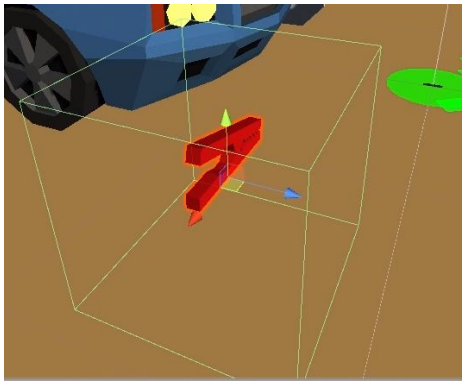
4.5 Placing Clamps



Activities:

Step 1: Move an object using Vertex Snapping

Step 2: Rename, Duplicate, Rotate

Length:	10 minutes
Overview:	Duplicate and position the Clamps where the user can reach them
Project Outcome:	2 sets of clamps (4 clamps total) 1 red and 1 black in each set, both named correctly and positioned on the table cubes beside the car.
Learning Objectives:	The students will be able to: - Duplicate an Object - Position using vertex snapping - Rotate objects using the Rotation property of the Transform component.
Prerequisite:	Previous tutorial steps (Sections 1-3)
ISTE Student Standards	6d “customize the medium for the intended audiences”
Video	https://vimeo.com/349086067

OR

Step 1: Move an object using Vertex Snapping

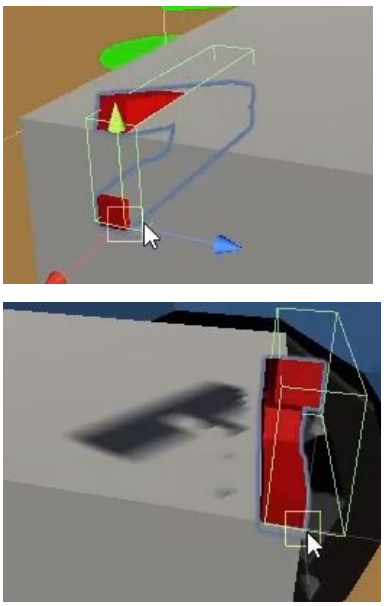
1. Select the parent "Interactable" object. Using vertex snapping (hold the V key, grabbing the square icon) move the clamp onto the table cube.

- **Warning** Do not move the clamp unless you first **select the parent object in the Hierarchy.** Failing to do so (moving the DefaultMesh for instance) will result in the clamp

a. Notice when holding the V key and hovering the cursor over the clamp, a little square appears. Be sure to grab the bottom corner of vertex, as this is the point we want to align to the table cube.
b. The vertex you grab is the vertex Unity will try to align to other object vertices.

floating a great distance from your hand when picking it up.

- **Explain** A “vertex” is where the points of the triangles that make up the 3D shape come together.



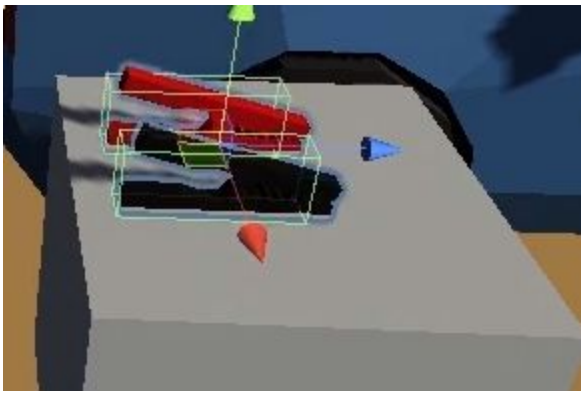
Vertex Snapping the clamp onto the cube table.

Step 2: Rename, Duplicate, Rotate

1. Rename the Interactable component to "RedClamp".
2. Optional: I reordered the RedClamp in the Hierarchy window down to the bottom to stay organized.

- **Explain** The naming convention of using each word capitalized with no spaces is called Pascal Case.

3. Duplicate the RedClamp, naming it BlackClamp.
4. Expand the BlackClamp in the Hierarchy, and expand the Meshes. Drag the Black Material (from the Materials folder) onto the DefaultMesh.
5. Select both the RedClamp and BlackClamp (Shift click) and right click > duplicate.
6. Move the new set of clamps to the other table cube, and rotate them -90 degrees on the Y axis



Red and Black clamps placed on the table

End of Lesson

Recap

Key concepts:

- Moving objects using vertex snapping helps align objects quickly. File naming and organization are important.

Key skills:

- Naming objects
- Using vertex snapping to align edges of objects

Key terms:

- **Vertex Snapping:** A method of moving objects that “snaps” a vertex point (such as an edge) onto another objects’ vertex point.