

Mirror Modifier

Access:

Keyboard shortcut: None

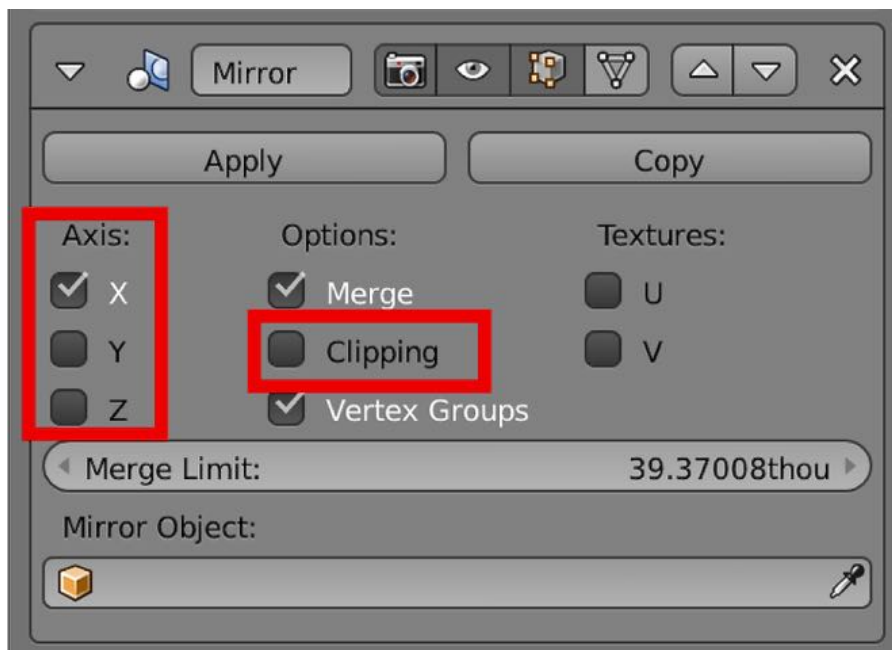
Properties Editor: Modifier Icon > Add Modifier > Mirror

Description:

The Mirror Modifier is used to model half of a mesh that is symmetrical about a plane and have the other half automatically modeled. This can not only save time modeling but ensures that the two halves are identical.

We could have used the Mirror Modifier to model the Law Office and Ranch House, as they are symmetrical about a plane down the center. Similarly, the Grizzly Bear and GMC Sierra have symmetry which allowed use to use the Mirror Modifier.

Options include the ability to mirror about the X-, Y- and/or Z-axes and to apply clipping, which prevent vertices from moving through the mirror's plane when being edited. Vertices moved to the mirror's plane when clipping is turned on weld at the plane and then can not be moved from the plane unless clipping is first turned off. This is actually a very useful feature when using the Mirror Modifier.



614

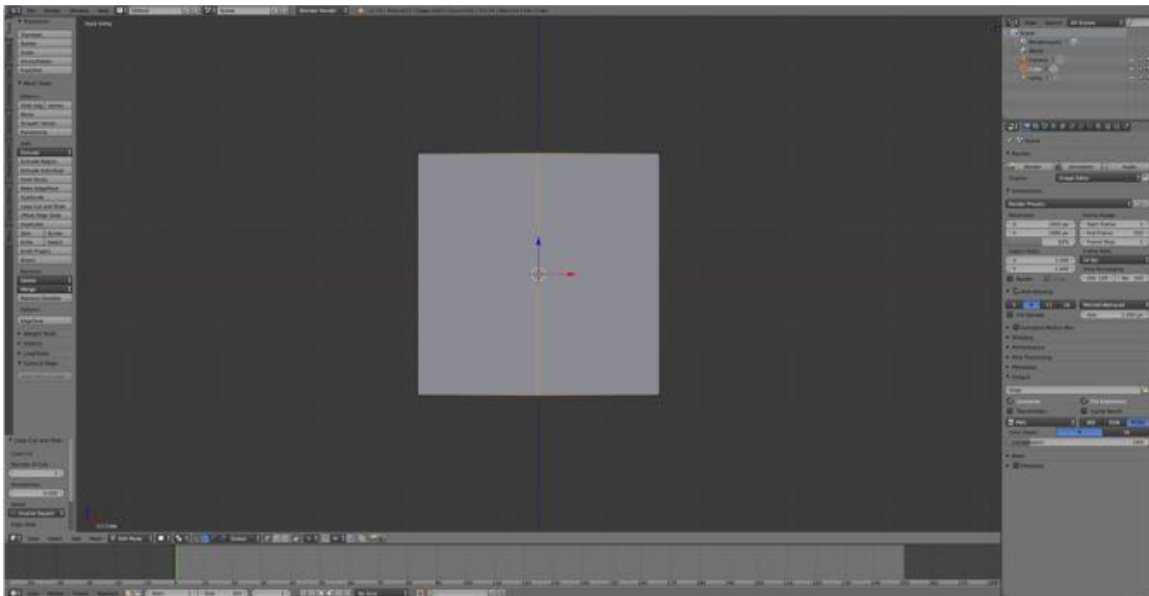
Mirroring will occur about the objects origin, so it is a good idea to adjust the origin to an axis before applying the Mirror Modifier.

To Use the Modifier:

- With the **object (mesh) selected**, in the **Properties Editor's Header LMB** click on the **Modifier Icon** (a wrench).
- **LMB** click on **Add Modifier** and in the Generate column select (**LMB**) **Mirror**.

Let's Try It:

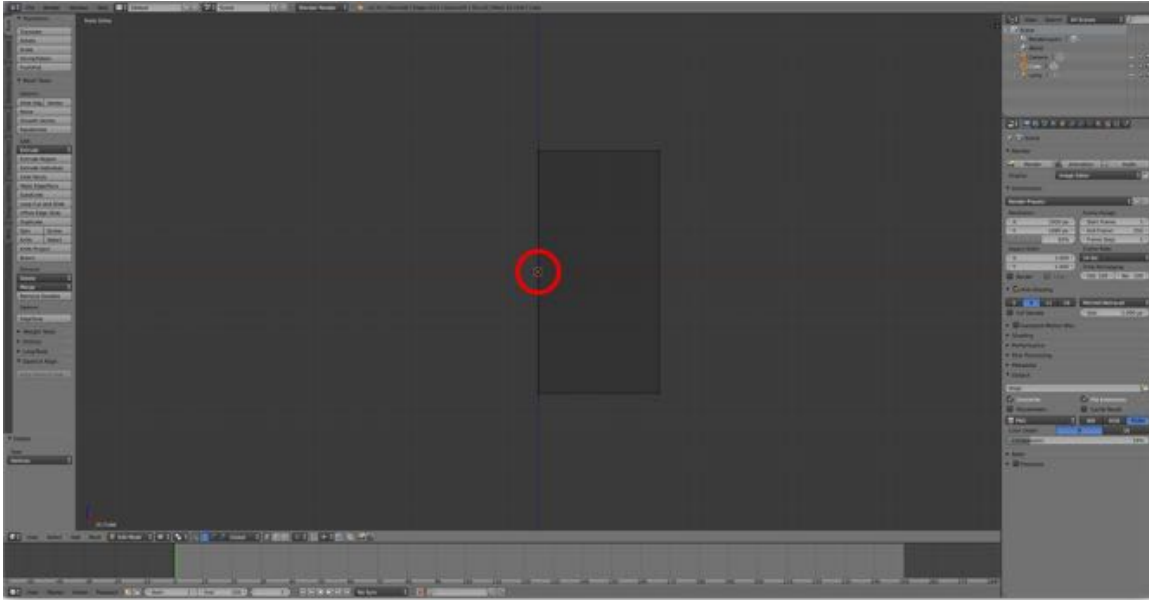
- **Open Blender** and switch to **Front View (NUMPAD-1-KEY)** and **Ortho View (NUMPAD-5-KEY)**.
- **Switch** to the 3D Editor's **Edit Mode** and **Vertex Selection Mode**.
- Using the Loop Cut and Slide Tool, **add an edge loop (Tool Shelf's Tool Tab > Add > Loop Cut > ENTER-KEY > ENTER-KEY)** to the **center of the Default Cube**.



615

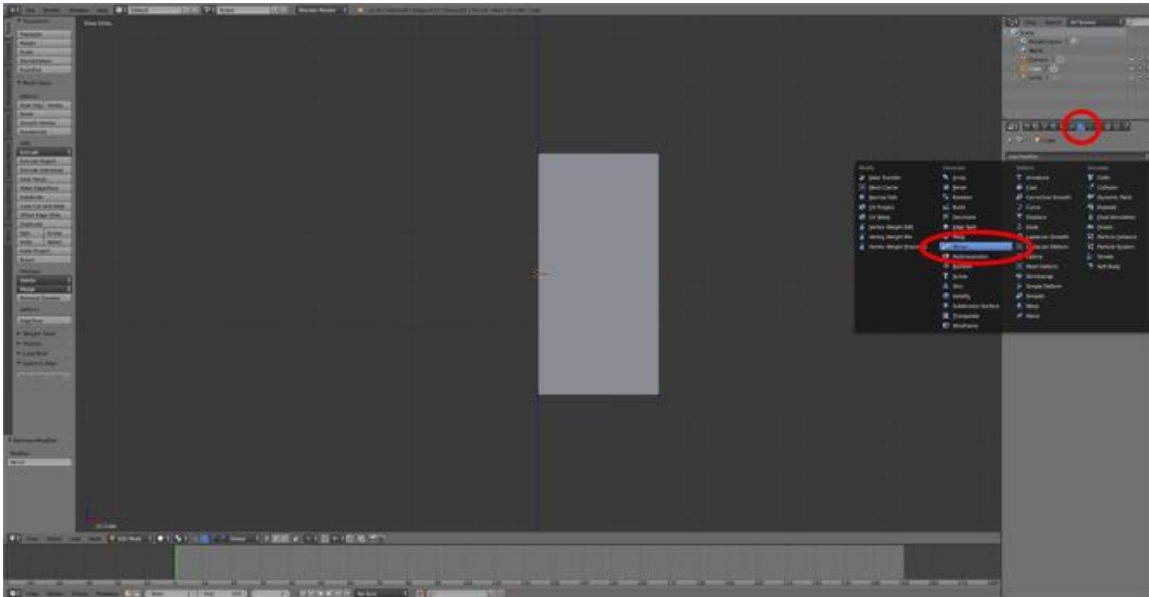
- **Switch to Wireframe View Mode (Z-KEY)**, use the **Box Select Tool (B-KEY and Drag)** to **select the left side vertices** and delete (**X-KEY > Vertices**).

Notice that the origin of the mesh (the little orange dot) remained at the origin of the scene (X=0,X=0, Z=0).



616

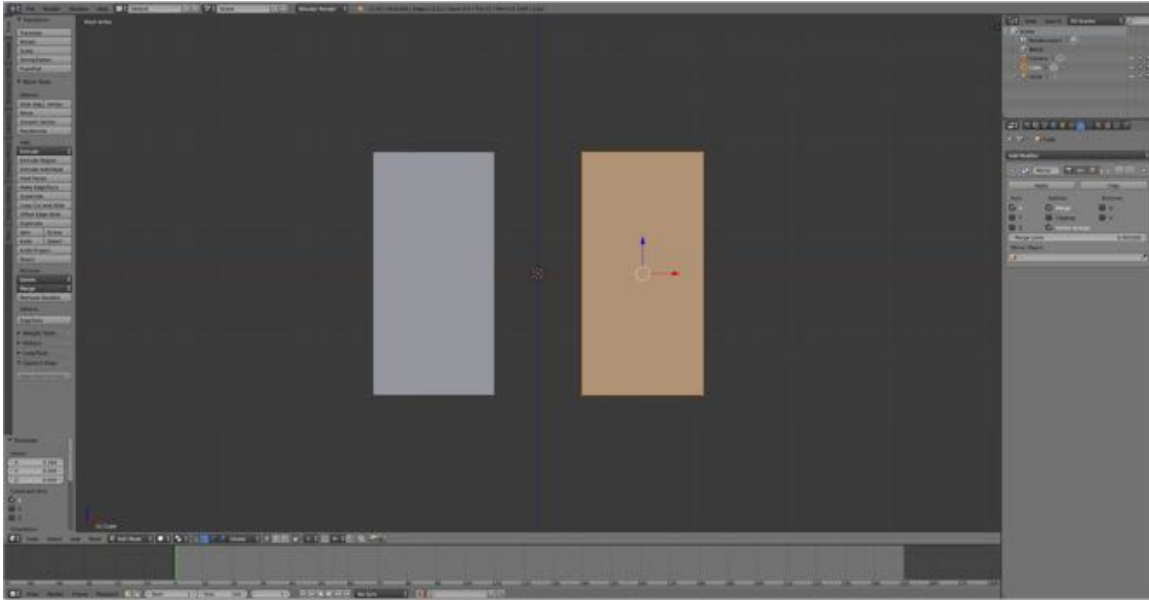
- **Switch** back to **Solid View Mode (Z-KEY)**.
- In the **Properties Editor's Header LMB** click on the **Modifier Icon** (a wrench).
- **LMB** click on **Add Modifier** and in the Generate column select (**LMB**) **Mirror**.



617

- Using the **Transform Manipulator Widget**, **move (Drag)** the **mesh** to the **right** on the **X-axis**.

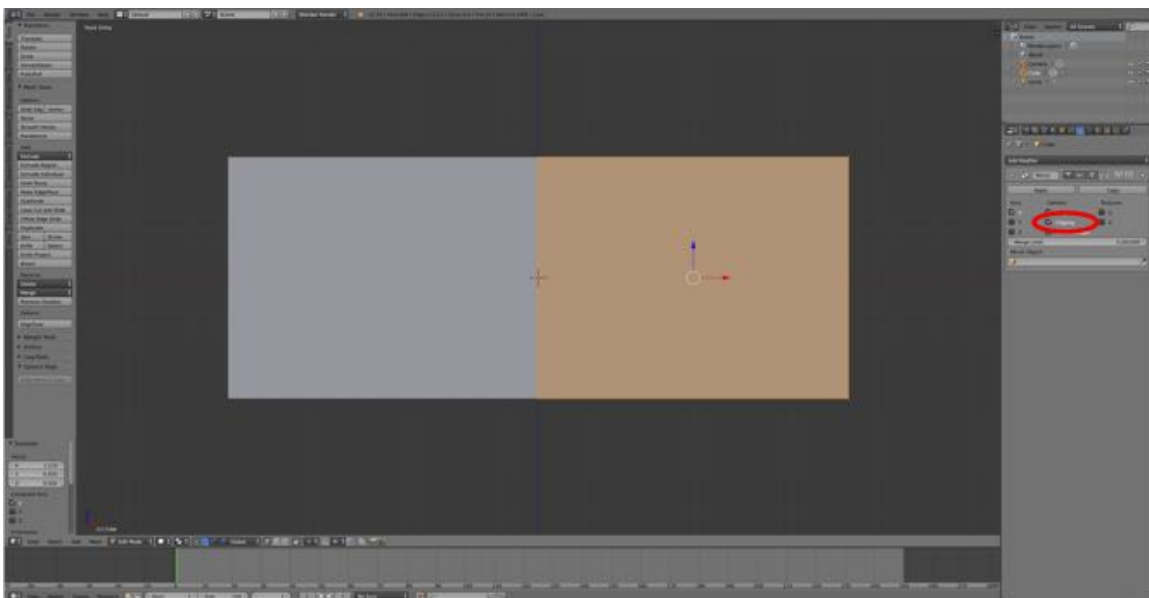
Notice that the mesh has been mirrored and the mirror copy moves to the left while the origin of the mesh remains at the origin of the scene.



618

- **Turn on clipping** (in the Mirror Modifier setting **LMB** on the **Clipping** checkbox to **place a check**).
- **Drag the mesh right** back to the **center**.
- **Release the mouse button** then **drag the mesh** back to the **left**.

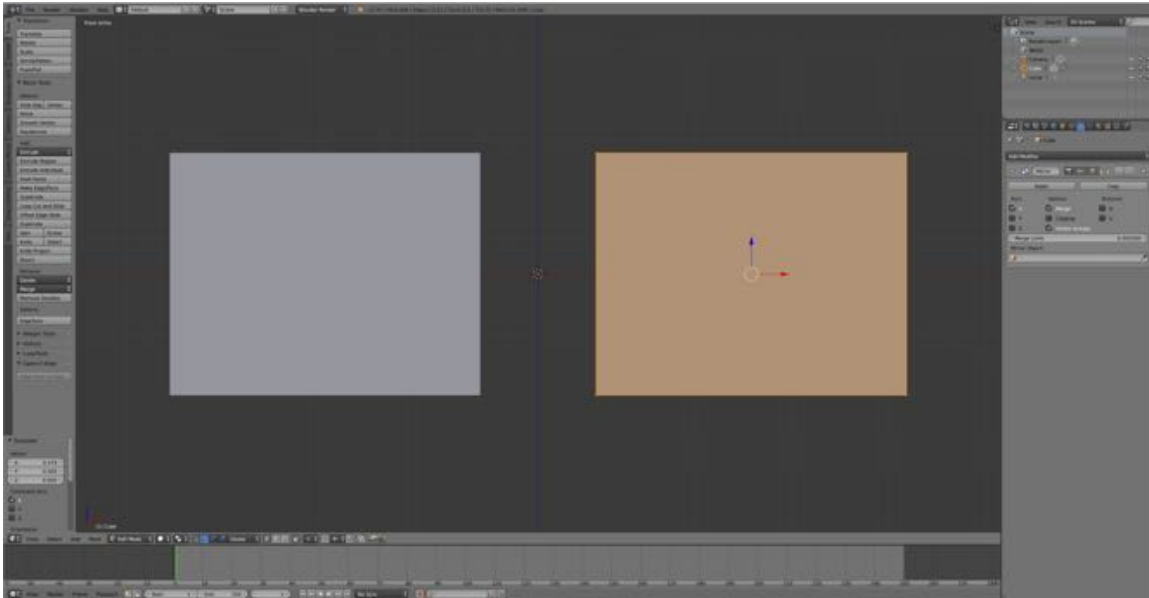
Notice the vertices on the mirror's plane have been welded.



619

- **Turn off clipping** (in the Mirror Modifier setting **LMB** on the **Clipping** checkbox to **remove the check**).
- **Drag the mesh left**.

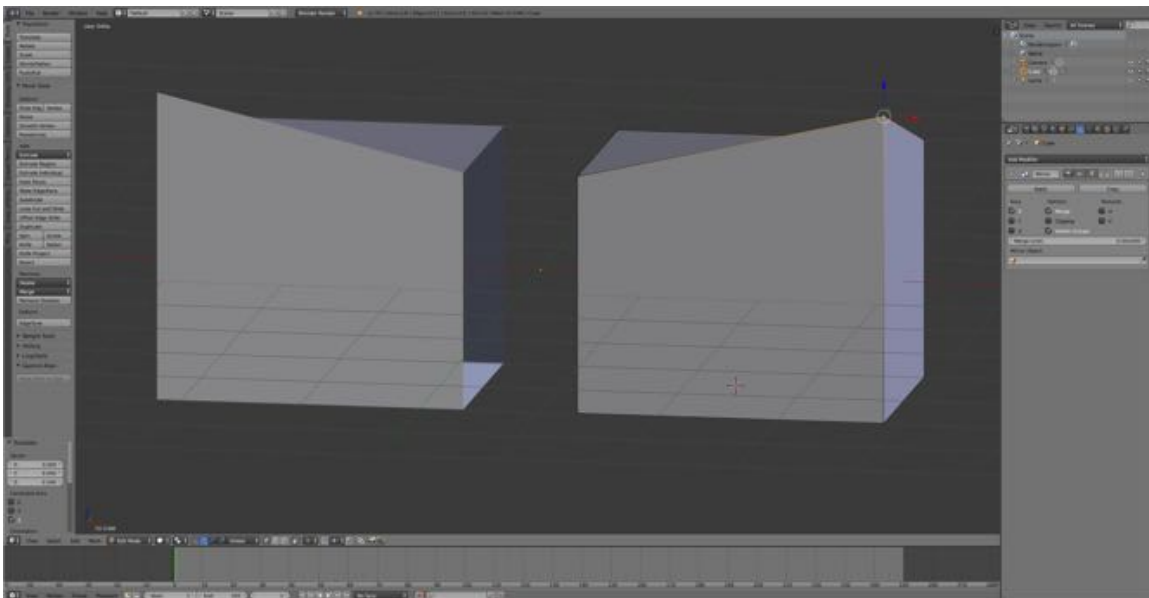
Notice that you can now move the center vertices.



620

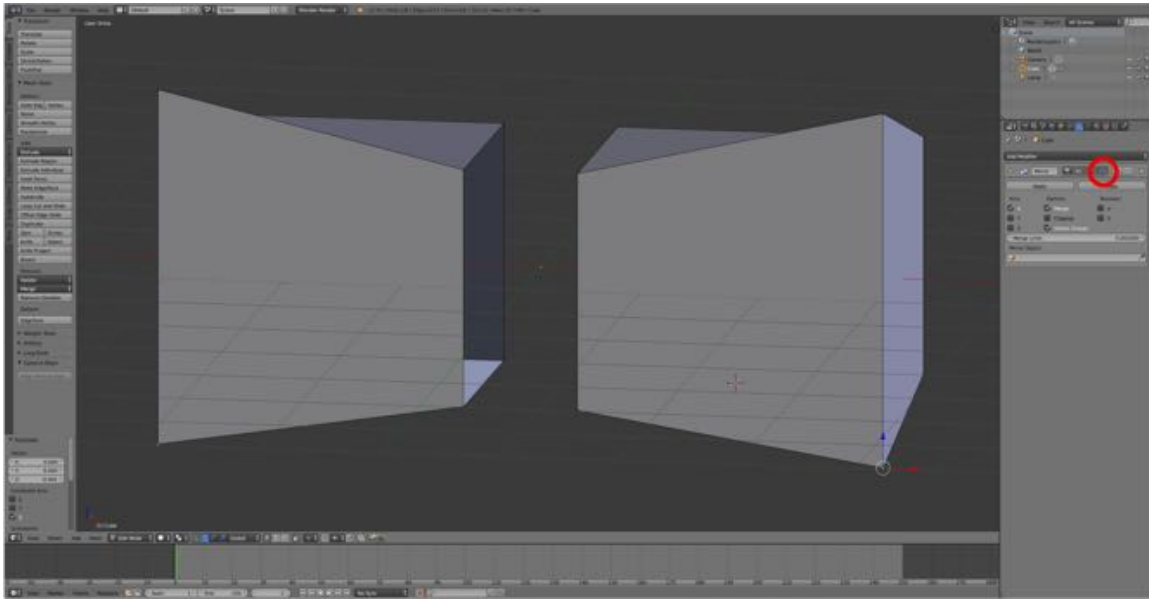
- **Select a vertex and drag up** on the Z-axis.

Notice that changes made to the mesh on the right are “mirrored” in the virtual portion mesh to the left.



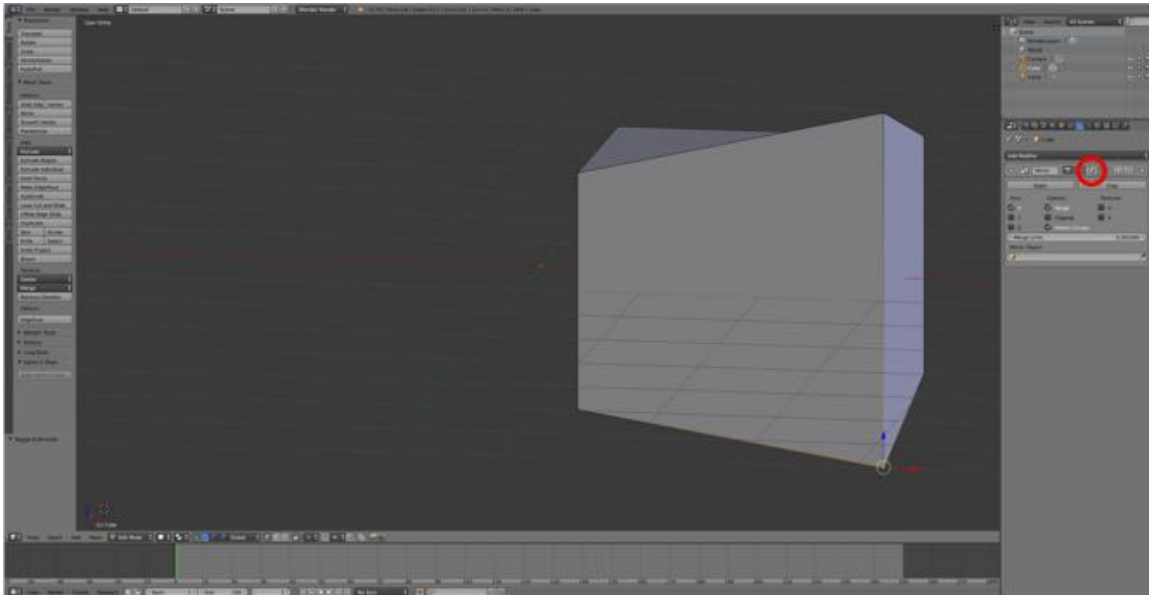
621

- In the Mirror Modifier Header LMB click on the **Triangle Icon** to make vertices visible and editable in the virtual portion of the mesh.
- Select the lower left-hand vertex on the virtual portion mesh (extreme left in the scene) and drag down (G-KEY > Z-KEY > Drag).



622

- In the Mirror Modifier Header **LMB** click on the **Box Icon** to **hide** the **virtual portion** of the mesh in edit mode.



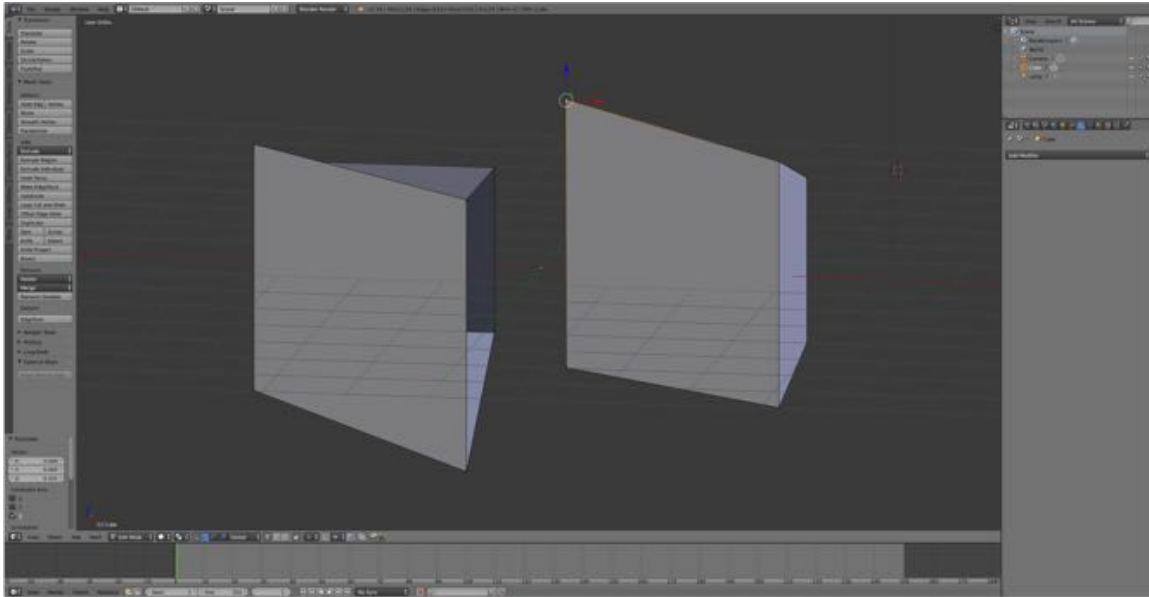
623

- **Toggle back and forth** between **Edit Mode** and **Object Mode**.

Notice that the virtual portion of the mesh is visible in Object Mode but not in Edit Mode.

- In the Mirror Modifier settings **LMB** click **Apply** to apply the modifier.
- **RMB** select vertices of **both meshes** and **drag**.

Notice to how each portion of the mesh can now be changes independently.
changed independently.



624

Additional Comments:

The Merge Limit setting allows you to change the distance between the mesh and the virtual mesh at which vertices will snap to the centerline. I not found it necessary use this but it may come in handy.

Model symmetrical portions of an object first, apply the mirror modifier, then model none symmetrical portions, as was done with the Grizzly Bear.

For More Information:

Blender Reference Manual, **Mirror Modifier**

<https://www.blender.org/manual/modeling/modifiers/generate/mirror.html>

Neal Hirsig, **08-0-MirrorModifier**

<https://vimeo.com/46062005>