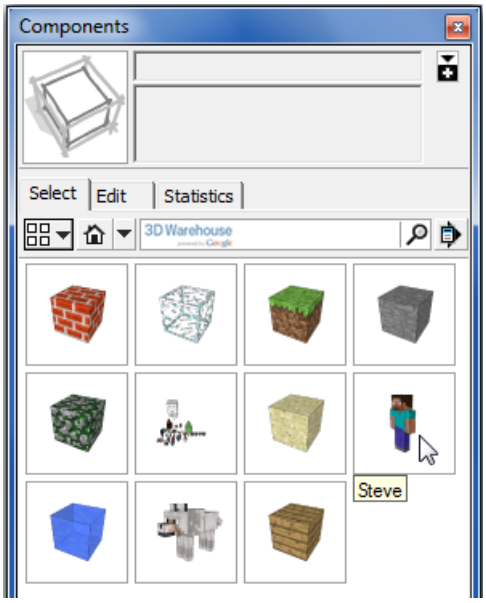
Setting up a Minecraft Model in SketchUp

There are lots of Minecraft block models in the 3D Warehouse, and it's easy to download any one of them and start building blocks into houses, castles, etc. But if you want to model the *right* way, it's important to set up a starter model that you can for any Minecraft model you come up with. This basically means creating a library of blocks, mobs, and other things, that will be found in SketchUp's **Components** window.



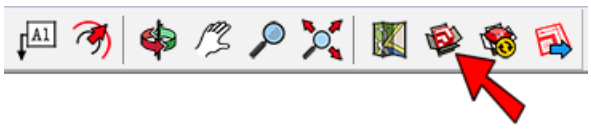
This project shows an efficient way to set up a starter model. But if you'd rather go straight to the house-building project, you can skip this one and download the starter model I've saved in the 3D Warehouse - open the "Modeling a Minecraft House in SketchUp" project to get download information.

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).

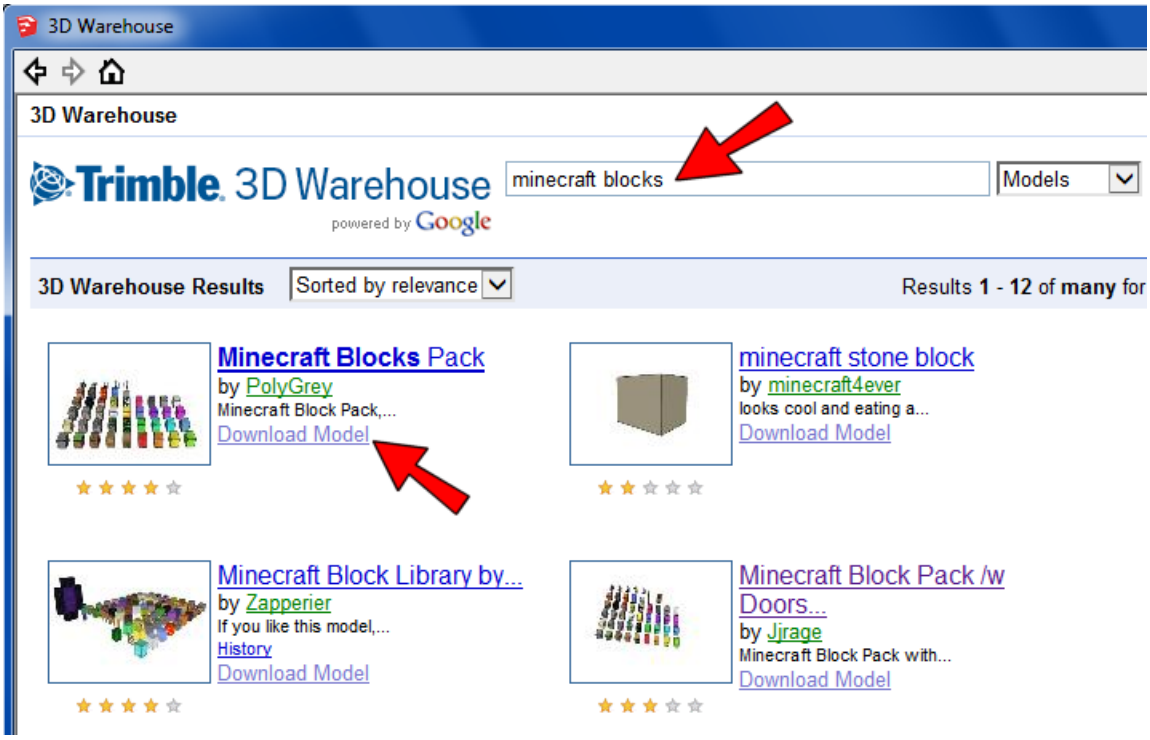
PC users: go to http://www.3dvinci.net/SketchUp_Intro_PC.pdf.
Mac users: go to http://www.3dvinci.net/SketchUp_Intro_MAC.pdf.

Step 1: Find a Block Pack Model

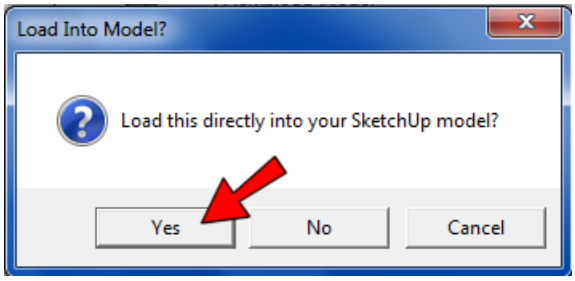
1. In an empty SketchUp file, click the **Get Models** icon.



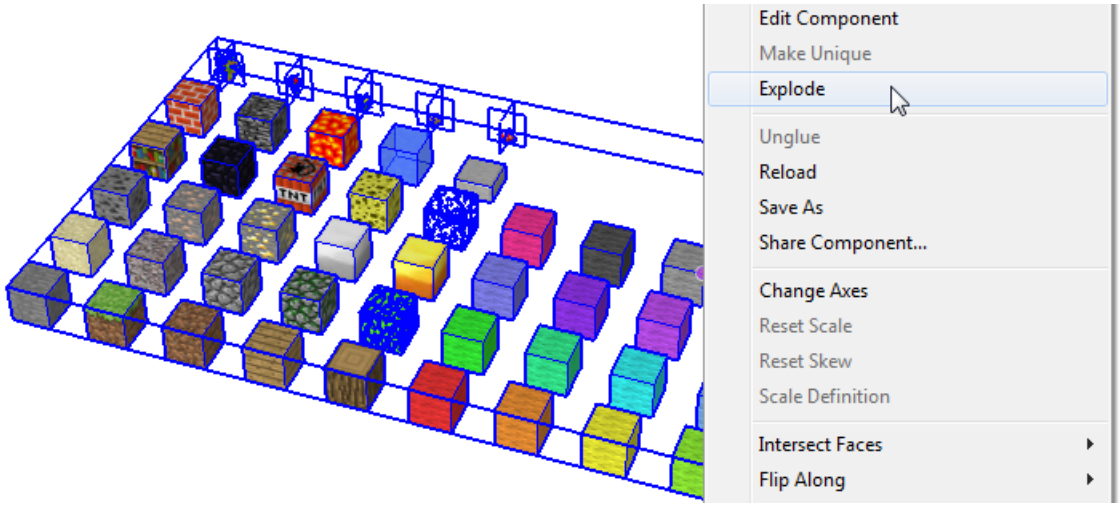
2. Enter “minecraft blocks” in the search field. The exact one we want to download is the one shown below, by user “PolyGrey.” For that model, click the “Download Model” link.



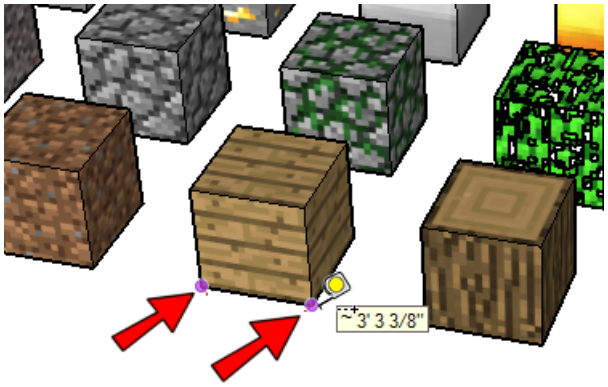
3. When asked if you want to load this model directly, click **Yes**.



4. Click anywhere to bring in the model. Because it comes in as one, large object, right-click on any of its faces and choose **Explode**.



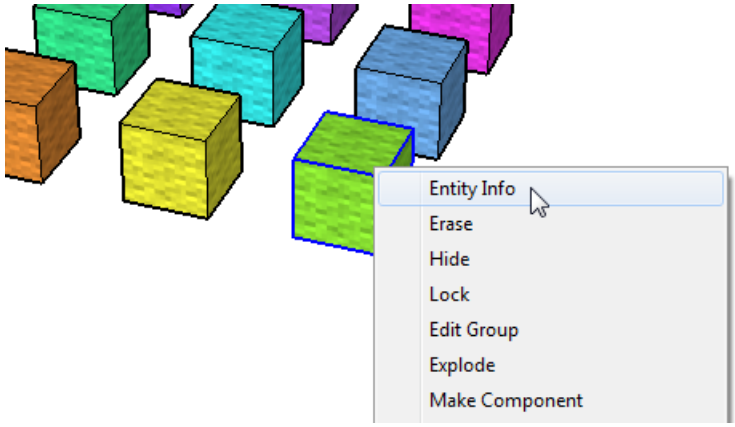
5. There are quite a few Minecraft models in the 3D Warehouse, and some are better (and more current) than others. One feature that's easy to check is the size of the blocks - in Minecraft, blocks measure 1 meter on each side. To check measurements, click the **Tape Measure** tool. Then click one corner of any block, and hover (don't click) over an adjacent corner. In my case, the measured length is about 3.25 feet, which is the same as one meter. So we're good.

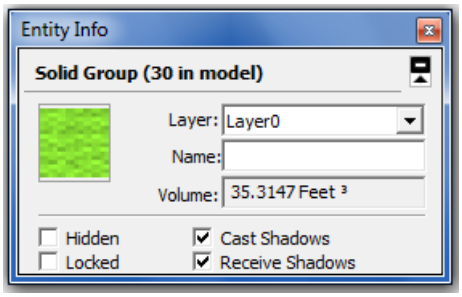


Of course, the block size isn't crucial if you're not doing anything beyond building with blocks in SketchUp. There are some SketchUp models in which each block is only 1" on each side, which is fine to use with similarly-sized blocks (and you can always scale them to become bigger). But if you're ever thinking to import a Minecraft model into other SketchUp models, or even into Minecraft itself, you should be aware of block sizes.

Importing SketchUp models into Minecraft is currently a bit of a clunky process, which will hopefully get easier. This will also hopefully be the topic of an upcoming project book. But for now, if you want to try it, here's some info: http://sketchupireland.blogspot.com/2013/04/sketchup-to-minecraft-guest-post-by.html

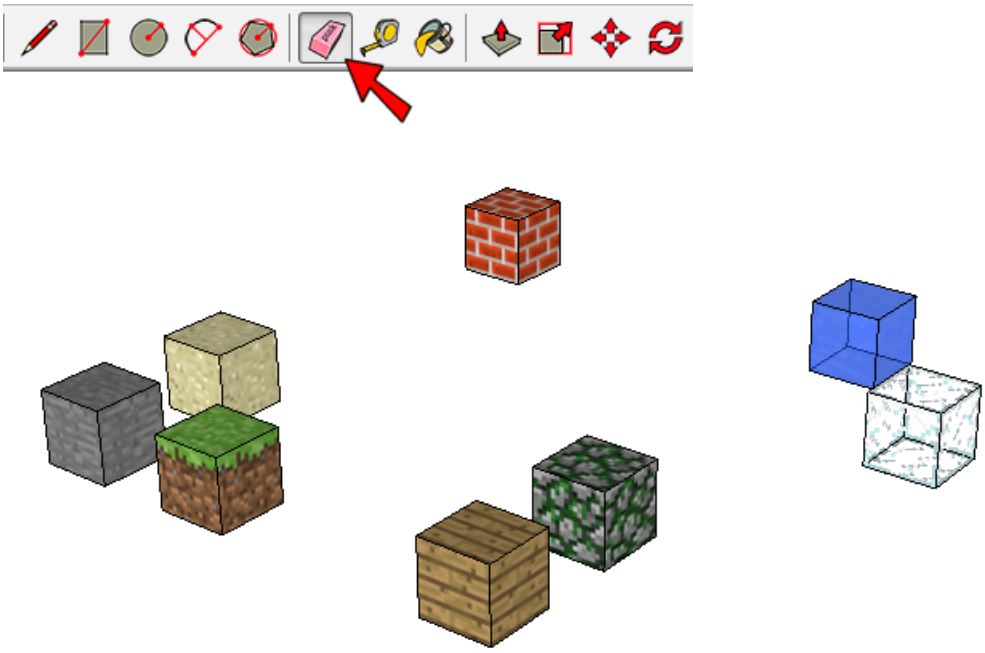
6. Here's another thing to check - what these blocks actually are. In a well-done model, each block would be a component, so that each time you use a block it would be considered as a copy of the original, and would therefore take up less file size. To see what the blocks are now, right-click on any of them and choose **Entity Info**. Each block is a *group*, which simply means a block acts as a single object (not a collection of separate faces and edges). This is nice, but using a group repeatedly can make your file size really balloon, especially if you're modeling something really huge like a castle. We'll make these groups into components later.



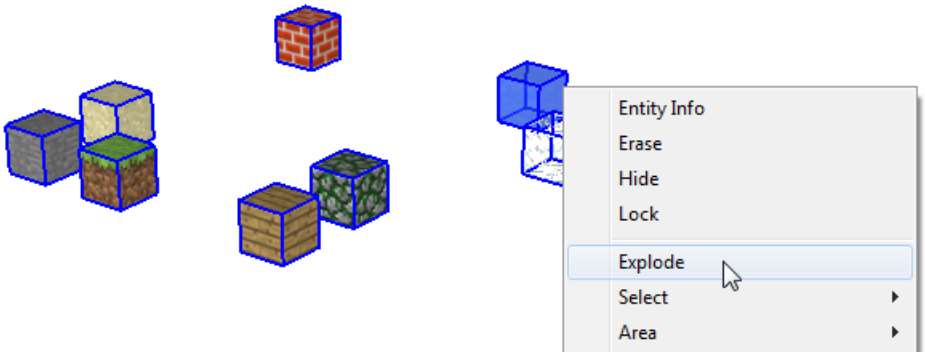


Step 2: Make a Block Library

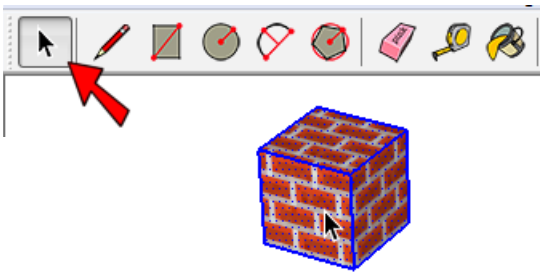
1. For this example, I'm going to create a starter model with only a few blocks. Once you see how this is done, your starter model can have as many blocks (and mobs and other accessories like doors and fences) as you like. Click the **Eraser** and erase every block except for eight. Yours don't have to be the same ones I chose, but you should have a brick, water, glass, wood, grass, sandstone, marble, and gravel block (or something similar).



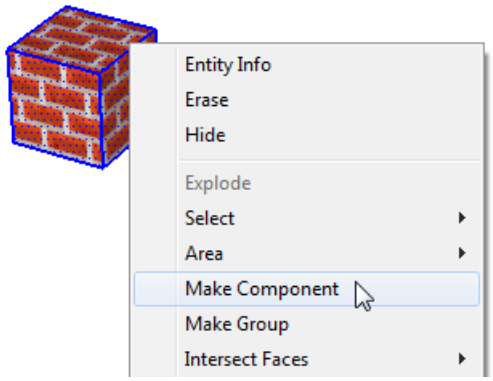
2. Since we want components instead of groups, let's go back to Square 1 - no groups or components - and build the components from scratch. Press Ctrl + A or Cmd + A to select everything. Then right-click on any selected face and choose **Explode**.



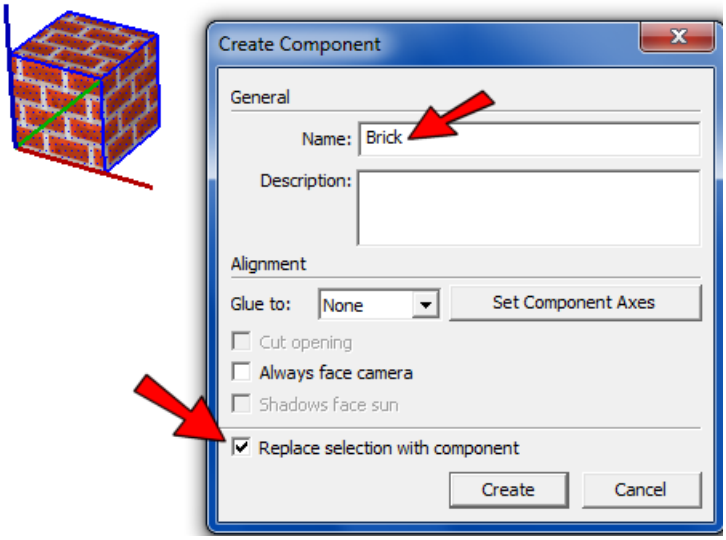
3. Activate the **Select** tool and *triple-click* any face of the brick block. (This selects everything connected to the face you're clicking; the entire block should be selected.)



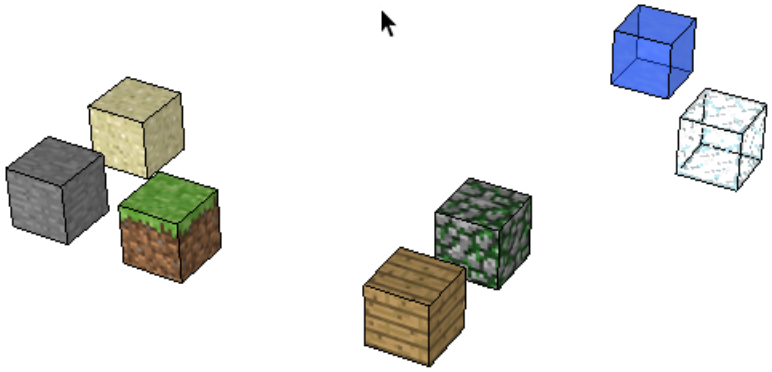
4. Right-click on any selected face and choose **Make Component**.



5. Enter a descriptive name such as "Brick," and make sure **Replace selection** is checked. Then click **Create**.

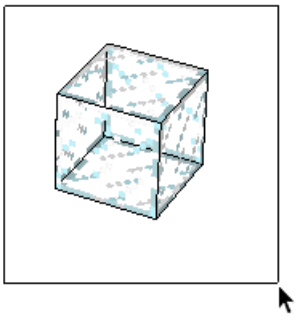


6. Once the component is created, it is selected (highlighted in blue). But we don't need it displayed anymore, since the component is now saved in the file's **Components** window. So press the Delete key to erase it. This way it's easy to keep track of what's already a component and what still needs to be made into a component.

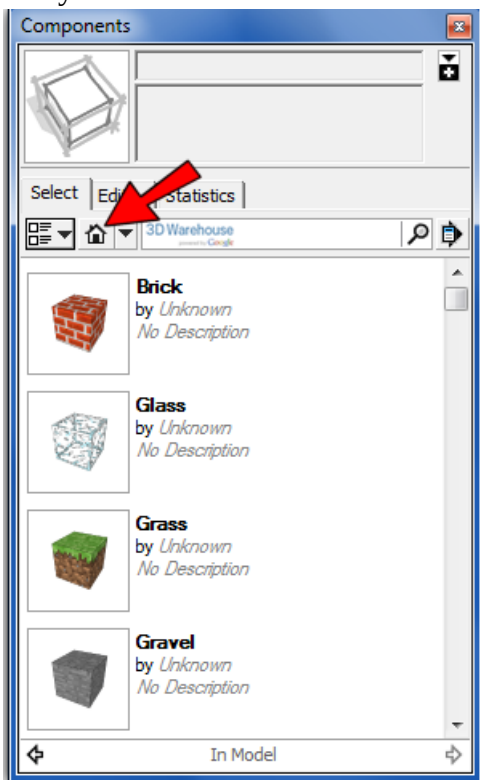


7. Repeat these steps for the other six blocks that remain, saving the glass block for last. Remember to use component names that make sense like "Grass," "Sandstone," etc.

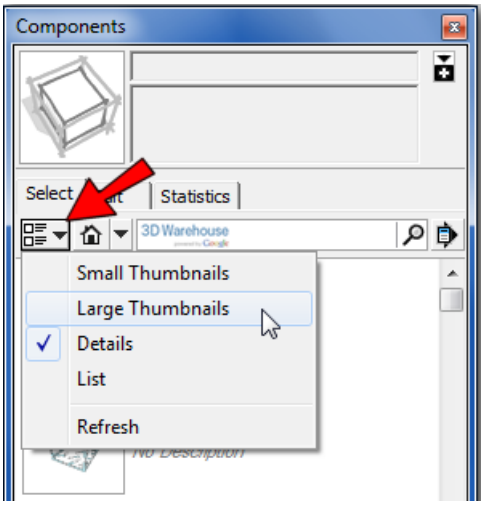
8. The glass block in this model is created a little differently; each face is a separate group. We could explode it further and break it all the way down, but instead select it with a selection window, making sure to select the entire thing. Then create the component and erase it.



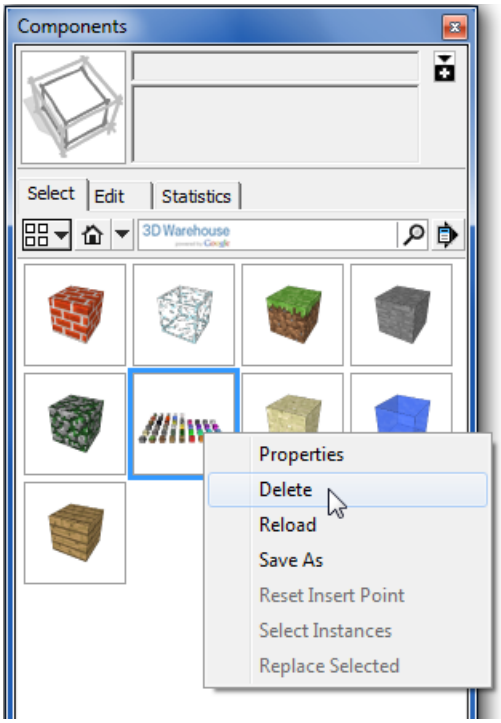
9. Where are these blocks? From the main menu, choose **Window / Components**, and in the **Components** window, click the House icon. All of your blocks should be listed in order of name.



10. The default view for the **Components** window shows each component's details, such as thumbnail and name. But if you have dozens of blocks, you won't be able to see all of them without using the scroll bar. Since we don't really need to see each block's details, click the **View Options** button and choose **Large Thumbnails**.



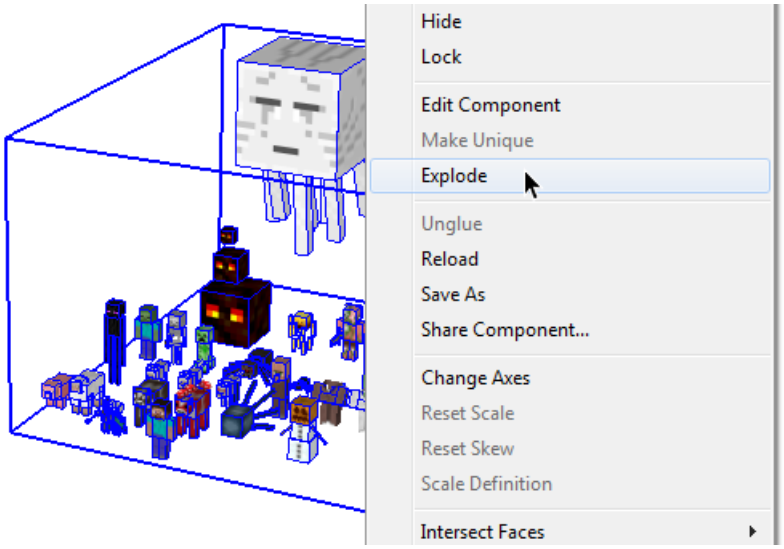
11. Now you can see all of the blocks. One of the components still in this model is the block pack model you downloaded back at the start of this project. (Even though you exploded it, SketchUp still saves it in the **Components** window.) But this component isn't needed anymore, and takes up a bit of this file's size. So right-click on this component and choose **Delete**.



Step 3: Add Other Objects

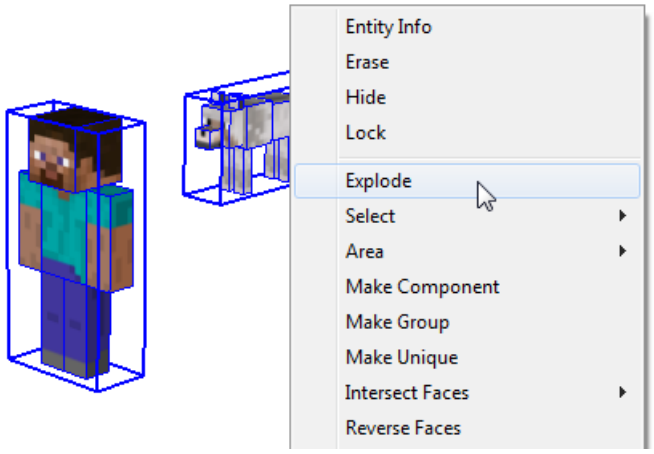
1. You probably want more than just blocks in your starter model. So use **Get Models** again and search for "minecraft mobs," then download the mob pack model by the same user: "PolyGray."

2. Click to bring in the model, then explode it.



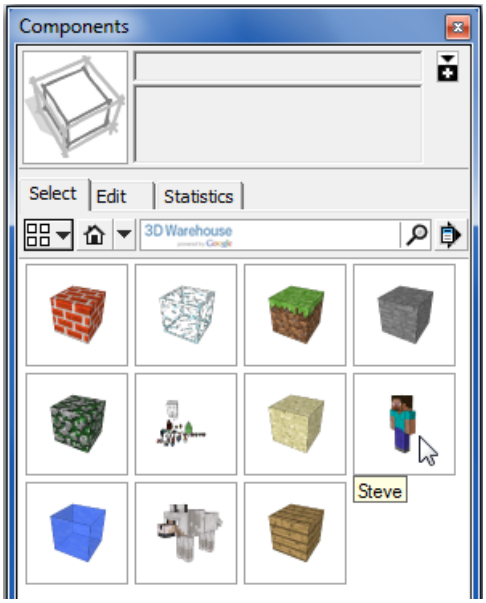
3. Choose two or three that you want to keep (I'm keeping Steve and a wolf), and erase the rest.

4. Explode both mobs.

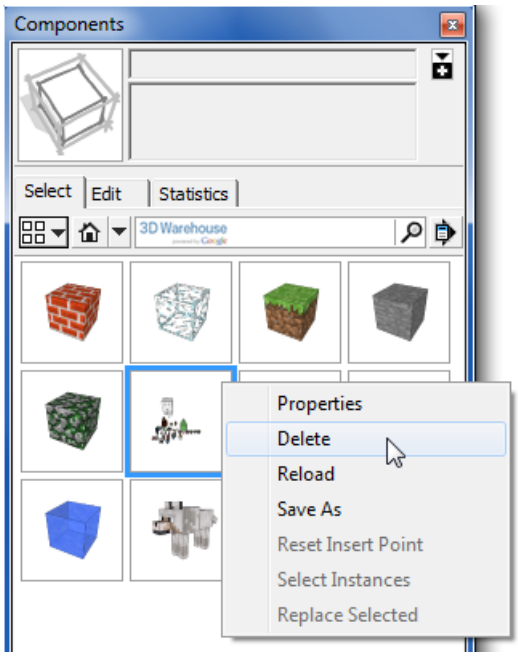


5. Then select each one and make it into its own component.

6. This should be your final model, ready to use as a starter model for something you want to build. One thing you might not have noticed about the **Components** window: if you forget a component's name, you can hover your cursor on it and see the name in a popup. (This is useful if you have blocks that look alike but have different names.)



7. Don't forget to erase that mob pack component.



8. That's it - this file is ready to be used. Use **File / Save** as to save it, and we'll continue using it in the "Minecraft House" project.