

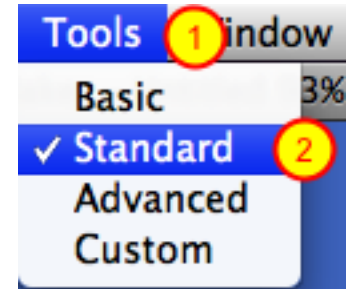
FabLab ModelMaker: Creating Shapes & Styling

This tutorial covers basic shape creation and styling. This tutorial uses a Mac version of FabLab ModelMaker, but users will find few differences between the Mac and PC versions of ModelMaker.

Standard Tools

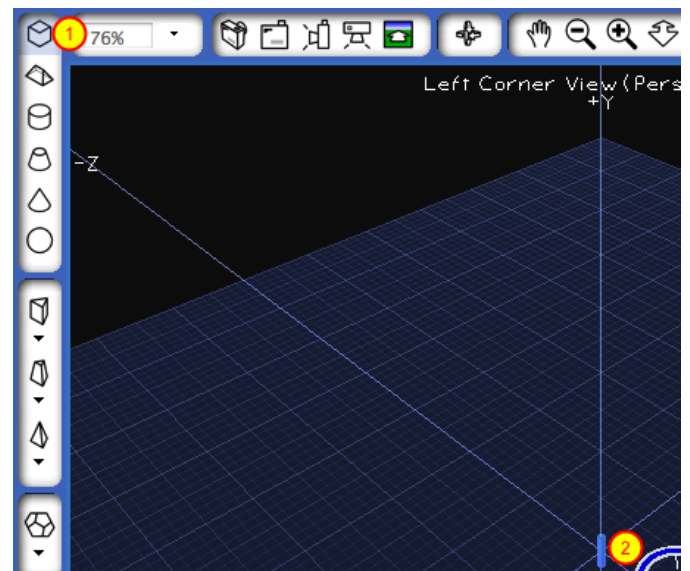
Before beginning this tutorial, please make sure that you have the **Standard** tool collection selected.

1. Select **Tools** from the menu bar.
2. Select **Standard** from the drop-down menu.



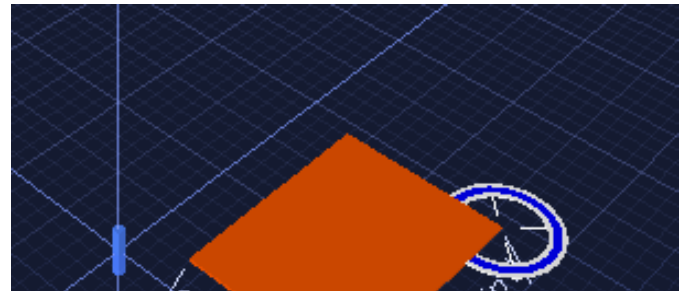
Select Shape

1. Select a shape from the shape palette.
2. Move your mouse to the 3D area.



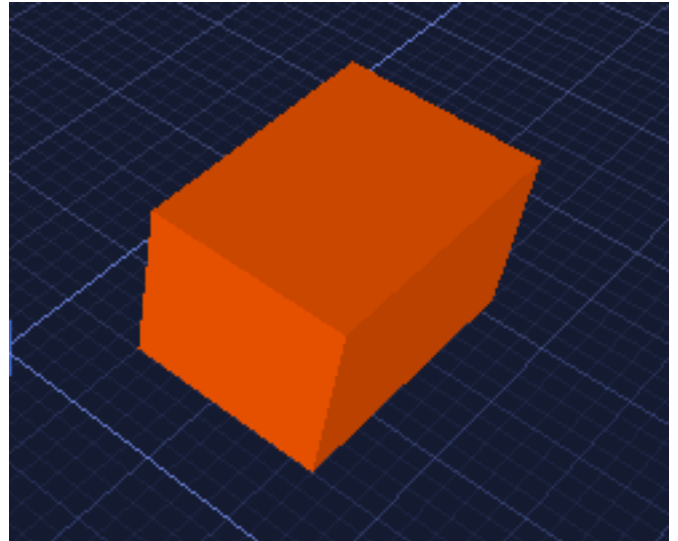
Base

Click in the 3D area and, while holding down the mouse button, move your mouse to create the base of your shape. Release the mouse button when the desired dimensions are reached.



Height

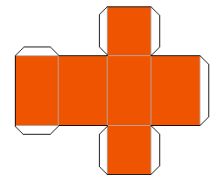
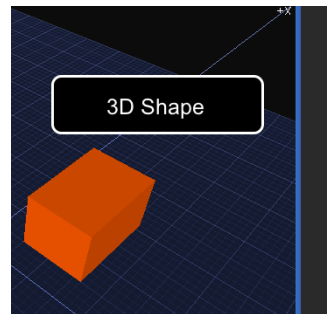
Move your mouse up to create the height. Click the mouse button when the desired height is reached.



Shape Net

Notice that the 2D shape net* for the shape in the 3D area is automatically created. The shape net's proportions are equivalent to the dimensions of the 3D shape.

***Shape nets** are flattened, 2D versions of 3D objects. The image to the right does not contain a shape net.

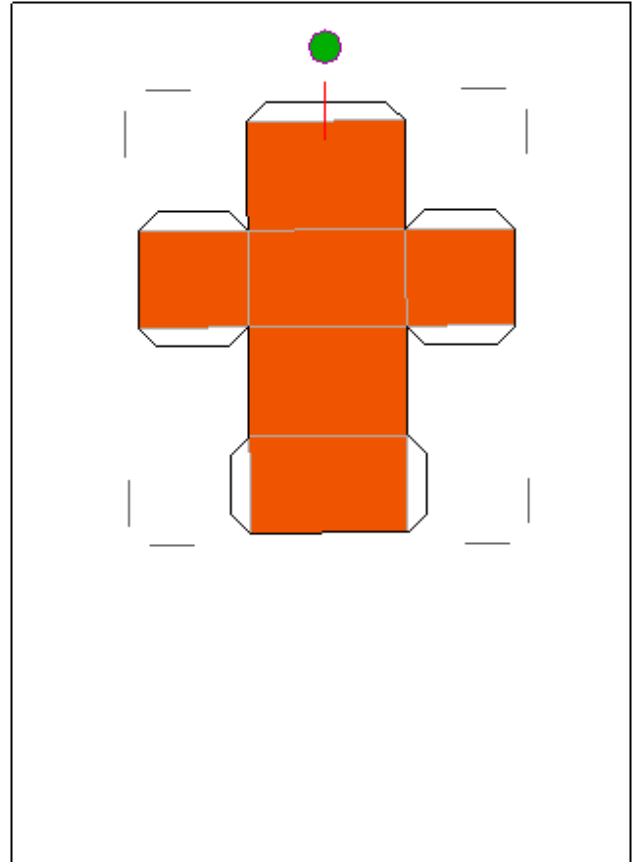


2D Shape Net

Shape Net Movement & Rotation

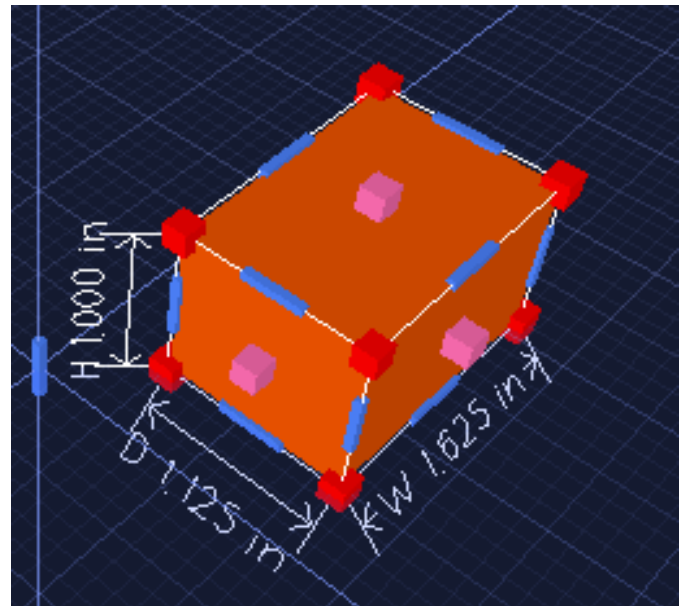
You can move and rotate the 2D shape net in the print view area by clicking and moving. Rotate the shape net by clicking and holding the green circle.

Moving and rotating shape nets is helpful when you create multiple shapes in the 3D area.



Viewing Dimensions

Single click on the 3D shape to view the dimensions.



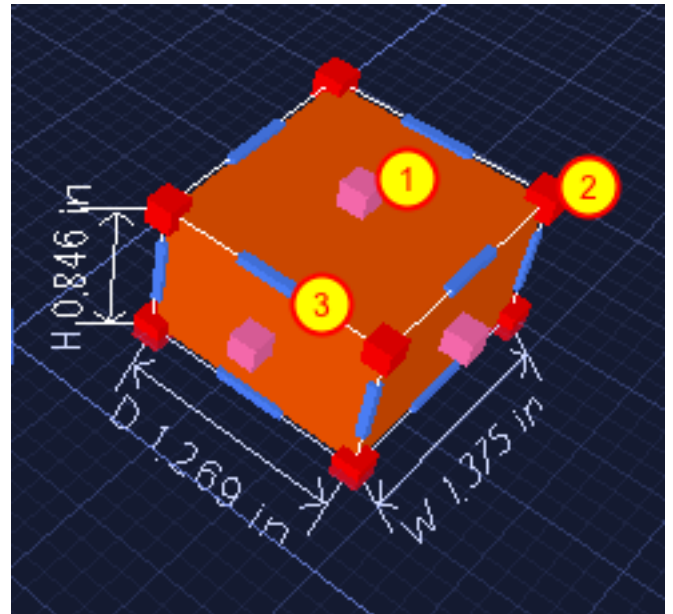
Changing Dimensions: Push & Pull

There are two ways to change a 3D shape's dimensions through push and pull actions.

1. Select a 3D shape by clicking on it. Click and hold one of the pink squares, moving your mouse to add or subtract length.
2. Select a 3D shape by clicking on it. Click and hold one of the red squares, moving your mouse to add or subtract proportional length, width, and height.

Notice that the 2D shape net automatically changes when the 3D shape is altered.

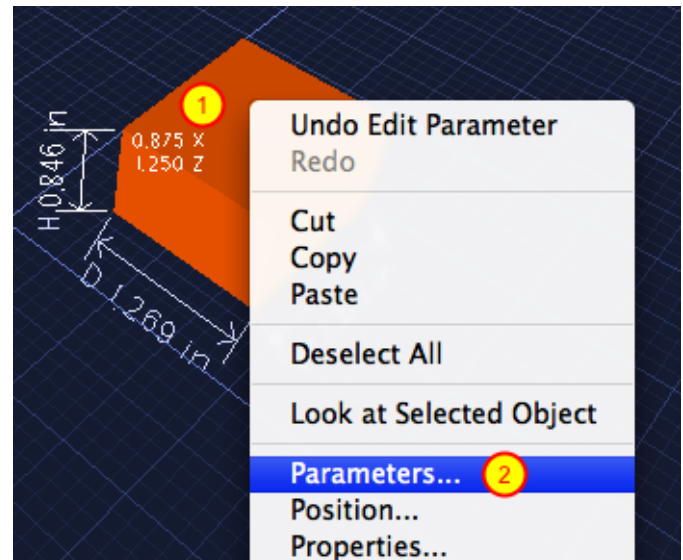
3. Select a 3D shape by clicking on it. Click and hold one of the blue rectangles, moving your mouse to the left, right, up, or down to move the shape along a specific axis.



Changing Dimensions: Precise Dimensions Step 1

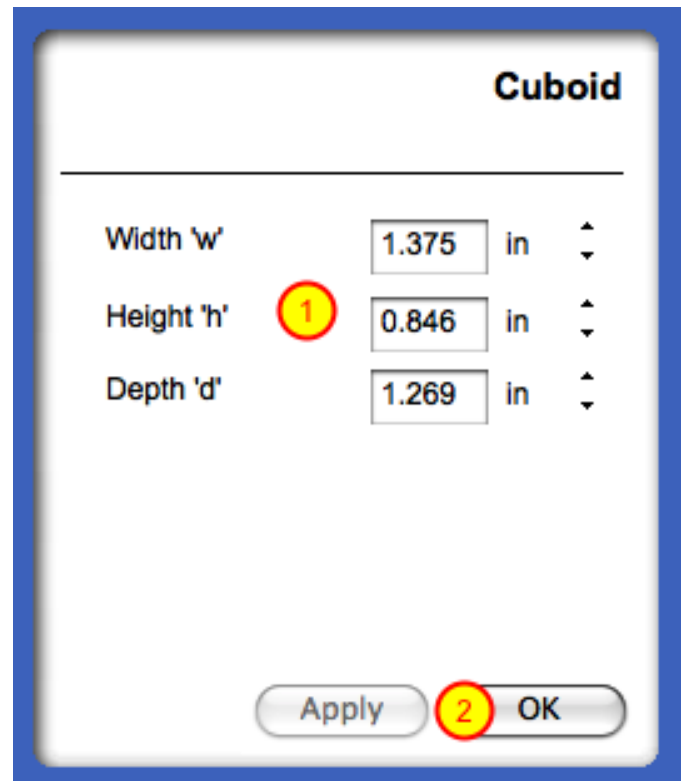
To precisely specify a shape's dimensions, begin with the following steps.

1. Right click on a 3D shape.
2. Select Parameters from the drop-down list.



Changing Dimensions: Precise Dimensions Step 2

1. Enter the desired dimensions in the width, height, and depth fields.
2. Click the OK button when finished.

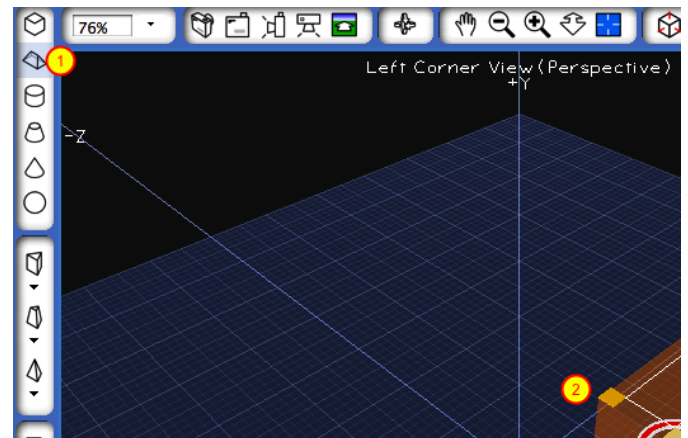


Combining Shapes: Steps 1

FabLab ModelMaker makes it easy to add shapes to other shapes.

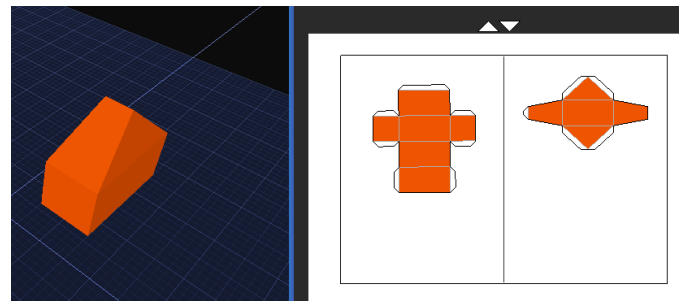
1. Select a shape in the shape palette.
2. Hover over an existing 3D shape. Notice how the cursor snaps to the shape side and a white rectangle with yellow squares appears.*

*Designing in FabLab ModelMaker is easier if users build from the base up.



Combining Shapes: Steps 2

To create a base for a shape that is proportionally similar (adding a wedge to the top of a cuboid) to the side of an existing 3D shape, click one of the yellow squares. Drag your mouse to the opposite corner and click again. Move your mouse up or down to create height, clicking the mouse when you reach the desired



height. **The image above is the final rendering of two combined shapes: a cuboid and a wedge.***

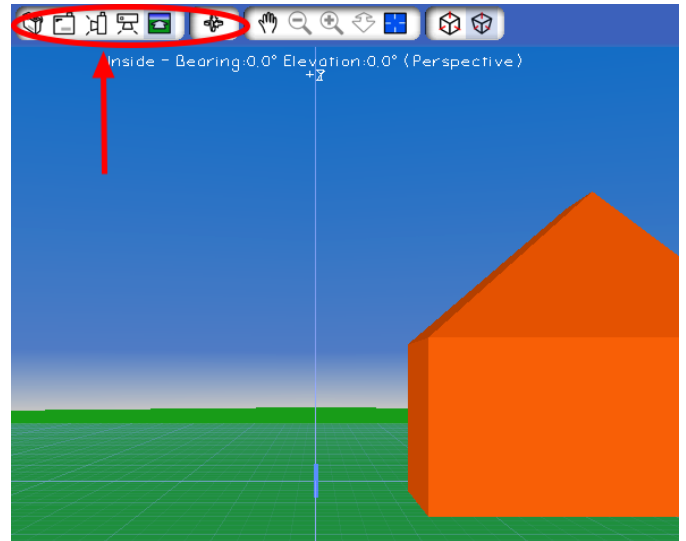
*The crosshair turns red when hovering over key areas (corners, midpoints, center) for percision.

Changing Perspective of 3D Area

Click on some of the buttons in the perspective palette to change the 3D area's view.

Changing the perspective is useful for seeing different sides of a shape(s).

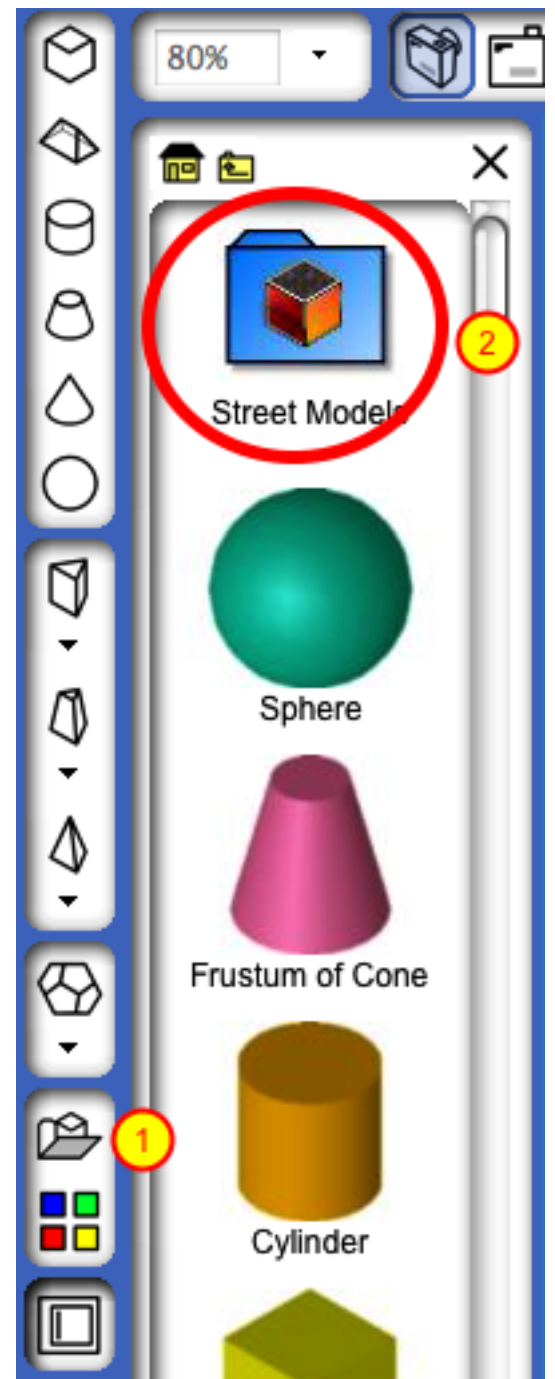
When finished, click on the Left Corner view button.



Street Models: Step 1

FabLab ModelMaker contains some predesigned shape combinations that include houses and car models.

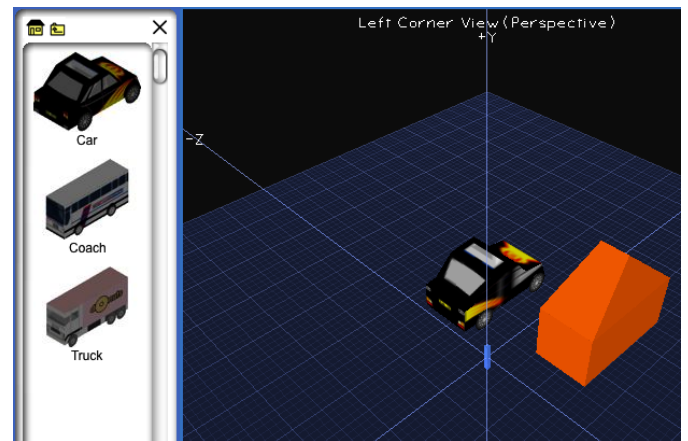
1. Click on the folder icon beneath the shape palette.
2. Single click Street Models.



Street Models: Step 2

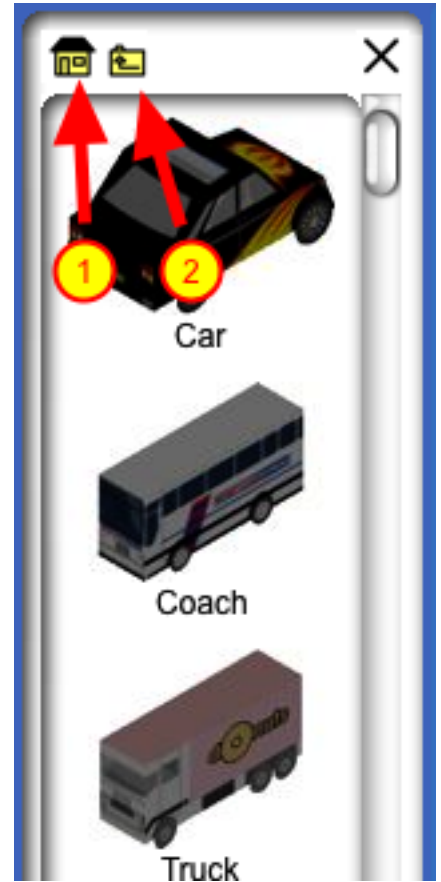
Double-click on the folder to explore the street models collection. When you find an object that you like, click and hold down the mouse button while dragging the object to the 3D area.* Release the mouse. **The car in the image was accessed by going to the Street Models folder and then to the Vehicles folder.**

*Similar to basic 3D shapes, objects in the Street Models collection can be resized by selecting the object and using the pink and red boxes to enlarge or minimize.



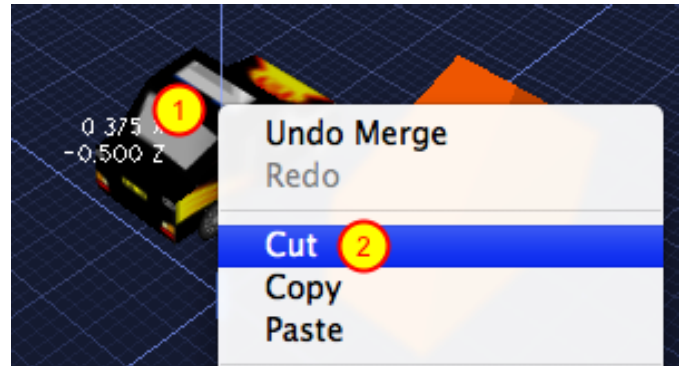
Street Models: Step 3

You can navigate within Street Models by using the home icon (1) or the back arrow icon (2).



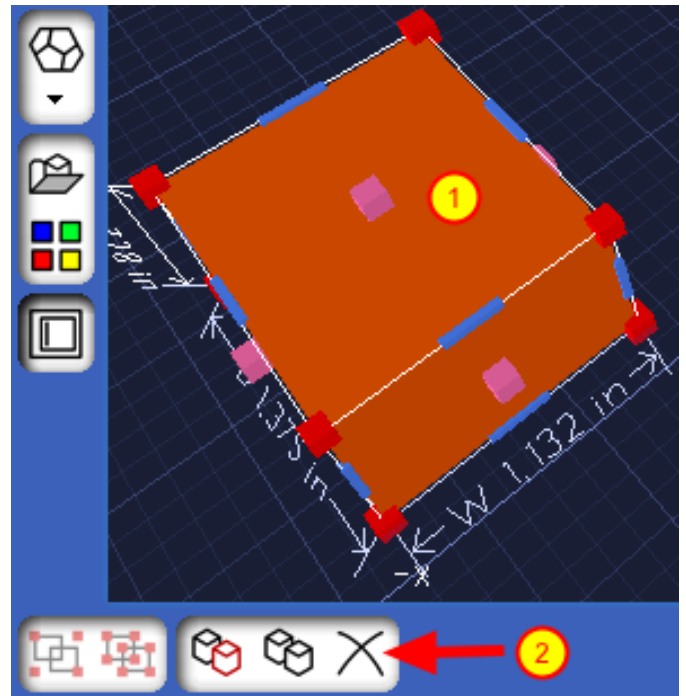
Deleting a Shape or Object: Part 1

1. Right click on a shape or object in the 3D area.
2. Click on Cut from the drop-down menu. The 3D shape or object and the 2D shape net are automatically deleted.



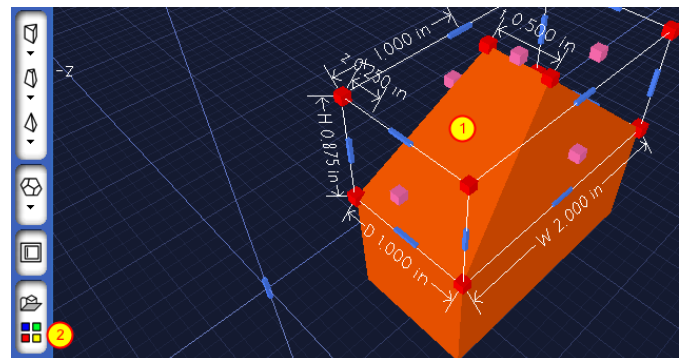
Deleting a Shape or Object: Part 2

- A second way to delete a shape or object is to (1) select it by single clicking in the 3D area and then (2) **clicking the black X** in the bottom left corner of the screen.



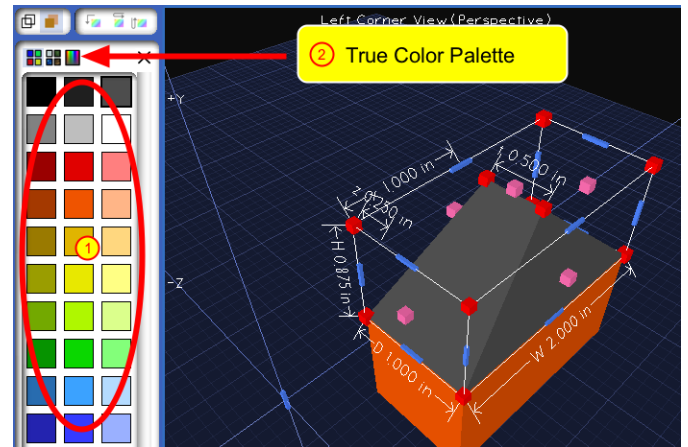
Coloring: Step 1

1. Select a shape in the 3D area.
2. Click on the four colored squares beneath the shape palette.



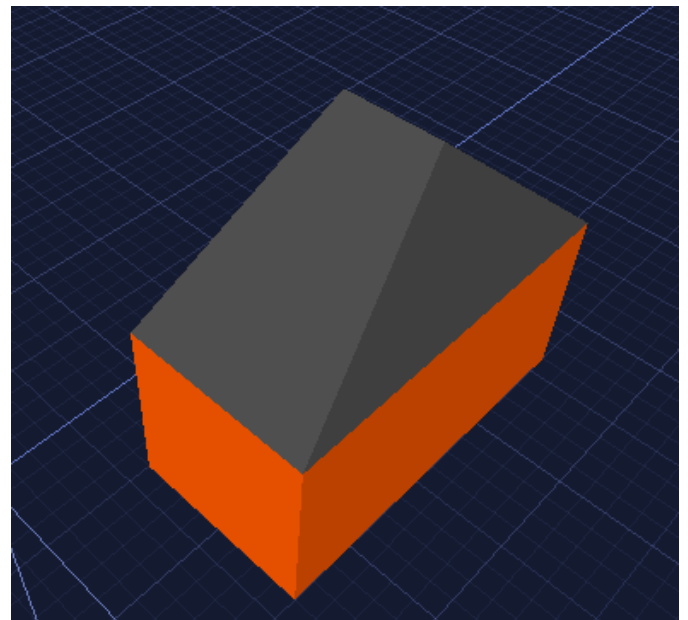
Coloring: Step 2

1. Select a color from the provided options. Notice that the entire shape is colored.
2. You can also select a color from the True Color Palette.



Coloring One Side: Step 1

If you want one side or face to be colored and not the entire shape, then don't select a shape in the 3D area. You will know that nothing is selected when the dimensions aren't viewable. **Click anywhere off of the object to deselect any selected shapes.** The image above contains no selected shapes.

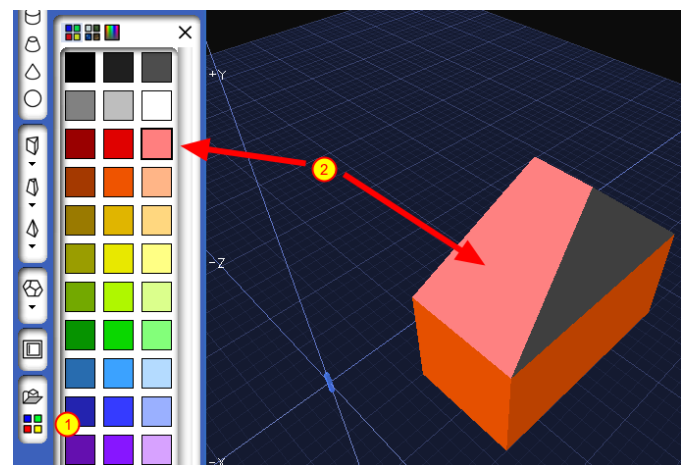


Coloring One Side: Step 2

1. Click on the four colored squares beneath the shape palette.
2. Click on a color, hold down the mouse button, and drag the color to the side that you want to change. Release the mouse button.*

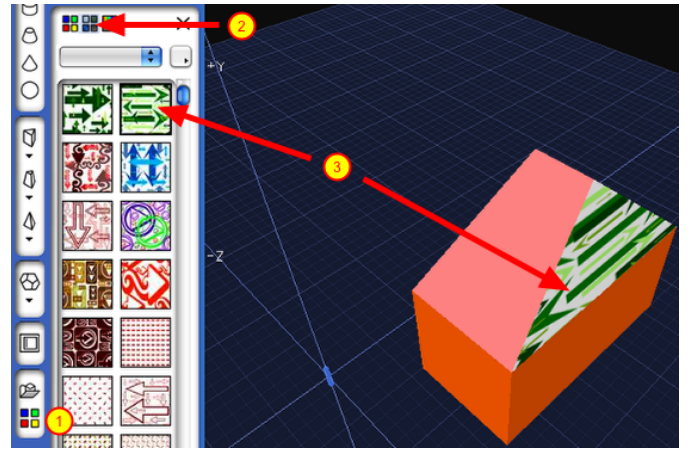
The image above highlights this technique using the pink swatch.

*Rotating around an object or shape using the Rotate tool is an easy way to view hidden sides.



Texture Styling: Step 1

1. Click on the four colored squares beneath the shape palette.
2. Click on the Show Textures Palette button.
3. Click on a texture, hold down the mouse button, and drag the texture to the side that you want to change. Release the mouse button. **Textures can be applied to entire shapes or objects by first selecting the shape or object (see Coloring Step 1).**



Texture Styling: Step 2

You can access different collections of textures through the texture palette.

1. Make sure that the Show Texture Palette button is selected.
2. Click on the drop-down menu list and select a collection.



Custom Styling

You can use a custom picture as a texture in FabLab ModelMaker.

1. Click on the four colored squares beneath the shape palette.
2. Click on the Show Textures Palette button.
3. Click on the small drop-down list that is beneath the X.
4. Select Add Folder if you have multiple textures to add. Select Add Image if you have a specific image that you want to use as a texture.

You must have an image saved on your computer in order to use the custom picture feature of FabLab ModelMaker.

