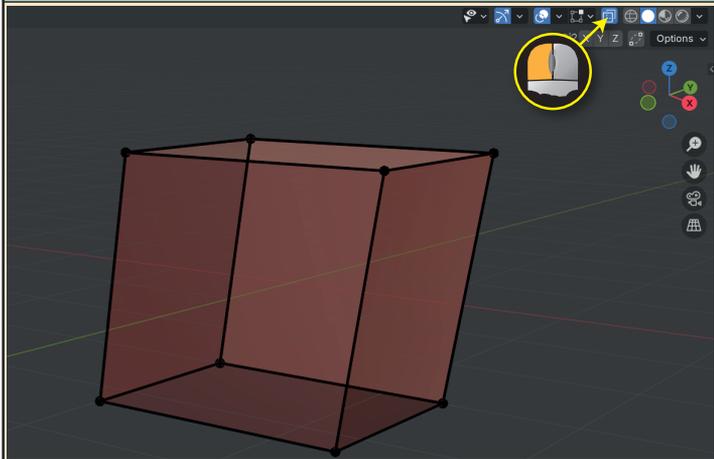
Now, the same Box select as before will select all four vertices.



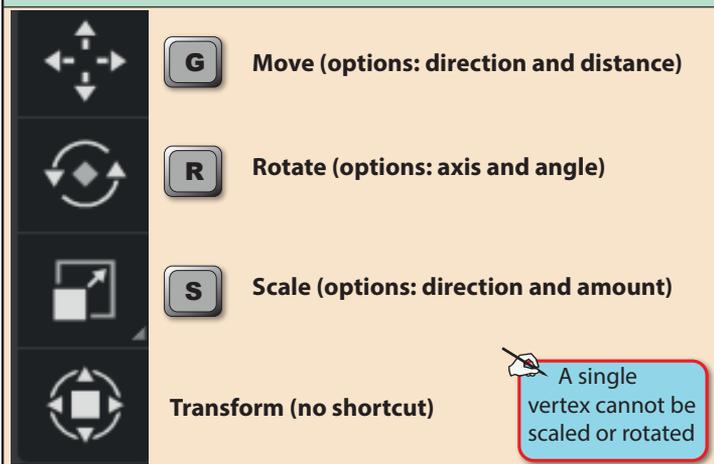
Pressing either the **X** key or the **Delete** key will initiate the deletion of the selected elements. Pressing either key produces the popup menu shown here where we can specify exactly what is to be deleted.



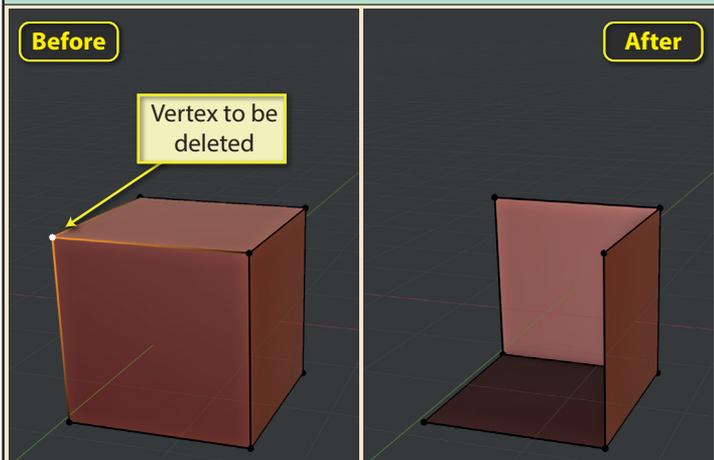
We could change our viewpoint, making the fourth base vertex visible and select it while holding down **Shift**, but an alternative method is to start by switching on X-Ray mode, making all parts of our Cube visible.



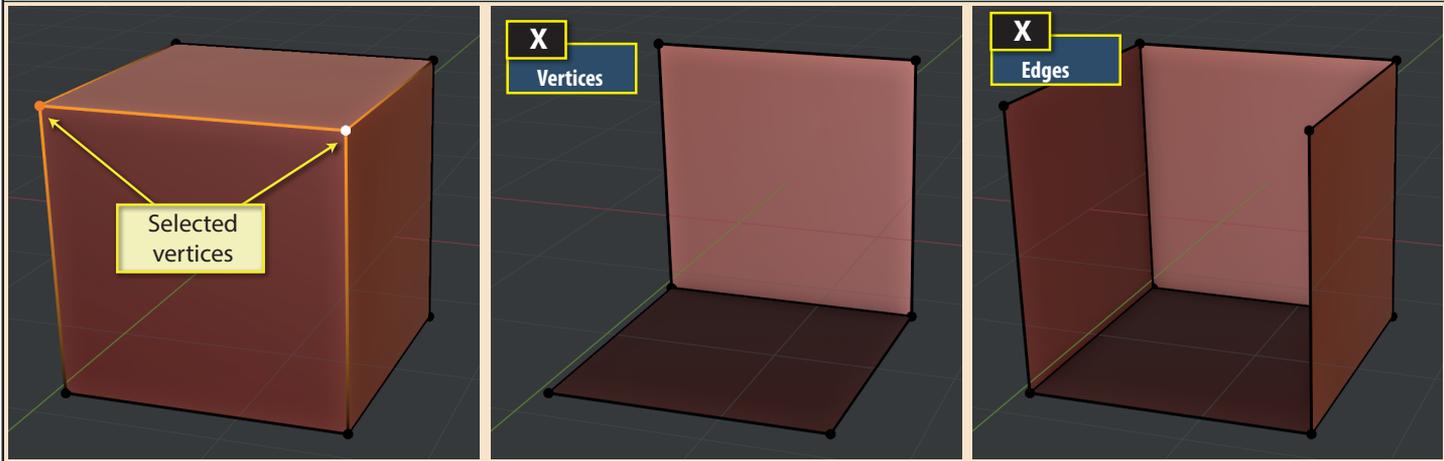
Basic moving, scaling and rotation controls are again identical to those of Object mode. The Toolbar options are the same as before as are the keyboard shortcuts.



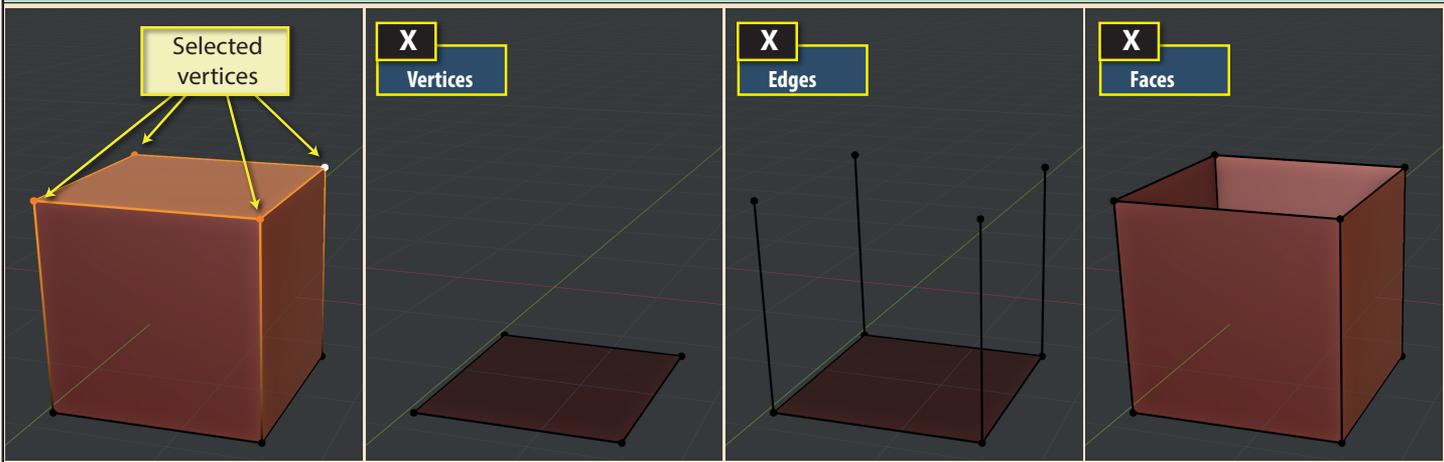
If we delete a single vertex from our Cube, all the edges that use that vertex will also disappear. And any face that uses those edges is deleted too. Below we can see the result of deleting the Cube's top-left vertex.



Although, with one vertex selected, we cannot choose Edges or Faces from the popup Delete menu, once we select two adjacent vertices, we then have the option to delete either vertices or edges. Notice that each option gives quite different results.



And if we select all the vertices of a face, then we can delete Vertices, Edges or Faces, with each giving different results.



One last characteristic of Edit Mode that we should always be aware of is that the origin of a mesh never moves unless we specifically use a Move Origin command.

