TinkerCad

Start Here

1. Our notes are available through a browser:
   cs.oregonstate.edu/~mjb/tinkercad

2. The TinkerCad program is available through a browser too:
   www.tinkercad.com

3. You can create your own TinkerCad account. The advantage of this is that TinkerCad will keep your 3D creations in cloud storage so you can get at it later. If you are under 18 years old, have your parents help you.

4. If you want to use our educational account, use:
   User: mjb@engr.oregonstate.edu
   Password: corvallis72542
TinkerCad

TinkerCad is a free web-based CAD package from AutoDesk

It is a solid modeler, so you always have legal 3D objects suitable for 3D Printing

You get to it at: http://www.tinkercad.com/

Logging In

Do this to create a new account

Go here if you’ve already got an account

User: mjb@engr.oregonstate.edu
Password: corvallis72542
If you created a new account, then click here

The First Screen You See

Who you are

Designs you’ve worked on before
First Screen You See

Click here to start something new

TinkerCad's Build Screen

Your 3D scene

More things to build with

Standard 3D objects to build with
Moving the Scene around in 3D

• Rotate – right mouse
• Scale – scroll wheel
• Pan (translate) – middle mouse

You can also click over here

Un-do and Re-do are Your Best Friends Ever!

Control-Z also works as an Un-do
Start by Placing an Object into the Scene

With the left-mouse button down, drag something into the scene

The Small Symbols Let You do Things to the Object

Tip the object

The solid black arrow allows you to lift the object up in the air. Left-click in the object to move it left-right and in-out.

All the white dots allow you to change the size of the object in one or more dimensions

Rotate the object in the horizontal plane
Scaled, Lifted, and Tipped

Changing the Color

With the object selected, click here and select a new color.
Combining Objects

Take 2 objects and overlap them.

They might look like they are one object together, but they aren’t. You can tell by the overlapping edge lines and overlapping polygon colors here.

Combining Objects

Select both objects (left-click on one and then shift-left-click on the other) … and then click on Group.
Combining Objects

You can tell they are now one object because you see no overlapping edge lines here, and they are a single color.

Combining Objects

An even cooler trick – while the objects are overlapped, click on just one of them and then click on Hole. This makes that object a “negative object”.

Oregon State University
Computer Graphics
Combining Objects

Now shift-left-click on the other (not a hole) object, then click on **Group** like you did before. This causes the Hole object to take a “3D Bite” out of the other object. You can use this to make new shapes, or can even create holes through shapes.

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Changing the Name of Your Design

When you start a new design, TinkerCad gives it a funny name. This is OK, but if you want to give it a more descriptive name, click on the funny name and type in a new one:
Geometric Primitives

These are the standard built-in objects that you can use.

Other Stuff

- Solid letters and numbers
- Solid symbols
- Solid goofy things
- Shapes where you can enter information about them (includes state outlines!)
- Shapes donated by other users (includes some good text-input objects)
- A place to store your favorite shapes
A way to bring in files from somewhere else

Write your design out to use it somewhere else, including 3D Printing

Most 3D Printers want an **STL** file.

You’ll then be given the opportunity to save the **.stl** file somewhere.
Not Sure Where to Start? Try One of These

Something New: Scribbling

With the left-mouse button down, drag the Scribble icon into the scene
Something New: Scribbling

The screen changes to this:

Grab this icon and, well, scribble with it

Something New: Scribbling

3D Preview

Your scribble

Click **Done** when done
From there on, it acts like any other 3D object

Here you are subtracting a cylinder from your 3D Scribble.