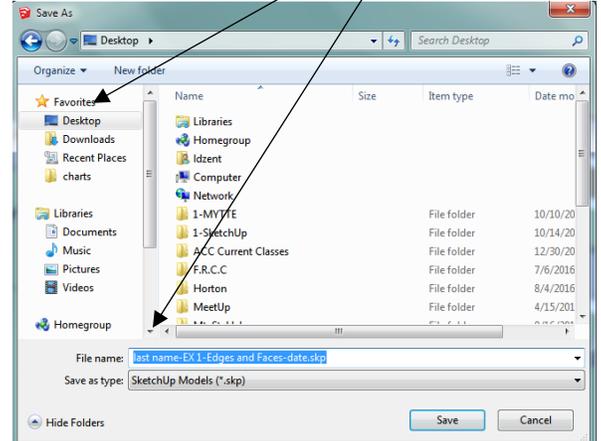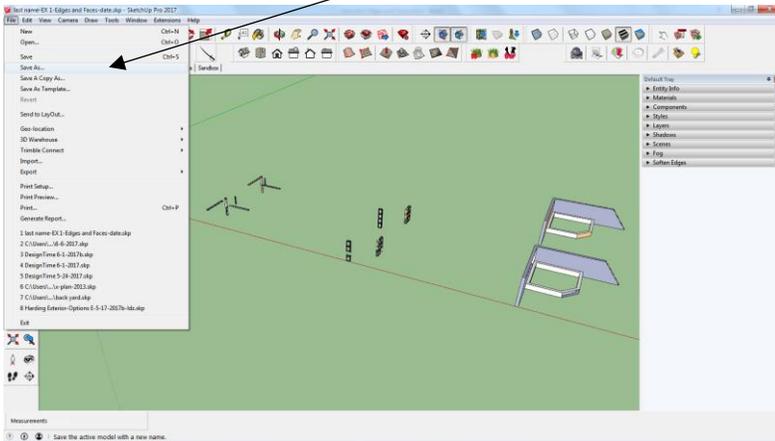# EX 1: Edges and Faces

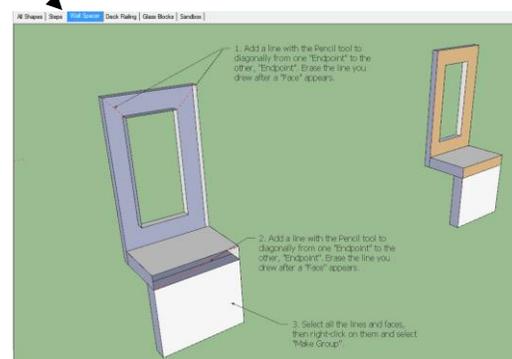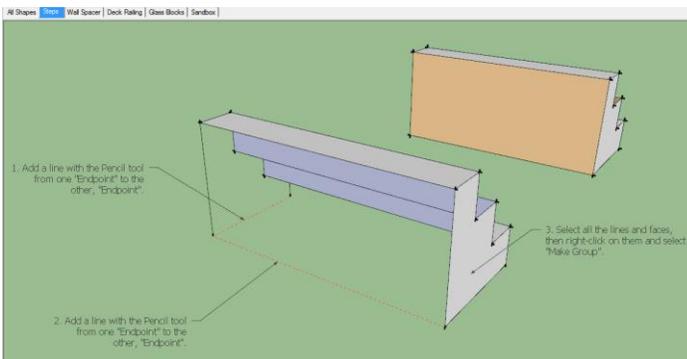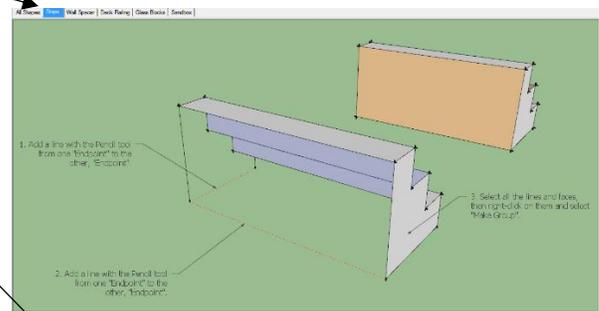## *** Read ALL the instructions of every page BEFORE starting this exercise***

1. Open the file called "**last-name-EX 1-Edges and Faces-date**" and save it to your desktop with your name and today's date. **File>Save As,** or "**Control S**" and a dialog box will appear.

2. Notice that there are multiple copies of all the shapes. And also noticed that you have eight (**7**) "**Scene**" tabs across the top of your model.

3. Take a moment to left-click each "**Scene**" tab to see that each one shows. Each scene will show you a close-up of each individual shape, with instructions as to how to draw lines and create faces to match the shapes behind them.

All Shapes | Steps | Wall Spacer | Deck Railing | Glass Blocks | Sandbox

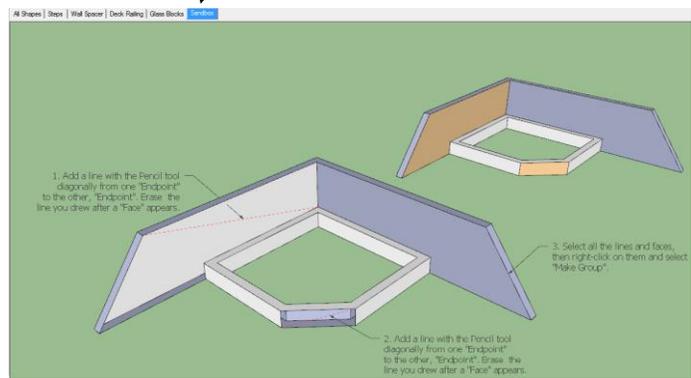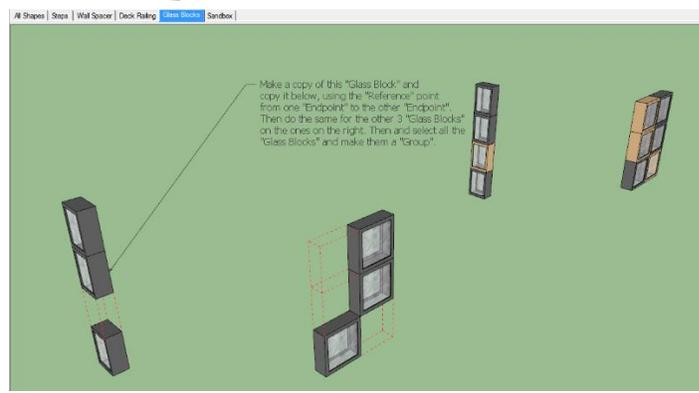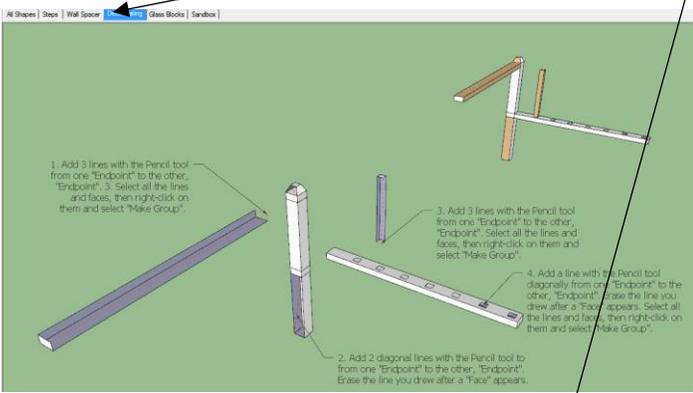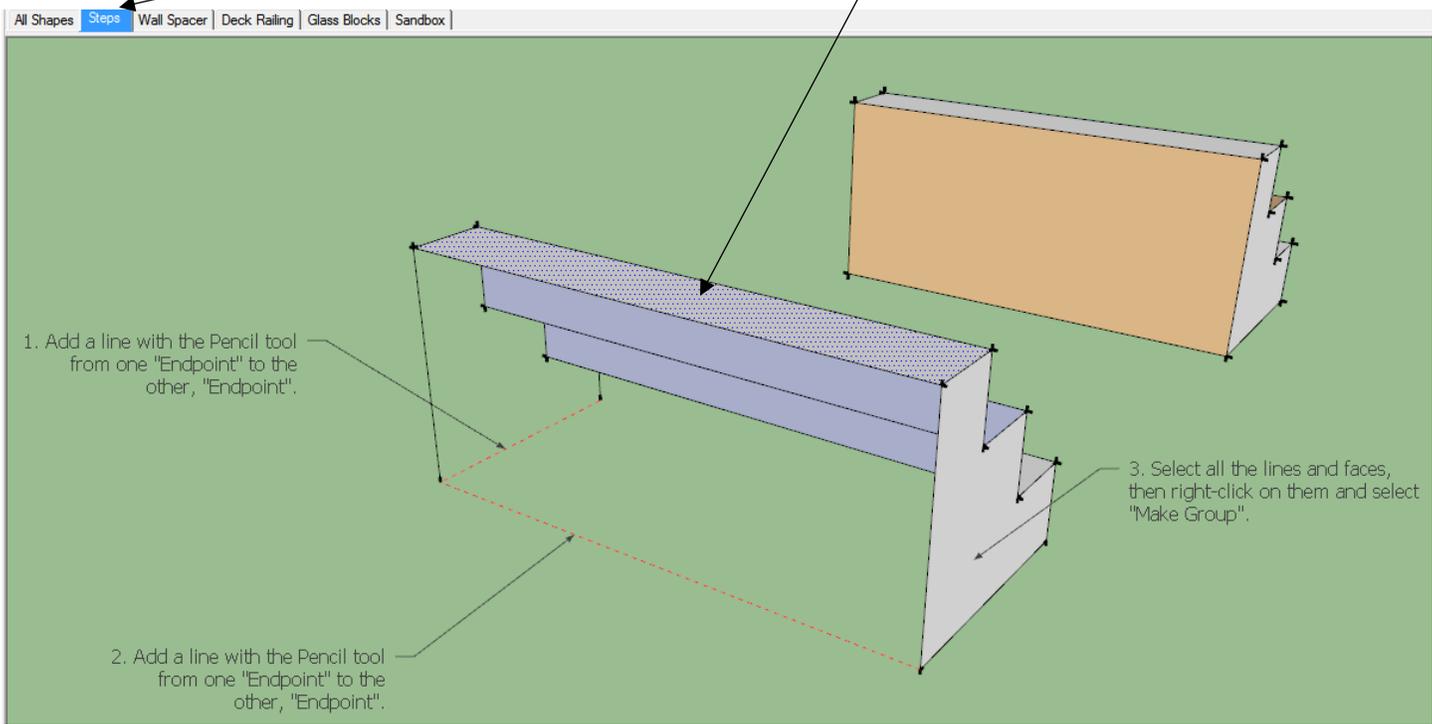1. Add 3 lines with the Pencil tool from one "Endpoint" to the other, "Endpoint". 3. Select all the lines and faces, then right-click on them and select "Make Group".

3. Add 3 lines with the Pencil tool from one "Endpoint" to the other, "Endpoint". Select all the lines and faces, then right-click on them and select "Make Group".

4. Add a line with the Pencil tool diagonally from one "Endpoint" to the other, "Endpoint". Erase the line you drew after a "Face" appears. Select all the lines and faces, then right-click on them and select "Make Group".

2. Add 2 diagonal lines with the Pencil tool from one "Endpoint" to the other, "Endpoint". Erase the line you drew after a "Face" appears.

All Shapes | Steps | Wall Spacer | Deck Railing | Glass Blocks | Sandbox

Make a copy of this "Glass Block" and copy it below, using the "Reference" point from one "Endpoint" to the other "Endpoint". Then do the same for the other 3 "Glass Blocks" on the ones on the right. Then and select all the "Glass Blocks" and make them a "Group".

All Shapes | Steps | Wall Spacer | Deck Railing | Glass Blocks | Sandbox

1. Add a line with the Pencil tool diagonally from one "Endpoint" to the other, "Endpoint". Erase the line you drew after a "Face" appears.

3. Select all the lines and faces, then right-click on them and select "Make Group".

2. Add a line with the Pencil tool diagonally from one "Endpoint" to the other, "Endpoint". Erase the line you drew after a "Face" appears.

4. **Left-click** on the scene tab called **"Steps"** and using the "**Select**" tool, or "**Spacebar**" on your keyboard. **Left-click** with your mouse once on the **"Top"** face. Notice how it only highlights the face and **no** lines around it.

All Shapes | Steps | Wall Spacer | Deck Railing | Glass Blocks | Sandbox

1. Add a line with the Pencil tool from one "Endpoint" to the other, "Endpoint".

3. Select all the lines and faces, then right-click on them and select "Make Group".

2. Add a line with the Pencil tool from one "Endpoint" to the other, "Endpoint".

D e s i g n   T i m e   L L C

5. Now with your mouse, left-click once in the **Green** area. This will "**de-select**" the face. With your mouse, **double-click** on the "**Top**" face again. Notice how it highlights the face and the four **(4)** lines touching the face.
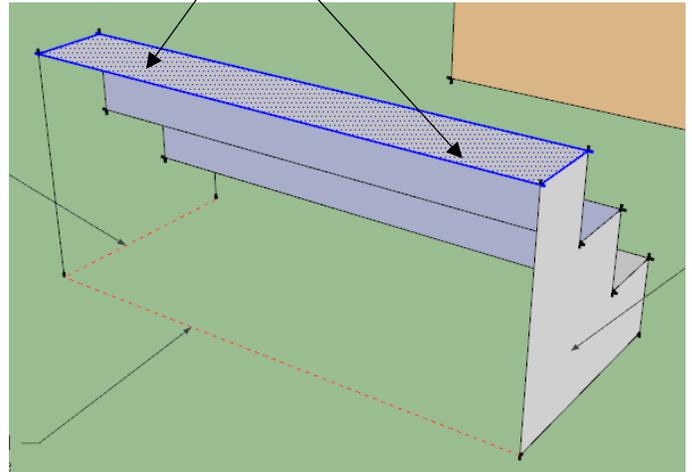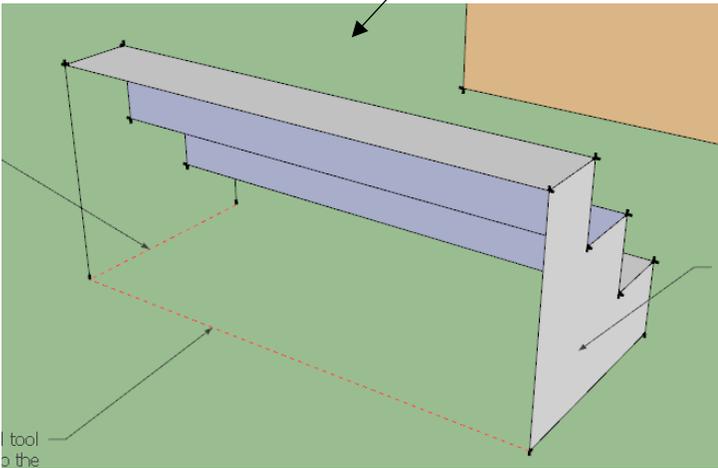

6. Now left-click your mouse once in the **Green** area again. This will "**de-select**" the face and the four **(4)** lines. Then "**triple**" left-click on the **"Top"** face. Notice how it highlights the face and the four **(4)** lines touching the face and everything else.
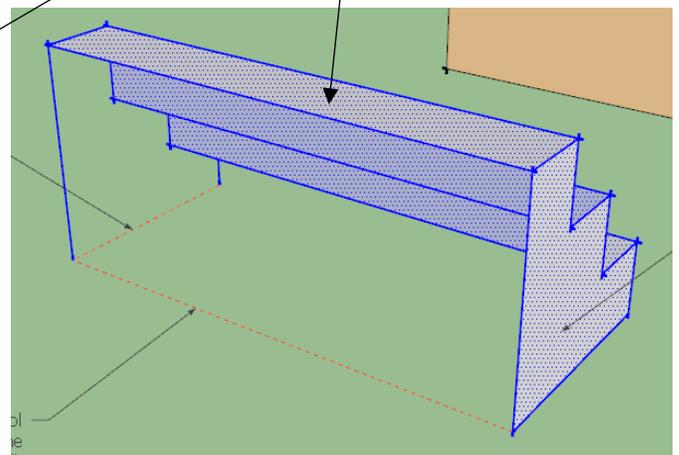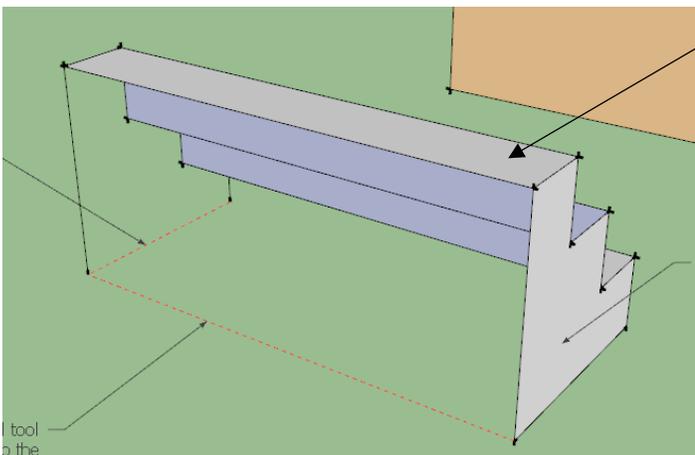
7. The steps **4-6** will work with any shapes that you encounter while you are designing. Steps **8-10** give you an additional two **(2)** ways to select items. They can be faster, but they also can add problems if you are not careful as you select your items. Take your time to learn all three methods as each one can be used at any time as you design, but sometimes one method is better than the other.

8. You can also use the "**Select**" tool ![pointer icon], or "**Spacebar**" on your keyboard in to select all the items in two (**2**) additional other ways:
    a) With the Select tool, left-click around the shape by starting at the **upper left corner** around your shape and move your mouse to the **lower right coroner** encompassing the entire shape. A "**Solid**" box appears around your shape. Anything with that box will be selected.

Left-click once here

Left-click second time here
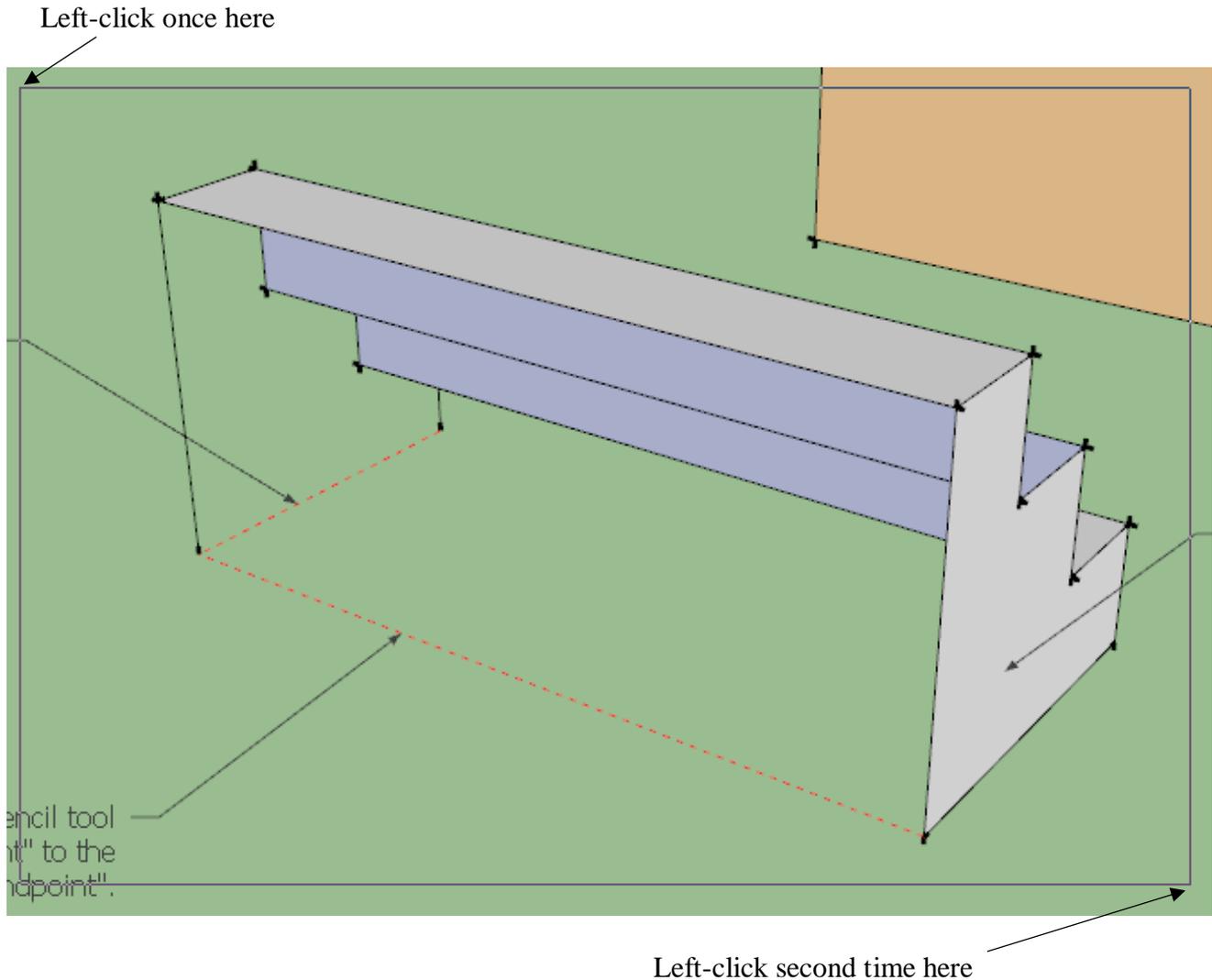
With this method, remember to make sure you are completely putting <u>all</u> that you want to select <u>within</u> the box, so that all of the shapes is highlighted as in the photo above.

9. The second way is to use the "**Select**" tool [cursor icon] , or "**Spacebar**" on your keyboard:

b) Left-click around the shape by starting at the upper left corner around your shape and move your mouse to the lower right coroner encompassing the entire shape, a "**Dotted**" box appears around your shape.
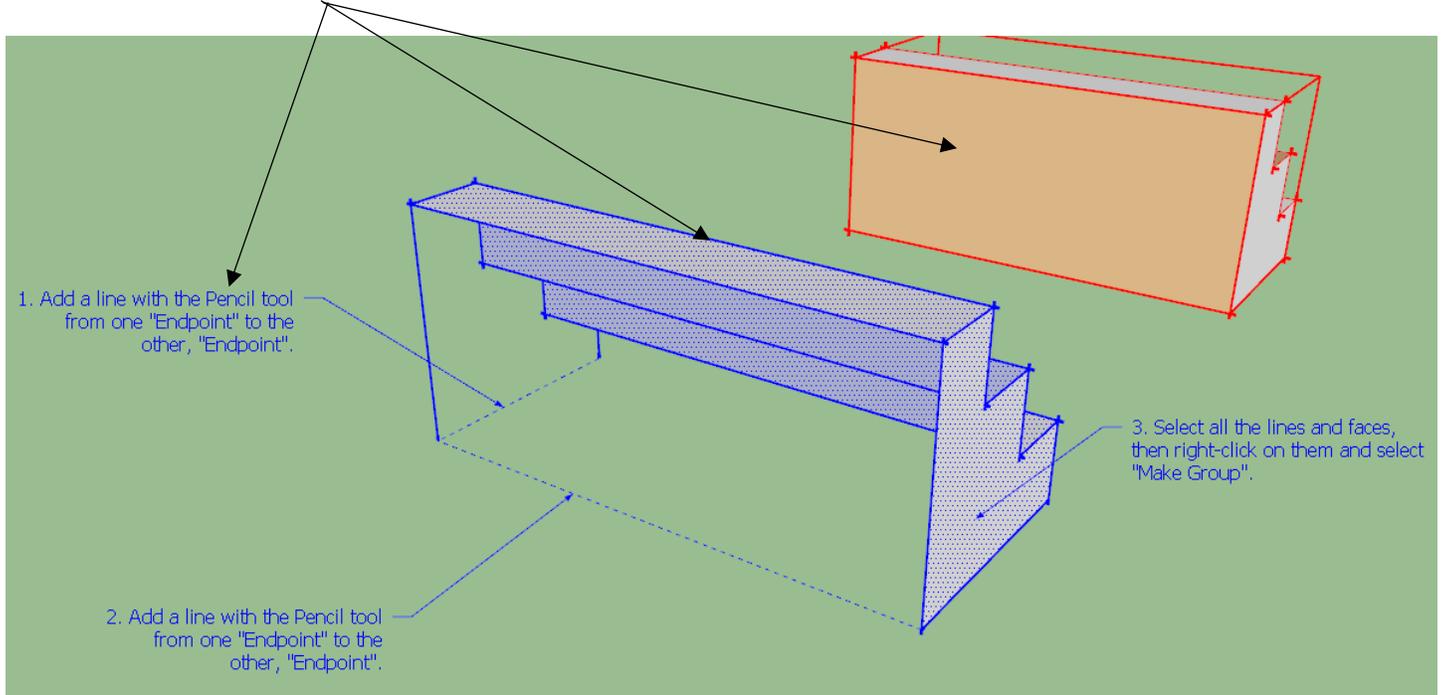
Left-click second time here
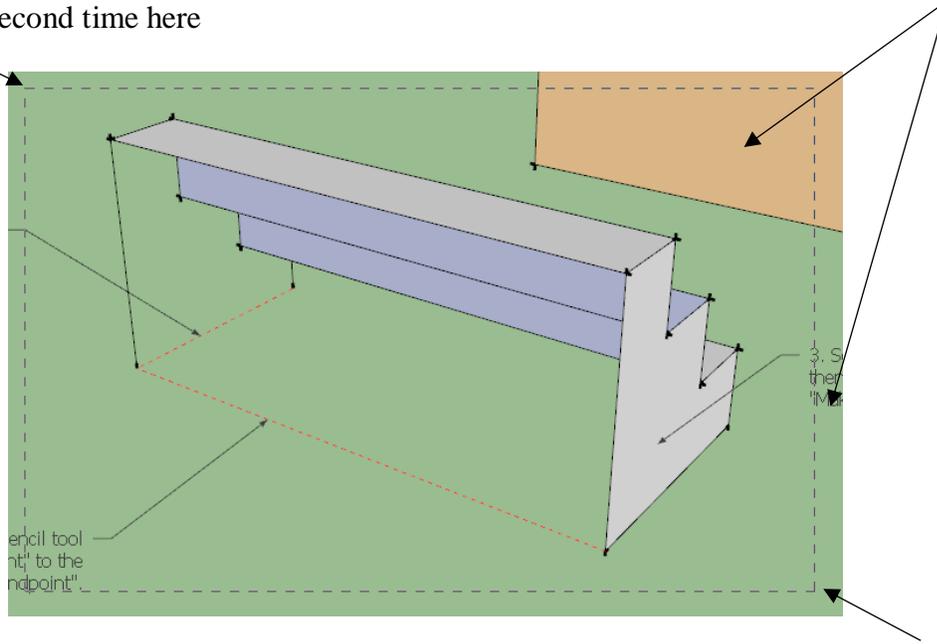
Left-click first here

Be careful using this method, because if the "Dotted" crossing box, touches anything behind or around the shape, it too will be selected.

10. You will notice that by using this method, you selected all of the shape, but also the text and the shape in the background. (That shape is "**Locked**" so it highlights "**Red**").

1. Add a line with the Pencil tool from one "Endpoint" to the other, "Endpoint".

2. Add a line with the Pencil tool from one "Endpoint" to the other, "Endpoint".

3. Select all the lines and faces, then right-click on them and select "Make Group".

11. Now, after you have selected all of the shape, place your mouse over the "**Blue**" highlighted shapes, and right-click your mouse, a dialog box will show up. Move your mouse over and select "**Make Group**".
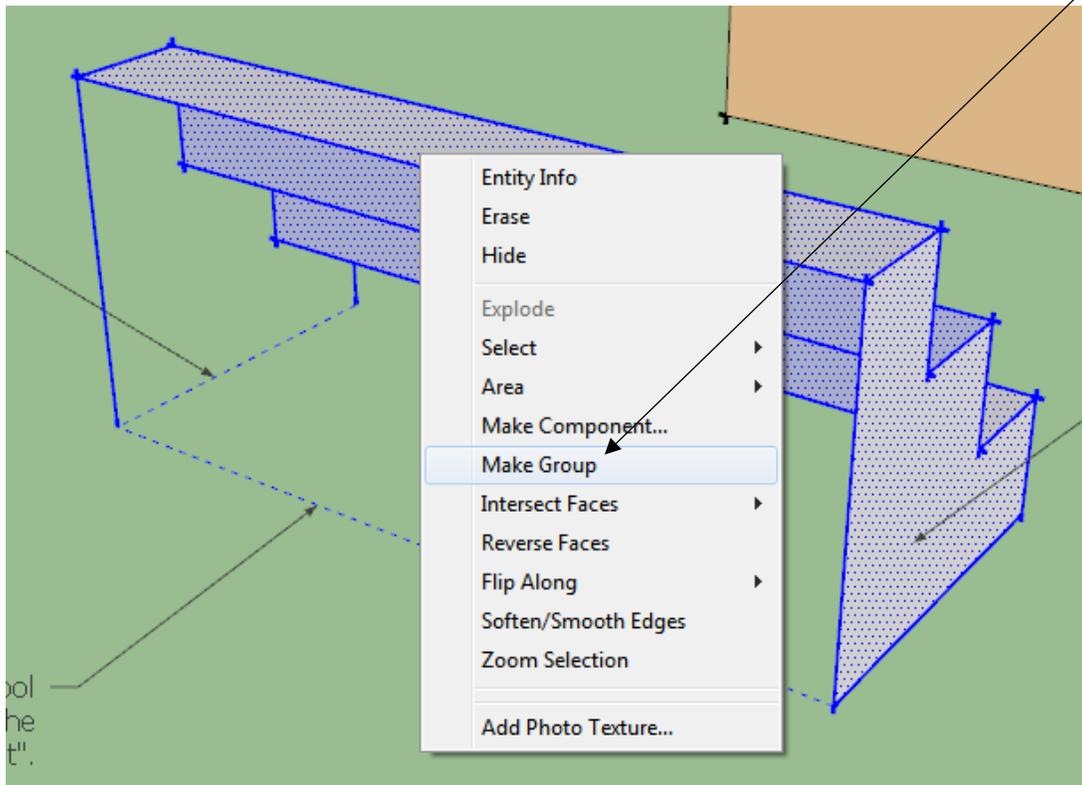

12. A "**Blue**" box will appear around all of the shape. This highlighted "**Blue**" box is how **SketchUp** tells us, that   you have **all** of these lines and faces "**Glued**" together and is now a "**Group**".
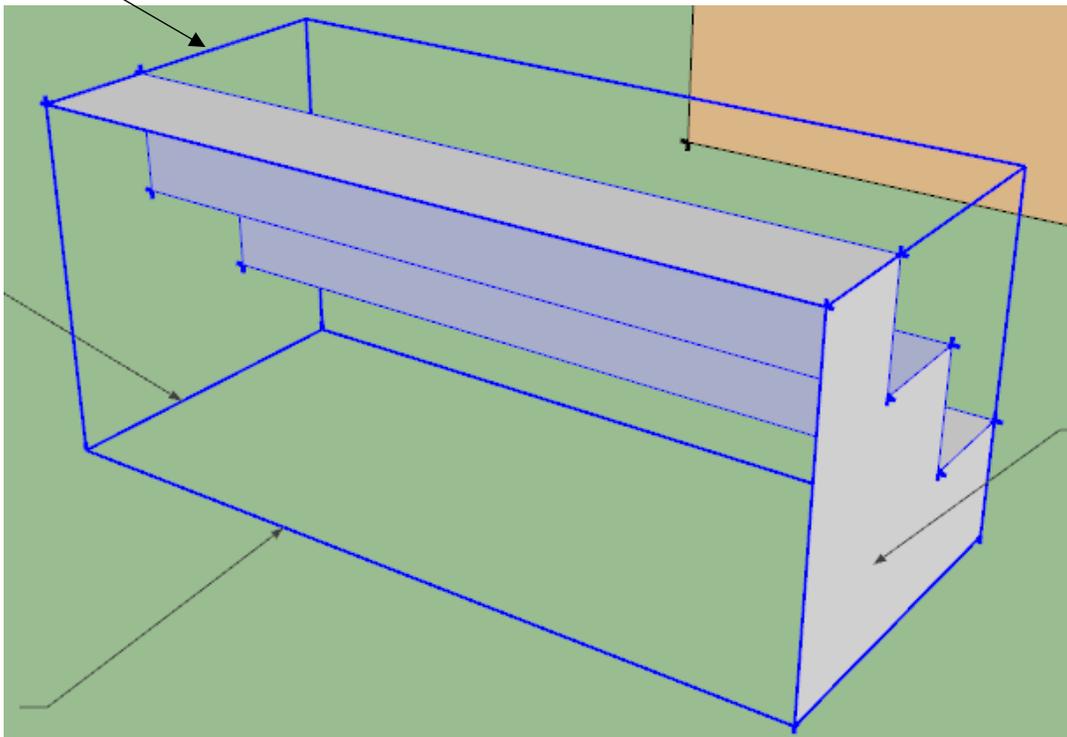
13. Now "**double-click"** on the "**Group**" and you will notice a "**Dotted**" box appear around the entire shape. This means that you are now in the "**Edit**" mode of the group. Now you can only work in these items, and nothing else, also the shapes outside of the group are   faded out.
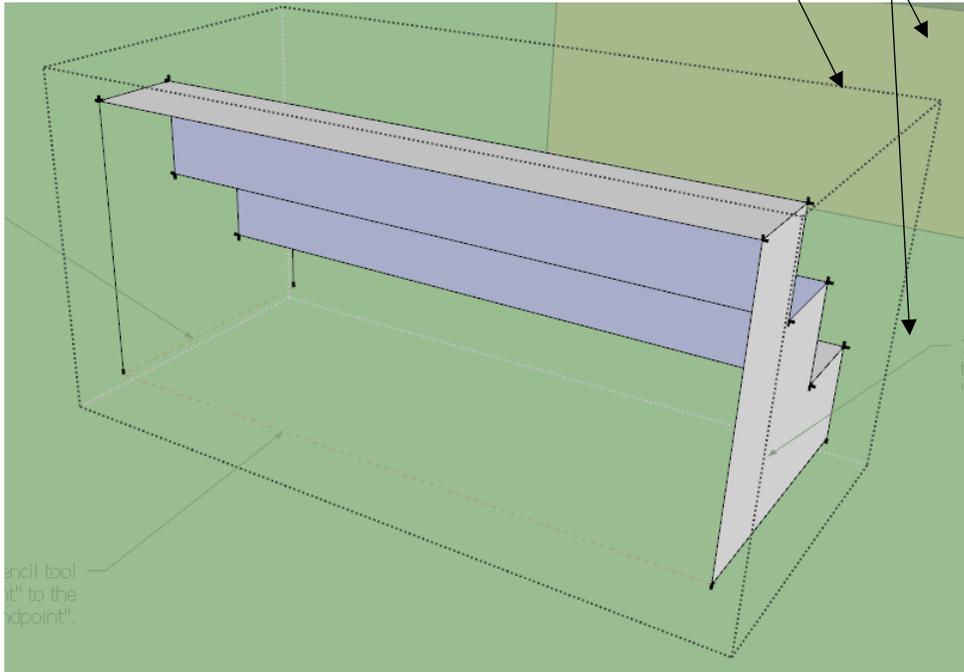
14. Now while in the "**Edit**" mode of the shape, use the "**Line**" tool   , or select the letter "**L**" on your keyboard. Move your mouse over to the lower right side and "**hover**" over the endpoint of the corner. When SketchUp sees the endpoint, it will show you as small box that says "**Endpoint**". SketchUp has "**inferred**" that endpoint, **left-click** your mouse, this will start drawing a line   from that endpoint, move your mouse across to the next "**Endpoint**" and left-click it when   SketchUp shows it to you.
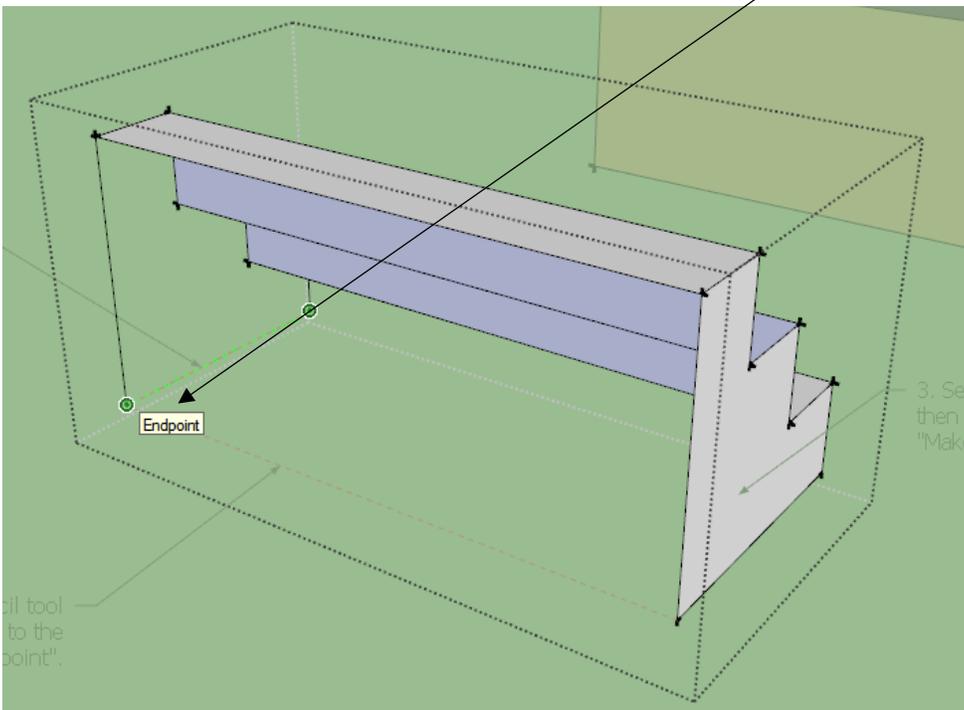
Endpoint

15. A face will appear as you finish clicking your mouse. SketchUp will always add a "**Face**" when an area is closed off, be it a rectangle, triangle or any closed shape.
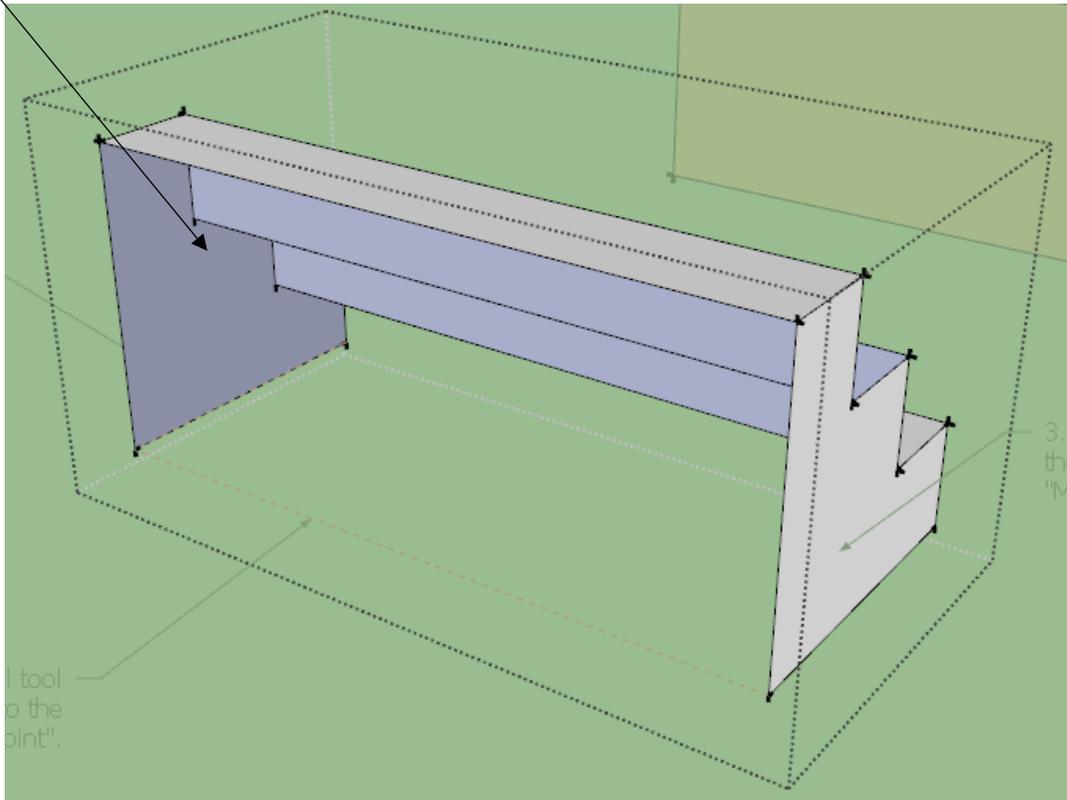
16. Now continue drawing another line, again "**hovering**" over the left side at the "**Endpoint**", then left-click your mouse then move over and left-click again on the right side endpoint, a face will appear. **Save your model (Control S)**.
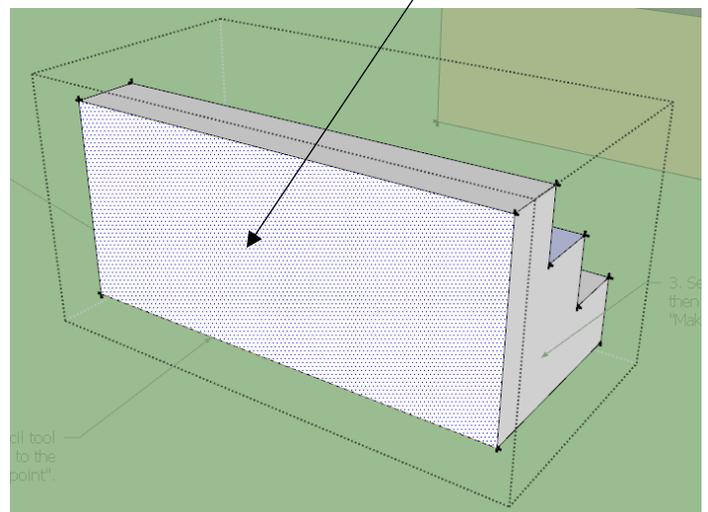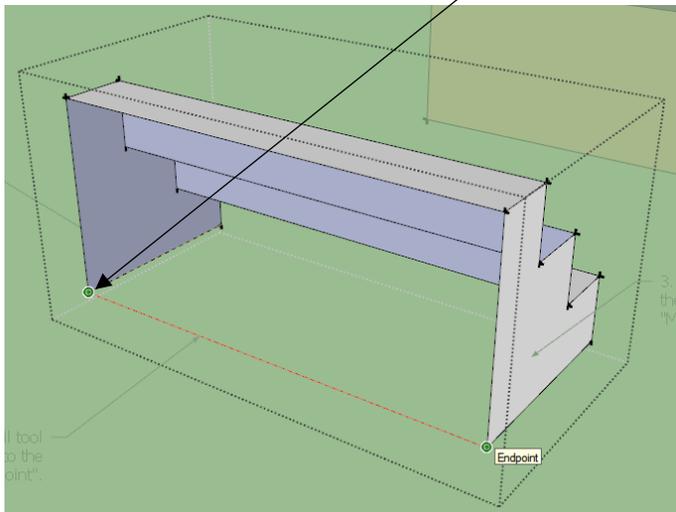
17. Now **left-click** your mouse in the **Green** area outside of the "**dotted**" area and this will "**close**" the "**Edit**" mode of the "**Group**". **Save your model (Control S)**.
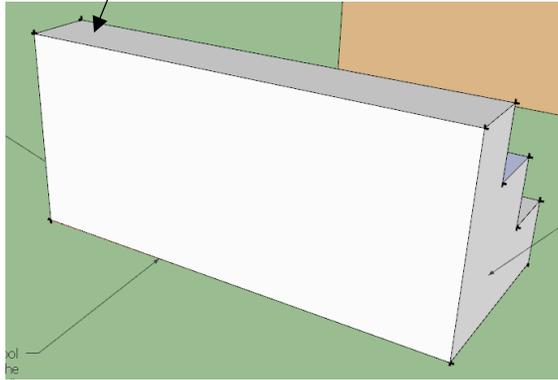
Congratulations, you have finished your first SketchUp model

Important Notes to remember

1. **SketchUp will always work faster when your file is saved to the desktop, and not in a subfolder or external or Cloud drive.**
2. **Save often, as "Digital Fails"**
3. **Work slow in the beginning and speed will come later.**
4. **Put a check mark on a printed copy of the exercise as you finish each step.**
5. **If you feel like you are getting frustrated, take a break, and come back to your design later. It helps, more than you may think.**
6. **When you get back to you design, perhaps back up a step to make sure that it was done correctly.**
7. **Zoom to the overall extent of your model when you save and close the model, so when you are searching for a model in Explorer you will always see the entire model and not a zoomed in area.**
8. **Practice, practice, practice!**
9. **I recommend that you save three (3) copies of all your SketchUp files in a method similar to this below:**

   a) **One copy on the desktop of your computer when you are working on it.**
   b) **A second copy on an external hard drive (Jump Drive/Flash Drive/Flash Stick, etc.).**
   c) **A third copy offsite. (Storage Unit/Internet, Cloud Service, etc.).**

Below is 10 steps that you can learn and do well from this exercise:

1. How to select **single or multiple** items at one time.
2. Understand how to add missing lines to create faces on various shapes.
3. Understand how best to use SketchUp "**Shortcut**" keys.
4. Understand **Scene** tabs and how to they work for you.
5. Understand how to create **Groups and/or Components** and what they mean.
6. Make **single and/or multiple** copies of items in the model.
7. Learn how to save often to help you never to lose your work.
8. Learn and understand how to use the "**Orbit**" command
9. Understand and use of various control keys on your keyboard to better work in SketchUp.