
Subject: Advice for beginner

Posted by [Petettt](#) on Mon, 19 Nov 2012 19:09:08 GMT

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Hi there!

I'm very new to this...

My mum is moving house (she's in the process of building an eco home to move into), so I thought I'd make a small (5cm by 5cm by 5cm approx) scale model of her current house so she has something physical to remember the old one by..

I currently know very little about CAD, so far I have downloaded "Sketch Up" and traced the outline of her house (I've attached the .skp file)

So things I'm interested in finding out:

Is the cost per cm³ concerning the physical size of this model house or is it the volume of plastic used? In other words should I be making the house hollow? And if so how thin can the walls go? (Also if anyone has any Sketch Up tips - the file attached is a mixture of 2d surfaces and solid 3d blocks - guessing that isn't suitable for sending into shapeways!!)

Second question is, is Sketch Up a good tool if I want to be drawing on windows and doors with very quick learning curve? I'm not looking for much detail, just so you can see window ledges etc, and I'd like to order soon so it can arrive in the UK before Christmas!.

Many thanks in advanced for any assistance at all that you guys can provide,

Pete

File Attachments

1) [3dprint model one.skp](#), downloaded 48 times

Subject: Re: Advice for beginner

Posted by [Fredd](#) on Mon, 19 Nov 2012 22:01:40 GMT

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Nice model for just starting out.

Ok so the dimensions are 19.267m x 10.5 m x 7.02m.

The big question is when you add the windows, are you going to just cut a hole out of the wall, or just push/pull them to the inside a little. This is if you want to be able to see the interior. If this is so, you might want to create some wall thickness. Which you will want to do to save some cash.

The cost for all non ceramic materials is price per cubic cm. That is material volume. So start hollowing before you get deeper into the project.

SU is good for inseting windows, doorways. Remember when you cut anything, and want to push/pull, select the cut/right click, under entity select bounding edges, then push pull. In some cases it will create a unfilled area if you do not.

The longer section running perpendicular to the taller section is not connected. This causes it to not print correctly. The floors you walk on On the second and third floor need to be removed, will cause problems with printing.

The idea is to create 1 manifold surface. Sorta like a balloon where the material of the balloon is the printing material. If you want, I can send you an example, and help since its for yer mum.

Keith

What format you want it in to import. I cannot figure how to export as a skp

Subject: Re: Advice for beginner
Posted by [JACANT](#) on Tue, 20 Nov 2012 00:25:40 GMT
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Do not leave any extra lines on the surfaces. It confuses the 3D printing software into thinking there are faces on top of faces. So it does not know what face is in or out. Delete the extra lines one by one. You can easily draw a line again to create a surface. Once you start to draw on the walls. Use the push-pull tool to move the door or window in or out. you can then delete the new face if you want to see inside. I have attached a small step by step tutorial for the easiest way to make it hollow. Don't forget you will need to think about what scale you want your model when you upload it.

File Attachments

1) [Tutorial.skp](#), downloaded 34 times

Subject: Re: Advice for beginner

Posted by [Fredd](#) on Tue, 20 Nov 2012 01:08:13 GMT

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Sketchup simplifies modelling in several aspects that other programs only wished they had. I spent 20 minutes in Blender fixing stuff, in SU only took a few clicks. Jacant is a SU guru, heed his advice Pete

Subject: Re: Advice for beginner

Posted by [Petettt](#) on Tue, 20 Nov 2012 12:41:05 GMT

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Thanks for your help guys!

I've attached a file of an attempt of creating a solid window frame on a solid wall.

How thin can walls and window ledges be printed? If I'm looking to make the longest dimension of the house around 10cm is it possible to do this much detail? In the attached file the window ledges are 1mm thick and the wall is 2mm thick.

Many thanks again!

File Attachments

1) [windows1.skp](#), downloaded 38 times

Subject: Re: Advice for beginner

Posted by [Fredd](#) on Tue, 20 Nov 2012 18:02:10 GMT

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Pete at this point you need to go look in Materials and chose which you will create the model from. Each material has specs for thickness,detail price.

Windows looked good, the one in the middle had some open areas on outside of inner frame

Here is a pretty good tutorial for house making. Main point is the rapid way of adding windows, doors.

<http://www.sketchuptutorials.net/2011/10/21/sketchup-basics->

Keith

Subject: Re: Advice for beginner

Posted by [JACANT](#) on Tue, 20 Nov 2012 18:22:48 GMT

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To save on cost, keep the walls as thin as possible. The details, like sills should be about 1mm. Try to keep the walls and doors within the walls. The way you had it was 2mm walls plus 1mm frame. You would be paying for 3mm thick frames. Not needed. I noticed you had extra lines on the sills, keep deleting the extra lines you don't need. If the face goes as well, just redraw one of the lines. Try to use the push-pull and offset tools more.

Get your self copies of <http://meshlab.sourceforge.net/> and <http://www.netfabb.com/basic.php>
Export your model as DAE There are plugins that will export as STL Open it in Meshlab there are a number of 'filters' which you can use. Export as STL open in Netfabb which is more user friendly. In Netfabb you can check repair measure and scale your model. One little quirk I haven't found a solution to is when you import the STL into Netfabb You will have to scale your model by 25.4. You can upload direct to Shapeways with a DAE format.

File Attachments

1) [windowsla.skp](#), downloaded 36 times
