If you have not signed up for Lynda yet:

- Go to camb.ma/lyndacpl
- Enter your library card number and PIN, then your name and email address.

If you have not signed up for Tinkercad yet:

- Go to www.tinkercad.com
- Click Sign Up and follow the steps to create an account.

Introduction (6:00 - 6:20)

Coursework (6:20 - 7:40)

- Go to camb.ma/lyndacpl
- Enter your library card number and PIN.
- Search for the course titled “Learning Tinkercad.”
- Watch the following chapters.

Introduction

- Welcome
- Using the exercise files

1. Tinkercad Overview
   - Introducing Tinkercad
   - Learning the interface
   - Navigating in Tinkercad
     - Add 3 objects to your workplane.
     - Fit each object into view (select object and press “f” key).
     - Orbit around your objects (using right mouse button).
     - Pan across your workplane (ctrl + shift + drag).
   - Understanding orthographic perspective
     - Switch your workplane to orthographic mode.
     - Switch your workplane back to perspective mode.
     - Delete all of your objects.
   - Setting up the grid
     - Place an object in the workplane.
     - Change the snap grid to 5.0 mm.
     - Change the snap grid back to 1.0 mm.

2. Adding and Modifying Shapes
• Adding and moving 3D shapes
  o Move your object around the workplane using the arrow keys.
  o Move your object around the workplane by a x10 increment. (shift + arrow keys)
  o Move your object up in space (using the black cone).
  o Move your object up and down in space (using ctrl + ↑/↓).
  o Drop your object to the workplane (press “d” key).

• Scaling and changing dimensions
  o Change the width, length, and height of your object using the grips.
  o Resize your object while keeping the center of the object stationary (alt + drag).
  o Change the dimensions of your object back to 20 x 20 x 20.
  o Scale your object uniformly (shift + drag).

• Using shape controls
  o Change the dimensions and radius of your object using the shape controls.
  o Add another object to your workplane.
  o Lock your object (ctrl + l).
  o Hide your object (ctrl + h).
  o Unhide your objects (ctrl + shift + h).

• Rotating 3D shapes
  o Rotate one of your objects (using the curvy arrows).
  o Rotate one of your objects in 45° increments (shift + drag with curvy arrows).
  o Practice rotating your object on the other 2 axes.

• Selecting strategies
  o Add a third object to your workplane.
  o Select all the objects (using ctrl + a).
  o Select all the objects (using a bounding box).
  o Select 2 of the objects, one at a time (hold down shift + click).

3. Using 3D Tools
• Using the workplane
  o Open the workplane tool (press “w” key) and place it on top of one of your objects.
  o Drop another object on top of the first object.
  o Reset the workplane (drag + drop the workplane anywhere, or press “w” and click anywhere).

• Measuring with the ruler
  o Place a ruler on the workplane (press “r” key).
  o Set the midpoints of two objects 40 mm apart.

• Grouping and ungrouping
  o Place 3 objects onto your workplane and arrange them as the video shows.
  o Select all 3 objects. Copy and paste them and move them apart.
  o Group both sets of objects using the 2 methods shown.

• Using hole shapes
  o Create a cylinder with a hole in its center.
  o Create a crescent-shaped object.
**Group Expectations (7:40 - 7:50)**

- Do you want to work through activities as a group, with a partner, or on your own?
- Do you want to commit to doing work outside of the Learning Circle?

**Plus/Delta (7:50 - 8:00)**

- What is one thing that went well for you today?
- What is one thing that you would like to change for next week?