Start Here

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

2. The TinkerCad program is available through a browser too:
   http://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, get your parents’ permission and have them help you.

4. To use our account, use:
   User: mjb@eecs.oregonstate.edu
   Password: awsem72542
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

Start Tinkering
How will you use Tinkercad?

In school?

Educators, visit here

Students, Join a class

Do your own

Create a personal account

Already have an account? Sign In

Nope, don’t go here

No, not here either. Don’t ever create your own new account on anything without your parents’ permission!

Yes, go here!
Logging In

Welcome back
How will you sign in?

Students in your class
Email or Username
Sign in with Google
Sign in with Apple
More sign in options...

Don’t have an account yet?
Join Tercad

To use our account, enter:
Username: mjb@eecs.oregonstate.edu
Password: awsem72542

The First Screen You See

Who you are
Designs this account has worked on before
First Screen You See

Click here to start something new

More things to build with

Standard 3D objects to build with

Your 3D scene
**Moving the Scene around in 3D**

You can also click or touch over here

*If you have a mouse:*
- Rotate – right mouse button
- Scale – scroll wheel
- Pan (translate) – middle mouse button

*If you don’t have a mouse:*
- Rotate – touch and move the blue plate, or touch and rotate this cube
- Scale – pinch on the plate, or touch the + and - buttons
- Pan (translate) – two-finger touch on the blue plate

**Un-do is Your Best Friend Ever!**

If you have a keyboard, Control-Z also works
Start by Dragging an Object into the Scene

With your finger or the left-mouse button, drag a shape into the scene

The Small Symbols Let You do Things to the Object

This curved arrow allows you to tip the object

The solid black arrow allows you to lift the object up in the air.

Touch or 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

This curved arrow allows you to 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 (touch both, or 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.

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”.
Combining Objects

Now select both objects again, 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.

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.

Not Sure Where to Start?
Try One of These
With the left-mouse button down, drag the Scribble icon into the scene.

The screen changes to this:

Grab this icon and, well, scribble with it (duh)
Something New: Scribbling

From there on, it acts like any other 3D object

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

1. Select and drag **Text**
2. Type your text in here

### 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 Shape Generator is a way of making different versions of a shape by interacting with a dialog box.

The Fidget Spinner is in here

States and countries are in here

States and countries are in here
Writing Your Design out for a 3D Printer

Select the object and click on Export, which says that you are trying to give your object away.

Most 3D Printers want an STL file, so then click here and tell TinkerCad where you want this file saved.
More Fascinating Features

You especially want to check these out!
More Fascinating Features

Also worth checking out!