
Subject: Specifying Dimensions in Blender
Posted by [tgiaccone](#) on Mon, 15 Feb 2010 15:01:31 GMT
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So my question comes in two parts, The first part is how do I specify the size of an object in Blender. I'm totally newb to 3d printing, and so I spent the last few days getting just enough Blender under my belt to make a shape shapeways now tells me is printable. The problem is I wanted to make something that was about 1inx1in and I ended up with an object that's 19cm on a side.

Tony

Subject: Re: Specifying Dimensions in Blender
Posted by [bartv](#) on Mon, 15 Feb 2010 15:09:42 GMT
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Hi Tony,

it depends on whether you'll be uploading an STL file (for monochrome) printing, or for example VRML2(for full-color printing).

When uploading an STL file, you can choose your own unit size. In that case, you can let 1 Blender unit correspond to 1 inch.

VRML2 files are always in meters. In that case, 1 Blender unit corresponds to 1 meter.

While modeling, press the N key to bring up the 'Transform Properties' window. It will show you the exact dimensions of your model.

Hope this helps!

Cheers,

Bart

Subject: Re: Specifying Dimensions in Blender
Posted by [calli](#) on Sun, 29 Aug 2010 11:39:07 GMT
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Is this rule still true?

It is very uncomfortable to model in this size in Blender (e.g. modelling a 1x2x2cm model) because the numbers tend to get very small in Blender losing accuracy and having all kinds of display problems.

Is there an actual list how the formats handle the dimensions? For my latest test it seems that it is very different say from x3d to vrmf and collada.

Carsten

Subject: Re: Specifying Dimensions in Blender
Posted by [stannum](#) on Mon, 30 Aug 2010 02:33:45 GMT
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Edit the vrmf and edit/add a scale directive.

Subject: Re: Specifying Dimensions in Blender
Posted by [Tommy_2Tall](#) on Mon, 30 Aug 2010 10:28:06 GMT
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calli wrote on Sun, 29 August 2010 11:39: Is this rule still true?

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Carsten

Hi!

I do all my modeling in Blender with 1 Blender unit as 1 millimeter and I don't see any problems at all with "very small" numbers.

Due to the level of detail that the printers can produce there's rarely any need for measurements smaller than 0.1 mm.

There's no problem with decimal rounding (confusion) or display problems in that scenario. The only problem I've had is that I had to increase the "ground grid" size in a couple of cases since the model was getting larger than the default grid.

As for how the different formats handle measurements...

I think that VRML is the only format that is fixed to 1 meter per unit.

If you model an object with 1mm per Blender unit all you have to do is scale it to 0.001 before exporting... Hmm..

I think I see your problem now but Blender should be able to handle those extra decimals without any problems.

I only use STL exports myself and since I model at 1mm per Blender unit it's just a matter of checking the right scale option when uploading the file to Shapeways.

I think that's the case for the other formats too.

Subject: Re: Specifying Dimensions in Blender
Posted by [roofoo](#) on Tue, 31 Aug 2010 19:56:46 GMT
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If you use Blender 2.5 you can set the units to be Metric or Imperial and work that way. It makes modeling at the exact size you want much easier!

Subject: Re: Specifying Dimensions in Blender
Posted by [calli](#) on Wed, 01 Sep 2010 07:54:35 GMT
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Will this be taken into account by the exporter?

Carsten

Subject: Re: Specifying Dimensions in Blender
Posted by [blinky](#) on Sat, 09 Oct 2010 10:13:50 GMT
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Hi - I am using Blender 2.5 for mock ups, but I can't work out how to set metric measurements. Is one blender unit 1 square on the grid?

Subject: Re: Specifying Dimensions in Blender
Posted by [Grevan](#) on Thu, 24 Jan 2013 11:23:10 GMT
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Edit: Sorry, didn't see how old the post is... didn't mean to pull it from the grave.

Subject: Re: Specifying Dimensions in Blender
Posted by [Fredd](#) on Thu, 24 Jan 2013 23:00:11 GMT
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A .dae file contains scene data when uploaded to SW. So if you are setting unit measurement under scene data in Blender. when you upload to SW, unit measurement is set.

A STL contains no scene data, depends on the Blender units in the dimension box in N panel, you select what measurement you want a blender unit to equal at upload.

As for file formats that carry color info that SW recognizes,as was stated above, a blender unit is regarded as meter. So if you created a model with the dimensions in blender units of 5 x 4 x 6, and you want it to be printed in cm, scale by .01. Apply scale. Select meter at upload.Why this works is after getting scaled, dimensions are .05x .04 x.06 in blender units. when you select METER at upload, it gets printed at .05m x .04 m x .06m. Which in mm is 50 x 40 x 60. or in cm 5 x 4 x 6

If you ever scale a model in Object mode, ALWAYS apply scale(CTRL A). And remember for file formats that do not contain scene data,you have to set at upload what you want a blender unit to equal.

Keith

You can set unit measurements in scenes. If you choose METRIC, the scale factor beneath it can change unit measurement to cm(.01) or mm (.001).

For Imperial(inches), set scale at .0254. If you decide a primitive,select NONE, add it, will be in correct proportions. Then reselect either Metric/Imperial
