# Building a Minecraft House in SketchUp

The previous project, "Setting up a Minecraft Model in SketchUp," showed how to start with an existing model in the 3D Warehouse and modify it to become an efficient, easy to use model for building Minecraft objects. This project starts from where that project left off, using the model you saved at the end of the that project.

If you didn't complete that project, never fear - you can use the one I uploaded to the 3D Warehouse. Click the **Get Models** tool (or choose **File / 3D Warehouse / Get Models** from the main menu). For the search term, use "3DVinci Minecraft" and download the only model that search should yield. Be sure to open this model in its own SketchUp file, do not import in directly into another model. (Or if you DO import it, be sure to explode it!)

This model contains one object - a plain rectangle on the ground - which you should erase before continuing (you can't upload an empty model so I had to include something.)

Here's the model we'll be creating from your (or my) starter model:
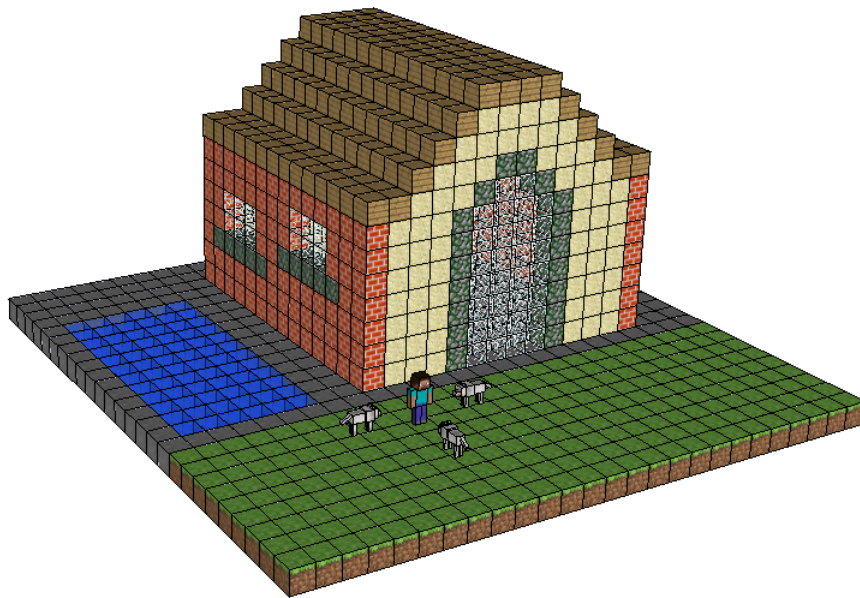
For this project, it helps to have some basic knowledge of SketchUp (though detailed instructions are provided). In particular, it's important to know how to zoom, rotate, and pan the view. If you need more information on how to get started, and a description of some basic tools, please read 3DVinci's Getting Started Guide (PDF).

PC users: go to http://www.3dvinci.net/SketchUp_Intro_PC.pdf.
Mac users: go to http://www.3dvinci.net/SketchUp_Intro_MAC.pdf.

Step 1: Create the Foundation (Gravel Pad)

1. Either open the starter model you completed from the previous project, or download the one I created, from the 3D Warehouse (download instructions are on the previous page). Open the **Components** window (**Window / Components**) and click the House icon to see what Minecraft objects are included in the model.
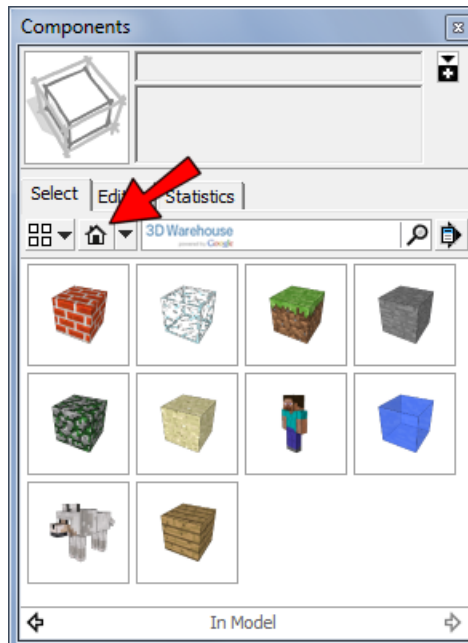

Remember, if you're starting with my starter model from the 3D Warehouse, be sure to erase the rectangle on the ground.

2. We'll start with a gravel pad for the house. Click the gravel block and click again in the model to place it anywhere.
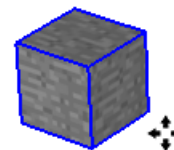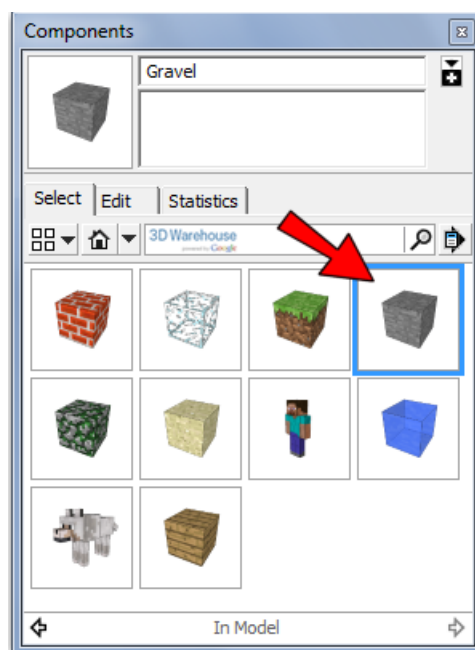
3. When you insert a component, the **Move** tool becomes active. This tool can also be used for copying; press the Ctrl key (PC) or Option key (Mac) to add the plus sign to the cursor. (You don't have to keep this key pressed, just tap it once.) Then click points 1 and 2 as shown below, to create the first copy right next to the original.
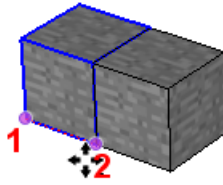

4. Immediately after the copy is created, you can set the number of copies you want. Type 25x, which appears in the **Length** field at the bottom of the SketchUp window, and press Enter. (Don't click in the **Length** field, just type and the number will appear.) This should leave you with a row of 26 gravel blocks - the first one plus 25 copies.
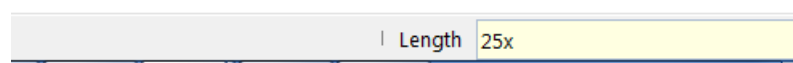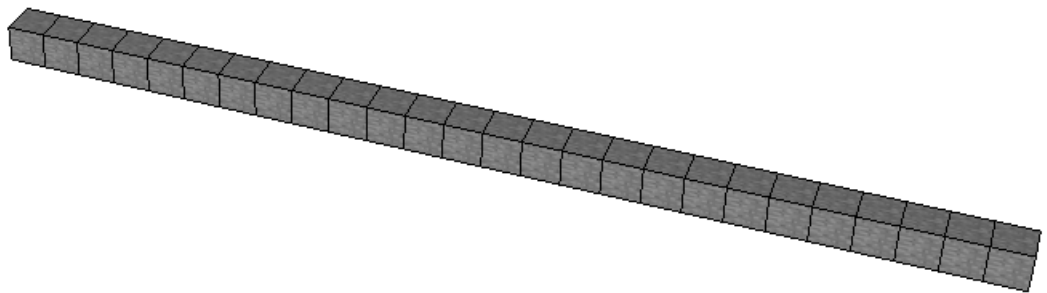
5. Press Ctrl + A (PC) or Cmd + A (Mac) to select everything in the model so far.
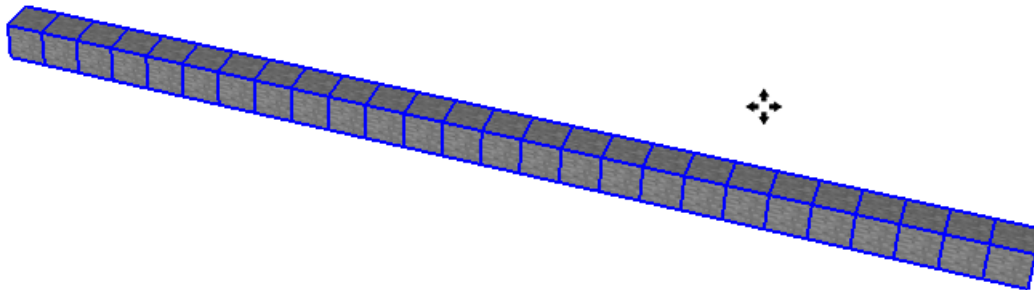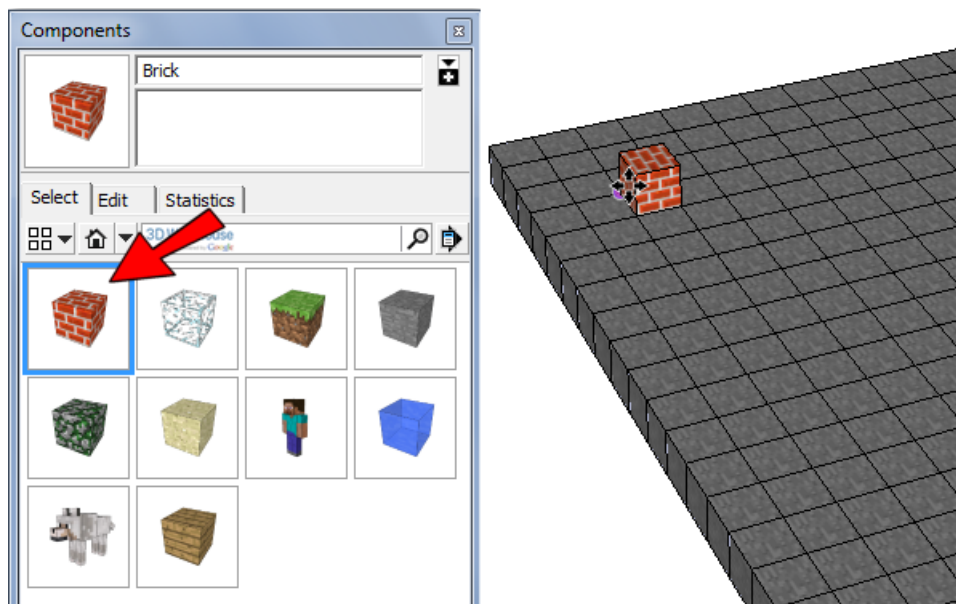
6. **Move** should still be the active tool; press Ctrl / Option again and make one adjacent copy of the row. Then enter 25x again to complete the large gravel pad.
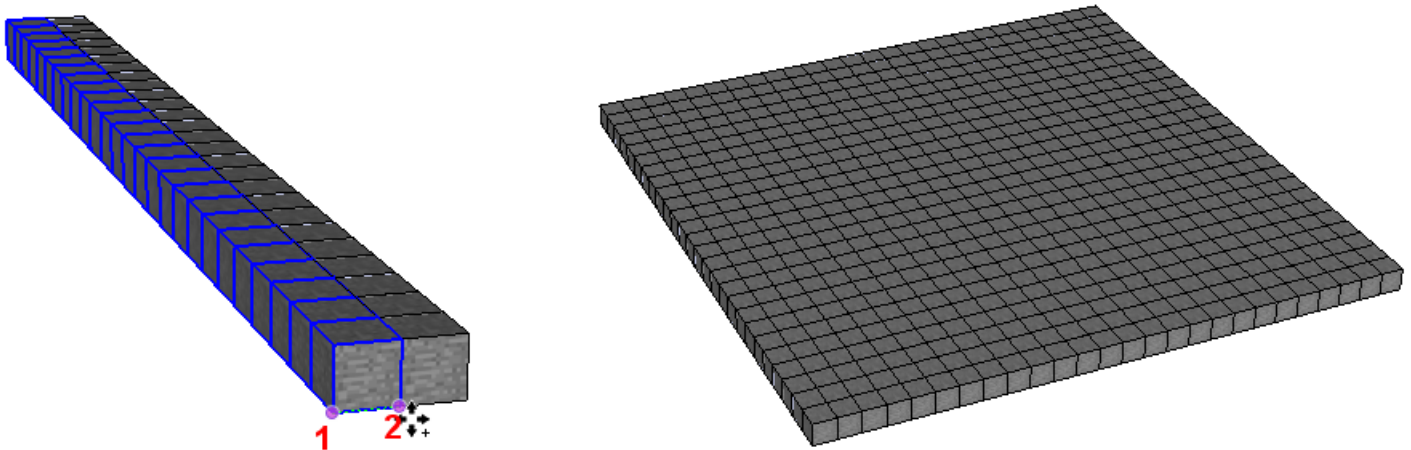

# Step 2: Create the Walls (Brick and Sandstone)

1. Now click the brick block and place it near a corner of the gravel pad. Be sure to make the blocks "fit" - the brick should sit directly above one of the gravel blocks.


2. You can make a "first to last" copy, then fill in the missing blocks. Press Ctrl / Option, and click two corner points to place the last brick block in the row, to look something like this (not all the way to end of the gravel pad). Be sure to place the copy in the red or green direction. You don't have to know how many blocks will fill this row.
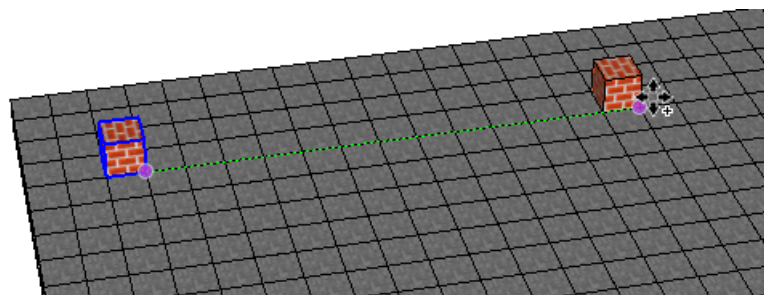
3. Start guessing how many blocks are needed; I'm typing 10/ (remember to include the / symbol, which means the space will be divided). Ten spaces is too low - the row is not quite filled in.
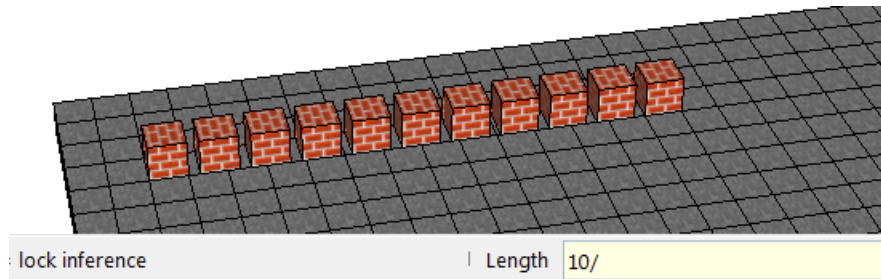

4. If needed, try a few more guesses. What worked for me was 13/ which means 14 total blocks in the row, separated by 13 spaces.
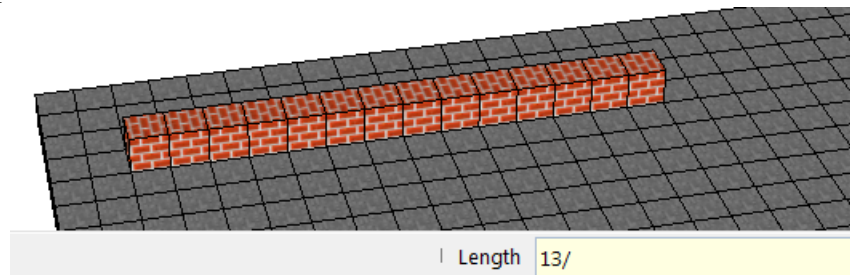

5. Now we'll copy the brick row to the other side of the house. An easy way to select the entire brick row is via the **Components** window: Right-click on the brick block and choose **Select Instances**.
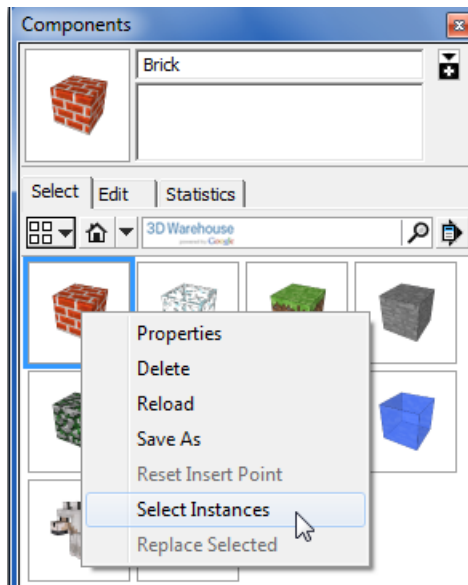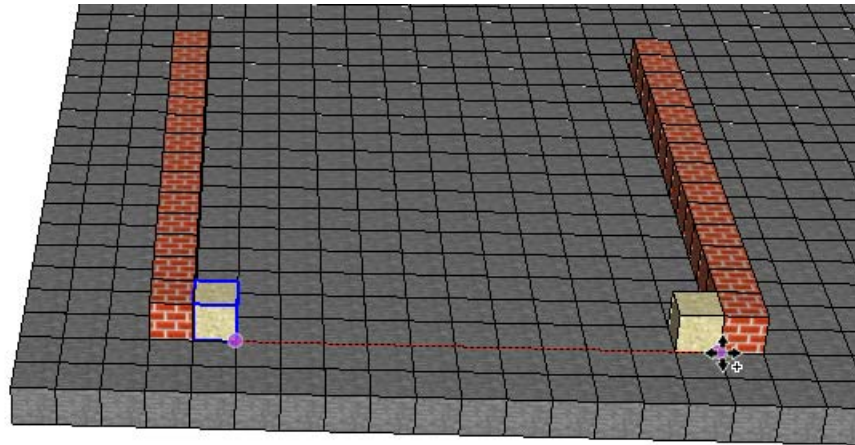
6. With all of the bricks selected, use the **Move** tool with the Ctrl / Option key to create another brick row. Again, be sure to copy in the red or green direction.
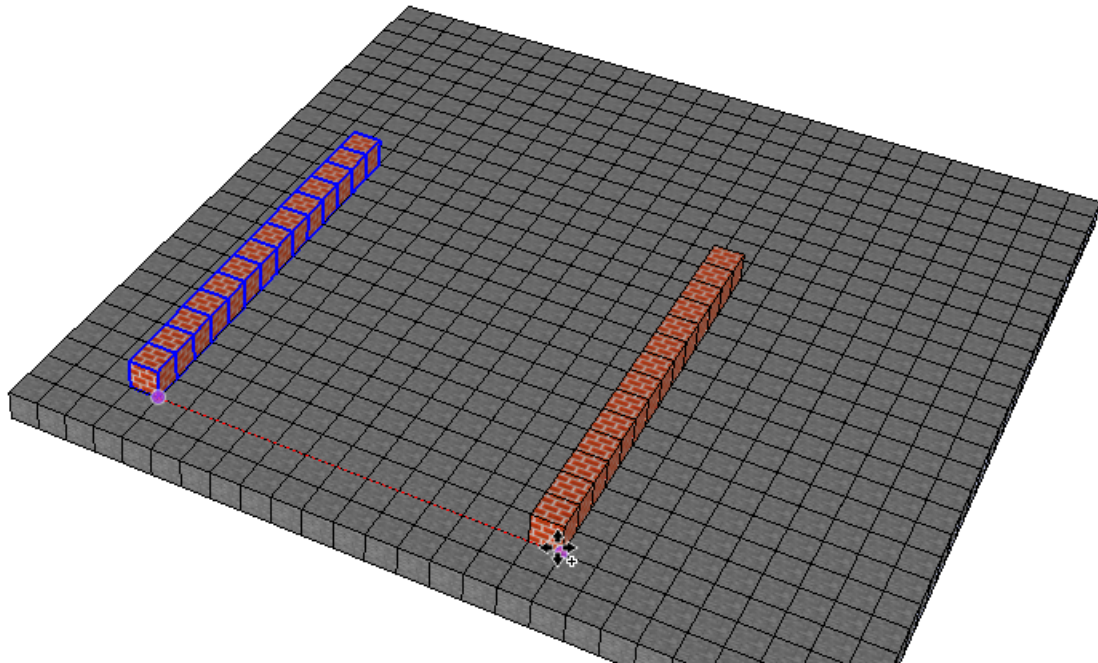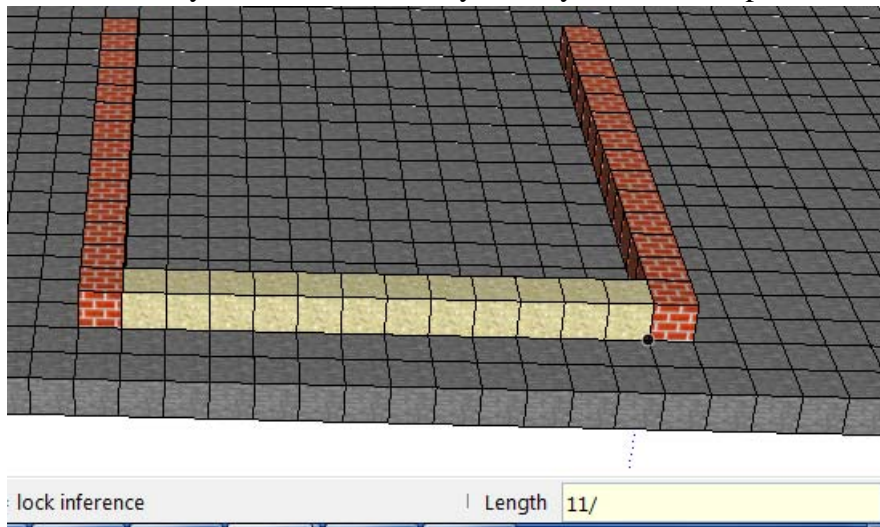

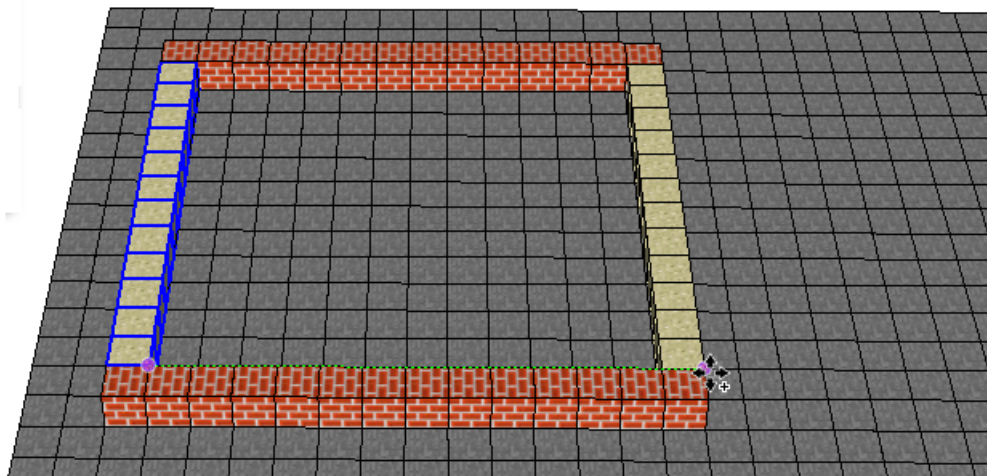7. The missing two walls will be made of sandstone, so bring in one of those blocks.
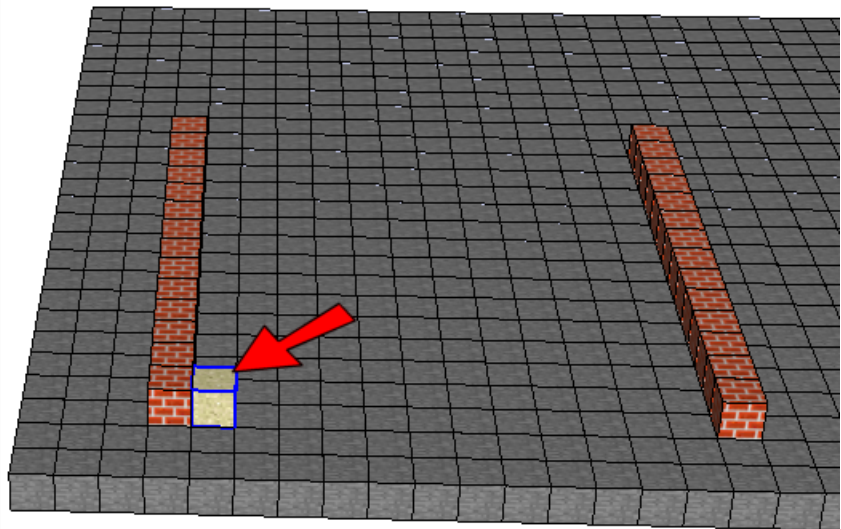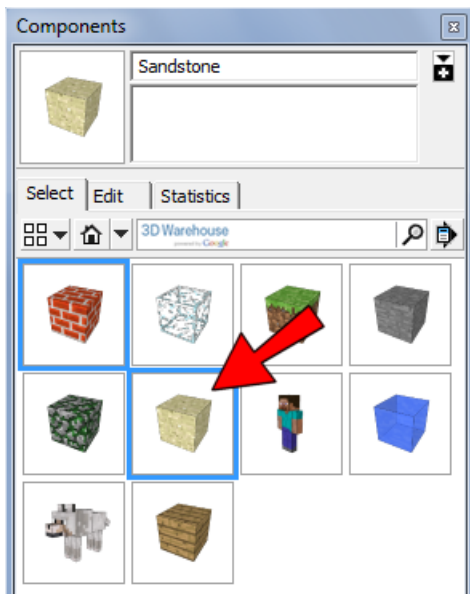
8. Make one first-to-last copy . . .

9. . . . and enter whatever number you need, followed by the / symbol, to complete the row.

lock inference | Length | 11/

10. Select all of the sandstone blocks and copy them, to complete the first rows of blocks in the walls.

11. For the following steps, it's helpful to have the **Views** toolbar displayed. Choose **View / Toolbars** and check the **Views** toolbar. (Mac: Choose **View / Customize Toolbar** and drag the **Standard Views** toolbar onto the main toolbar.) The **Views** toolbar contains icons to switch between **Top**, **Front**, **Left** views, etc.
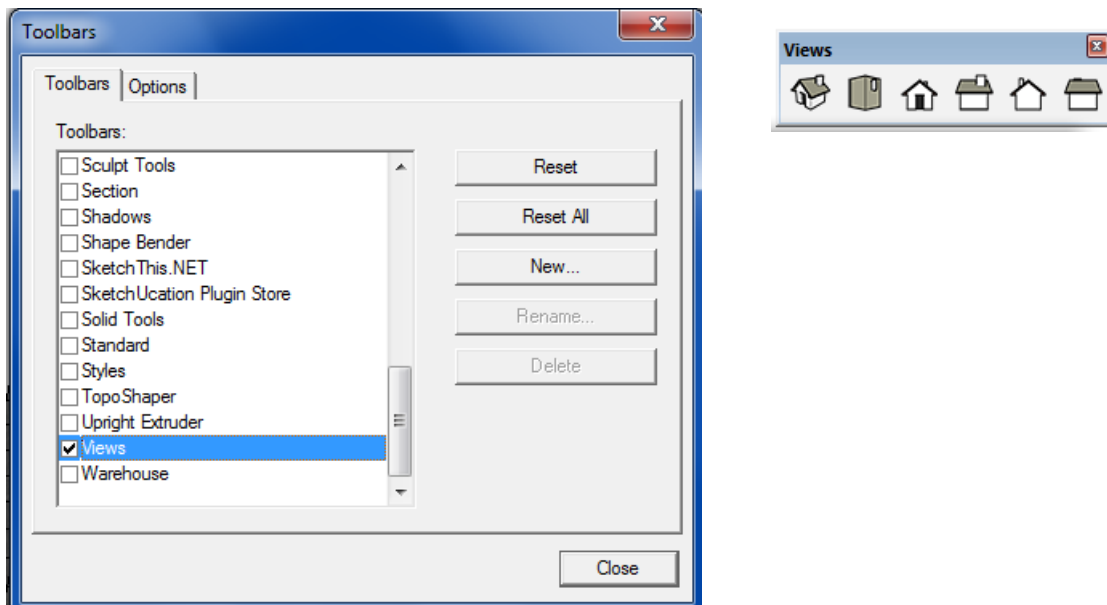

12. Switch to **Front** view. Because we're still in the default perspective view, closer objects appear larger. This is how our eye sees objects, but it's not the view we want right now.


13. So choose **Camera / Parallel Projection**, which switches us to a true orthographic view.
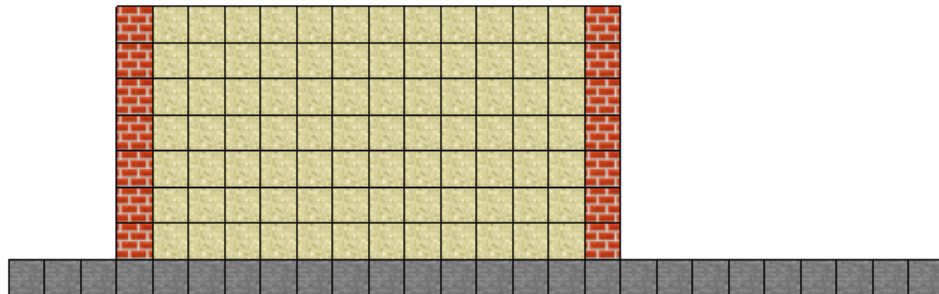

14. We're now going to copy the first rows of the house walls, to complete the walls. Activate **Select** and use a right-to-left selection window, as shown below, to select all of the brick and sandstone blocks.
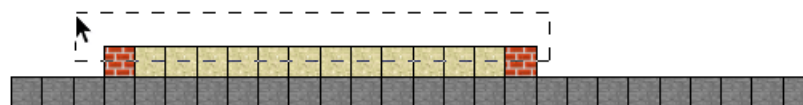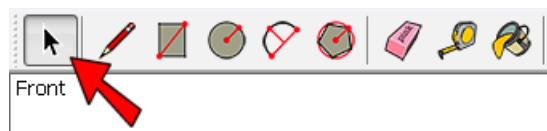
15. Activate **Move**, press Ctrl / Option, and create the second row of house blocks above the first row.
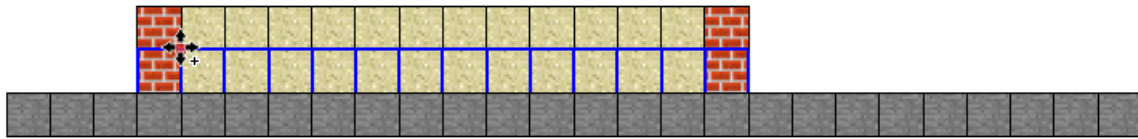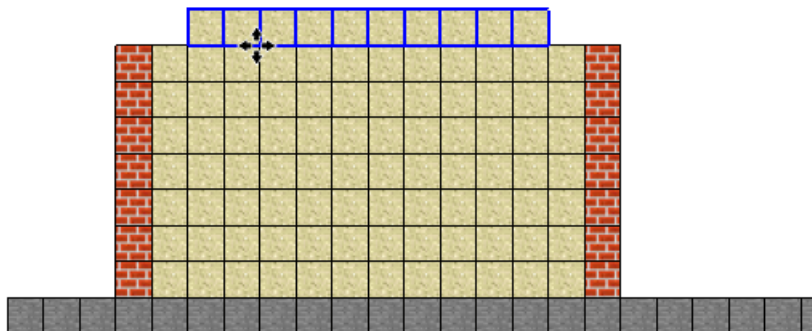
16. Enter 6x, for a total of seven blocks vertically in each wall.

17. Now we'll shape the sandstone blocks to create the sloped roof. (If you're not facing the sandstone blocks, switch to **Left** or **Right** view). Activate **Select** again, and this time select the entire top row of sandstone, except for the first and last blocks in the row.
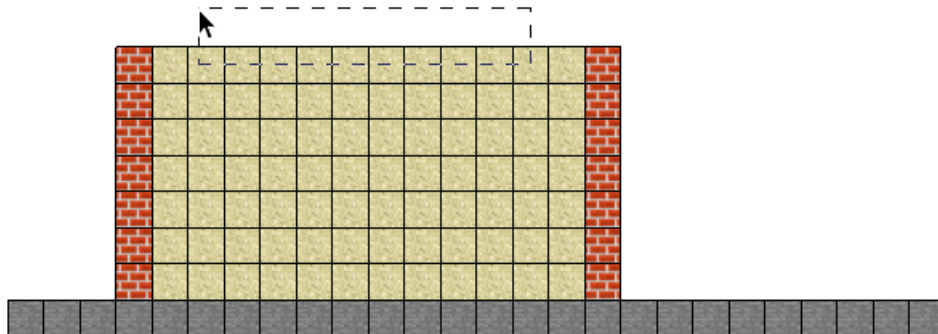
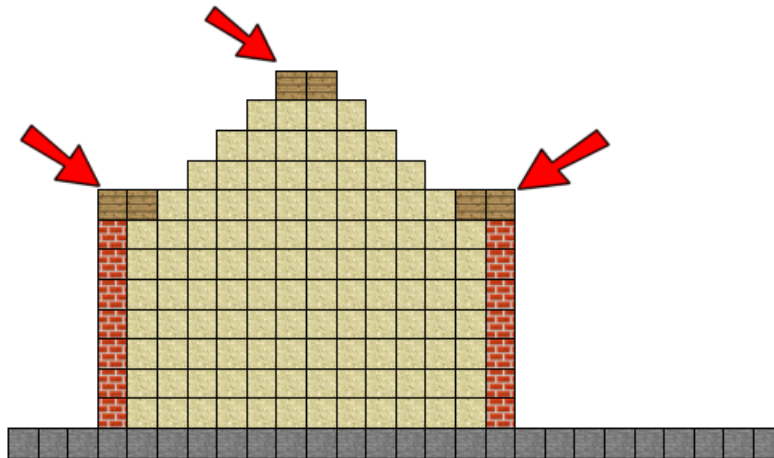18. Make one vertical copy of these blocks.

19. Keep making copies like this, until you have three or four roof rows.
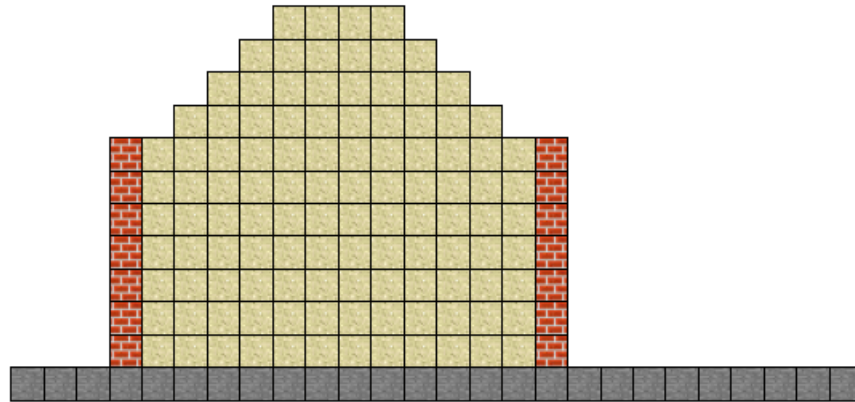
# Step 3: Create the Roof (Wood)

1. From the **Components** window, place wood blocks as shown below. For the wood blocks at the top, cover the top row of sandstone except for the first and last blocks.
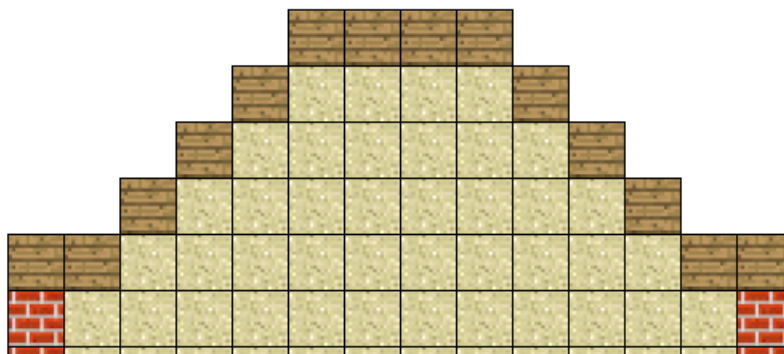

2. To complete the roof, select the wood block indicated by the red arrow. Copy it where indicated by the green arrow.
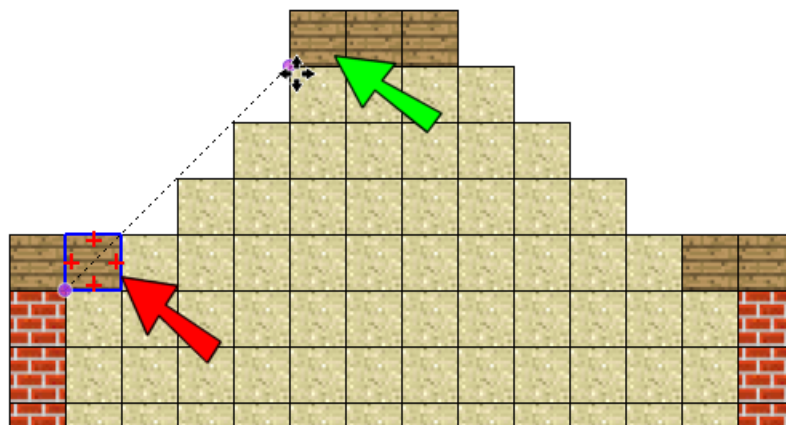
3. Enter 4/ or whatever number works for you, to complete the diagonal row of wood blocks.
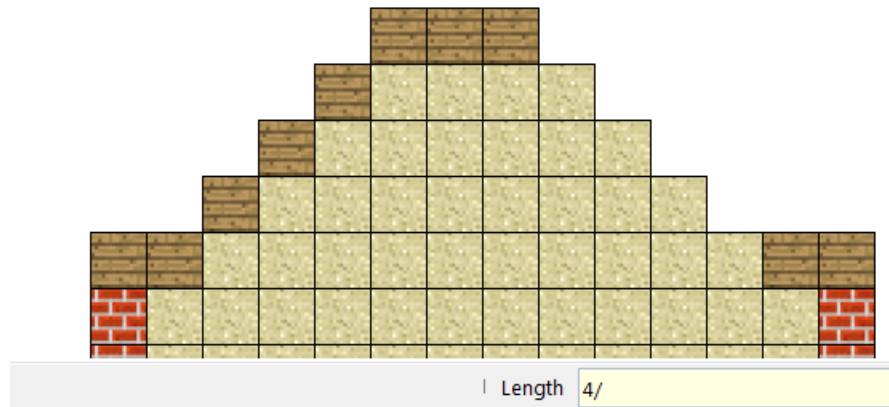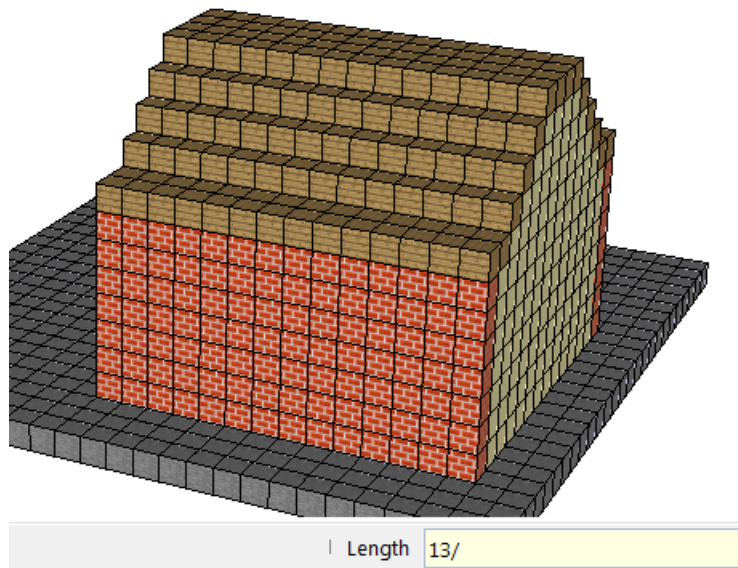

4. Repeat the last two steps to complete the roof blocks on the other side.

5. Select all of the wood blocks (use the **Select Instances** feature of the **Components** window), and copy them to the other side of the house. We don't need the parallel projection view anymore, so choose **Camera / Perspective** to switch back.
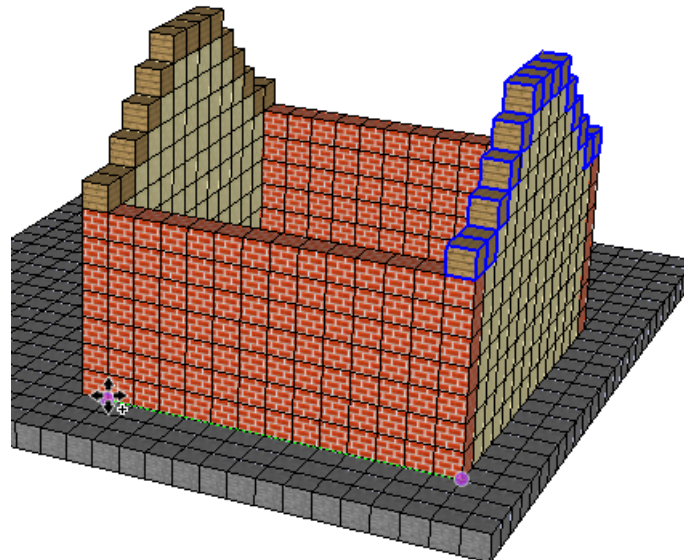
6. Fill in the missing roof blocks.


Length 13/

Step 4: Add Doors, Windows, and More

1. Here's where you'll see how cool it is to work with components (something you can't do with groups). First activate **Select**, and press and hold the Shift key which enables you to select multiple objects. Then click all the blocks that you want to replace with glass. I'm making an arch-shaped glass door at the front of the house, and rectangular windows along one side.
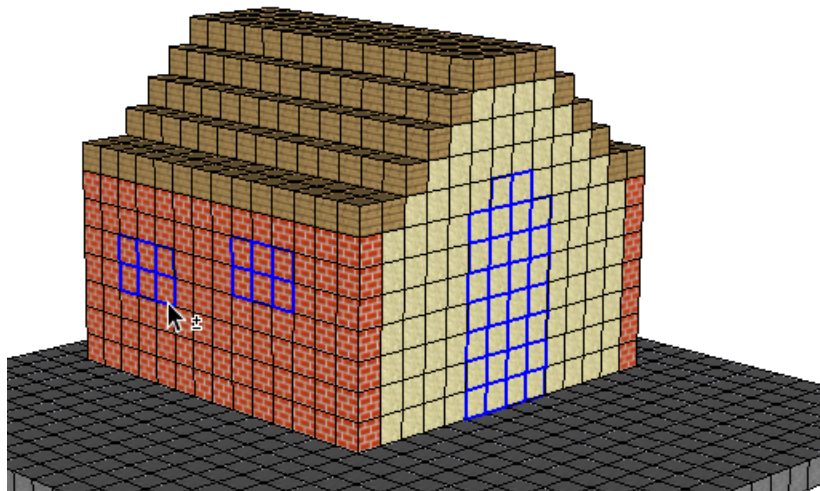
2.   Right-click on the glass block in the **Components** window and choose **Replace Selected**. All of the blocks you had selected are now glass.
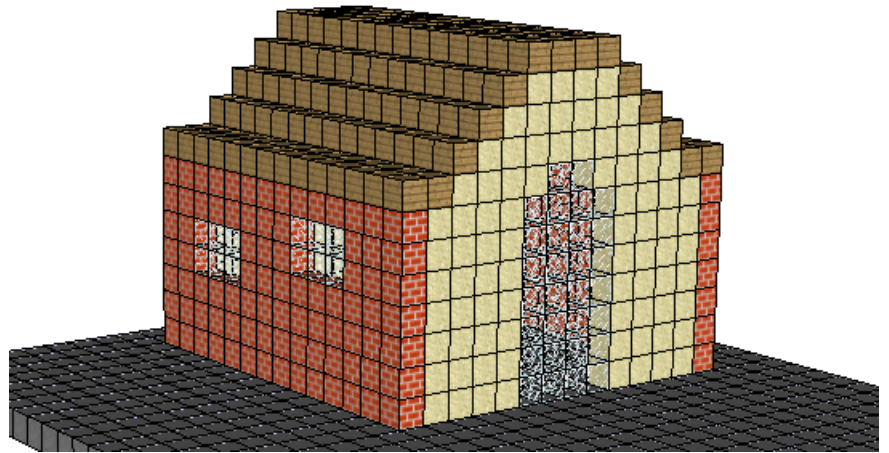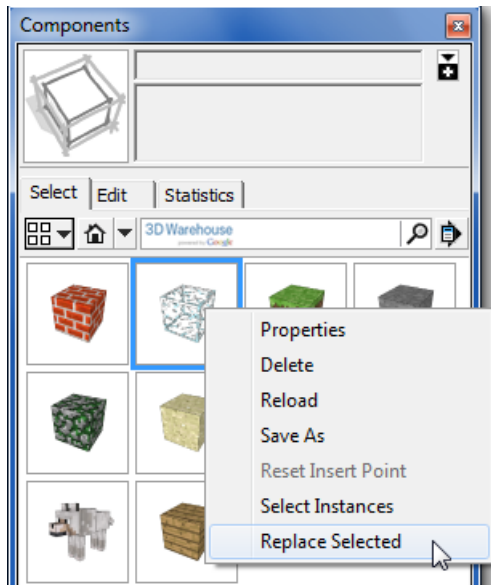

3.   If you want to outline the windows or doors (or just add window sills below the windows), select the blocks around or below the glass blocks, and use **Replace Selected** to switch them to marble.
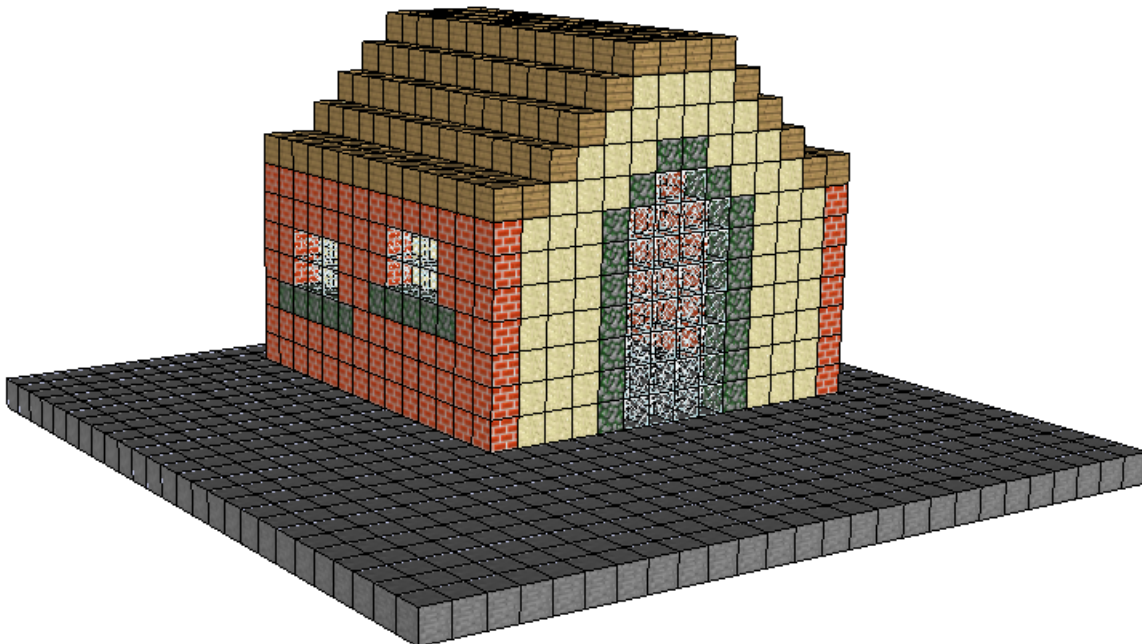
4. Use the same technique to add grass to the front of the house, and to add a pool on the side of the house.
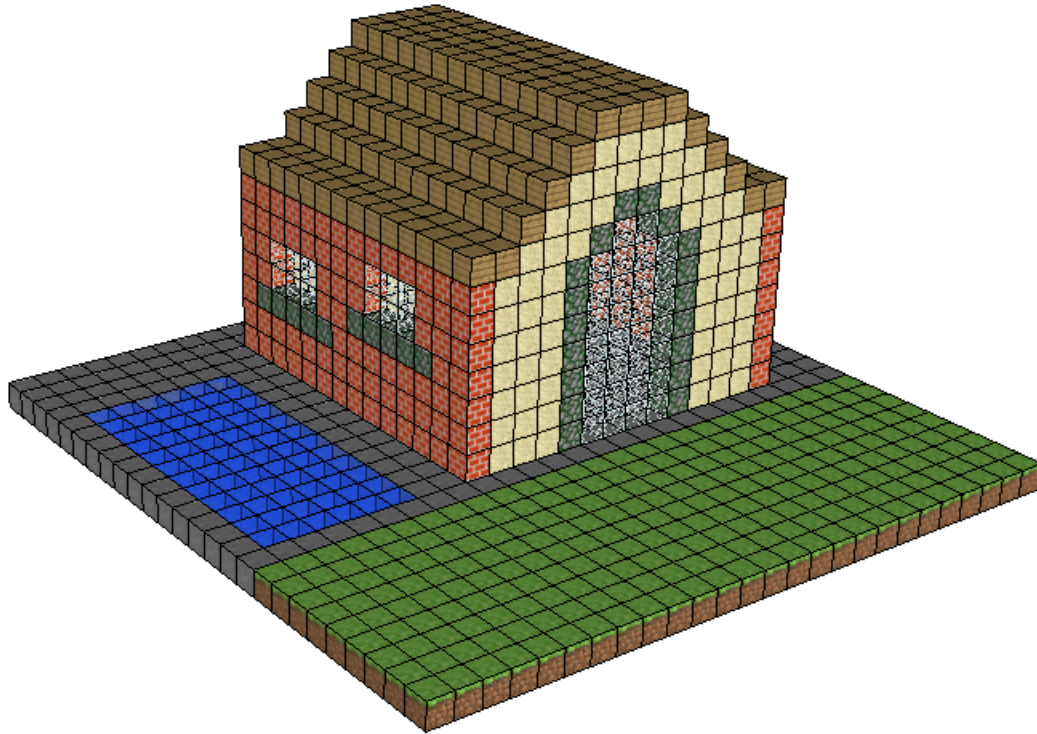

5. Now bring in Steve. Depending on how you created your house, he may be facing the wrong way.
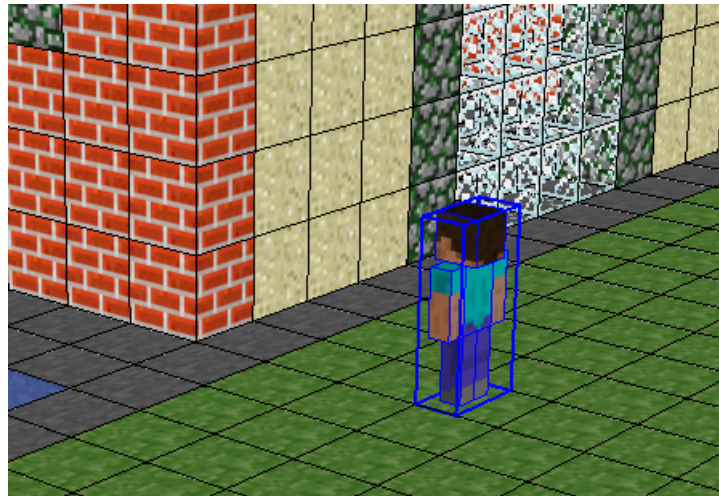
6. Immediately after you insert a component, the **Move** tool is active (as you know) but you can also use this tool to rotate a component. Just move your mouse to the top of Steve's head, and when you click one of the red plus signs, you'll see the protractor appear. Use the mouse to spin Steve around and click when finished.
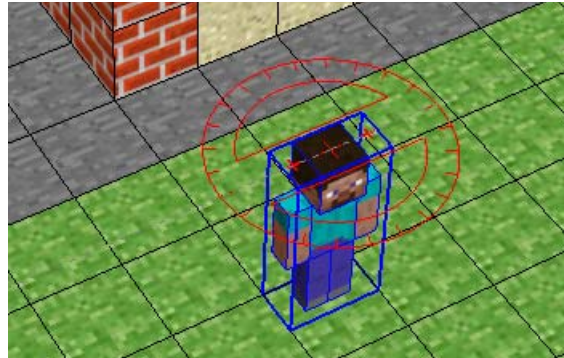
7. Next you can bring in some wolves, and use the red rotation marks to make them face any direction you like.
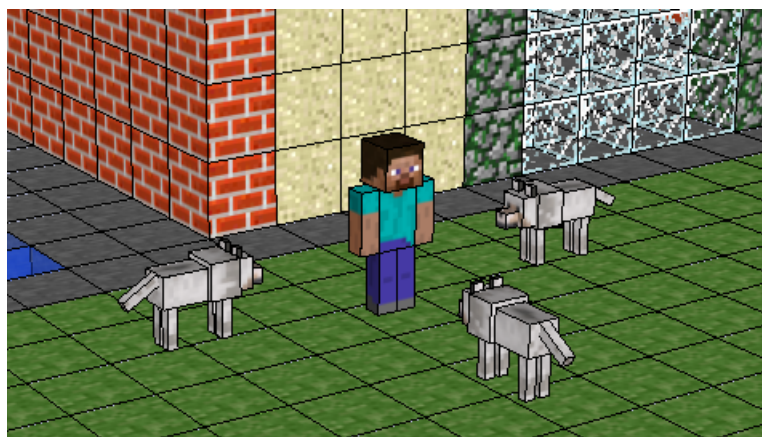
Here's my final house:
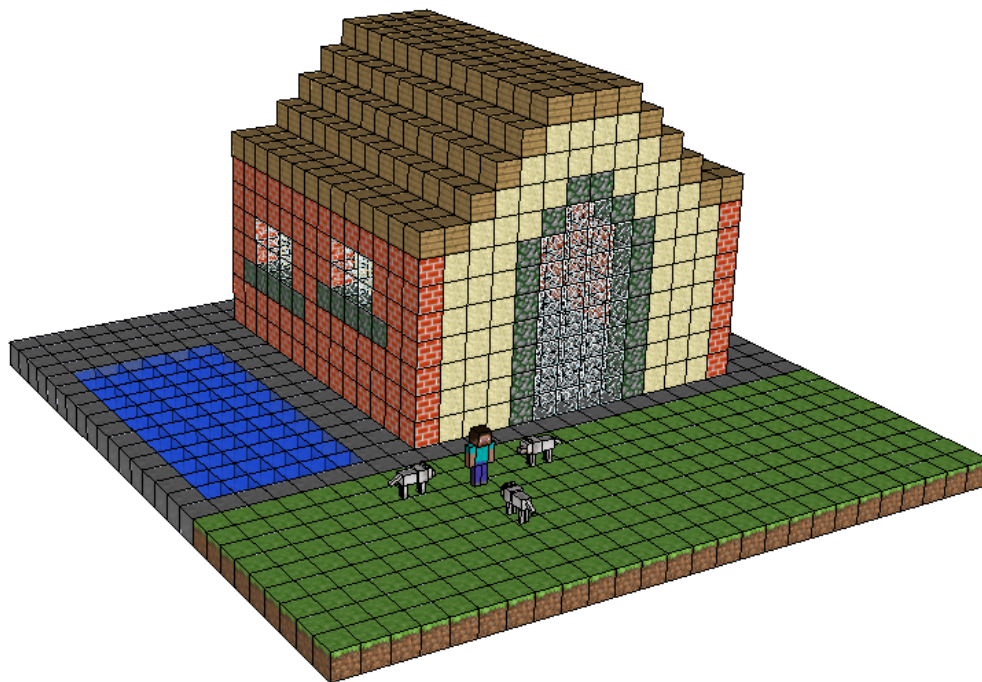
If you complete a Minecraft house (or any other building) of your own, and want to share it and perhaps see it on my blog or newsletter, please get in touch! Email bonnie@3dvinci.net.