

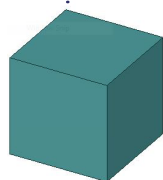
NAME THAT MOLECULE CHALLENGE

DESIGN GUIDELINES

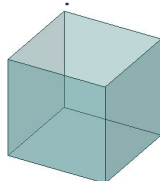
Here are some tips and guidelines to keep in mind when designing your molecule. We understand that making a 3D model is tough for beginners! We encourage participation first and foremost, so if you're a beginner don't fret if this seems overwhelming. Before you know it you'll be a pro! To see an example of how 3D entries are displayed in the gallery, please visit a previous challenge gallery, such as: <https://www.futureengineers.org/twoforthecrew/gallery>

GOOD LUCK!

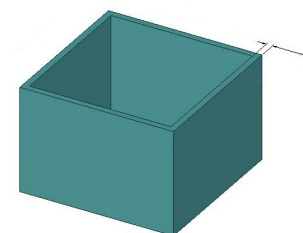
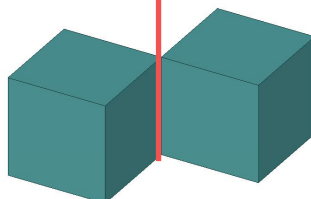
GOOD!



BAD!



BAD!

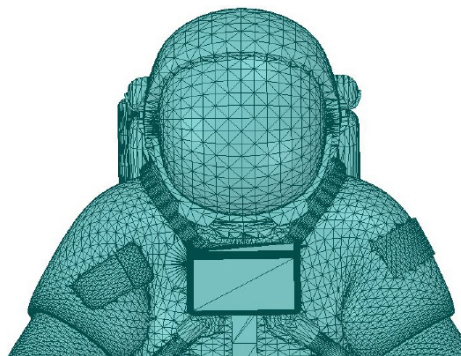
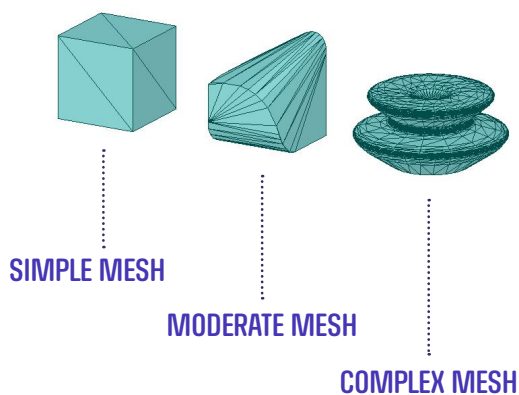


Your 3D model should be solid geometry. For example, the model on the right has no top surface and zero wall thickness. This is not 3D printable for the prize. Most models in Tinkercad or other CAD programs make solid models, so you're probably fine! But if in doubt, upload your STL file to Meshmixer and check.

No shared single edges (lines) like above.

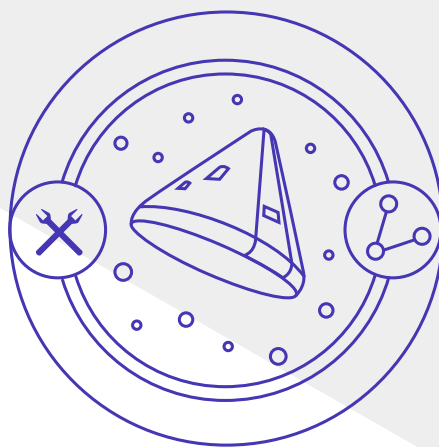
Minimum recommended wall thickness for your model is 1.5 mm.





Maximum STL File size is 20MB.
STL files are mesh geometry (triangles). A simple box may be a few KB, whereas a complex model that requires a mesh with more triangles will be a larger file. We encourage advanced designs and have given you a large file size limit!

For example, this mesh is complex, but is under 20MB if exported properly. Chord Tolerance or Angular Control can be modified in some advanced 3D software packages to change the resolution of your STL file export. Otherwise, in Meshmixer you can upload your STL file and re-export it using the **STL Binary Format** to reduce file size.



Good luck with the challenge.

WE CAN'T WAIT TO SEE YOUR MOLECULE!