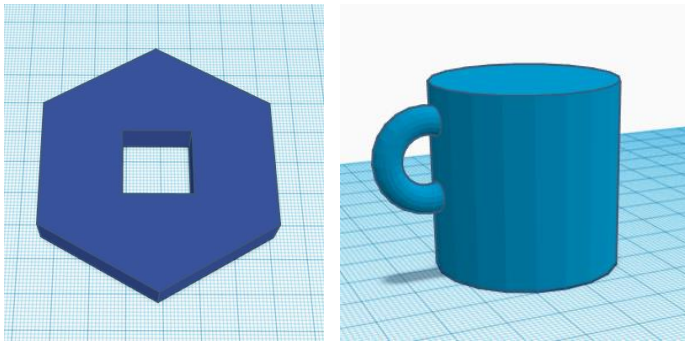


**Cambridge Public Library
Learning Circle: Introduction to 3D Printing
Week 2**

Check-in (6:00 – 6:10)

Review (6:10 – 6:30)

By yourself or with a partner, try to create the following shapes using what we learned last week.



Coursework (6:30 – 7:15)

(Continued from Chap. 3)

- **Aligning shapes**
 - Drag a series of letters to your workplane.
 - Align the letters along any axis (press “l” key).
 - Align a cube and a sphere along all three axes using the 2 methods shown.
- **Using the Flip tool**
 - Place a letter or number on your workplane.
 - Mirror the symbol over your preferred axis (press “m” key).
- **Color and transparency**
 - Overlap 2 objects and make one of them transparent (press “t” key).
- **Measuring with a ruler**
 - Place a ruler on the workplane (press “r” key).
 - Set the midpoints of two objects 40 mm apart.

4. Duplicating and Creating Patterns

- **Copying shapes**
 - Place 3 pyramids on your workplane and resize as shown in video.
 - Copy and paste each pyramid (ctrl + c, ctrl + v)
 - Try copying and pasting a pyramid from various views.
- **Duplicating shapes**

- Place a pyramid on your workplane.
- Duplicate the pyramid (alt + drag).
- Duplicate the pyramid and constrain the motion on one axis (alt + shift + drag).
- Create a rotated copy of the pyramid (alt + rotate grips).
- Duplicate the pyramid using the keyboard shortcut (ctrl + d).
- Duplicate your entire design document.
- **Creating linear patterns**
 - Create a linear pattern of a shape of your choice.
 - Try incorporating the flip tool into a duplication. Be creative!
- **Creating circular patterns**
 - Arrange a word of your choice into a circular pattern.
 - Arrange a word into a helix shape.
- **Creating scaled patterns**
 - Create a series of shapes descending in size.

Independent/Partner Work (7:15 – 7:45)

For guided projects and inspiration, go to: **Tinkercad homepage > Learn > Lessons > See all lessons**

Plus/Delta (7:45 – 8:00)