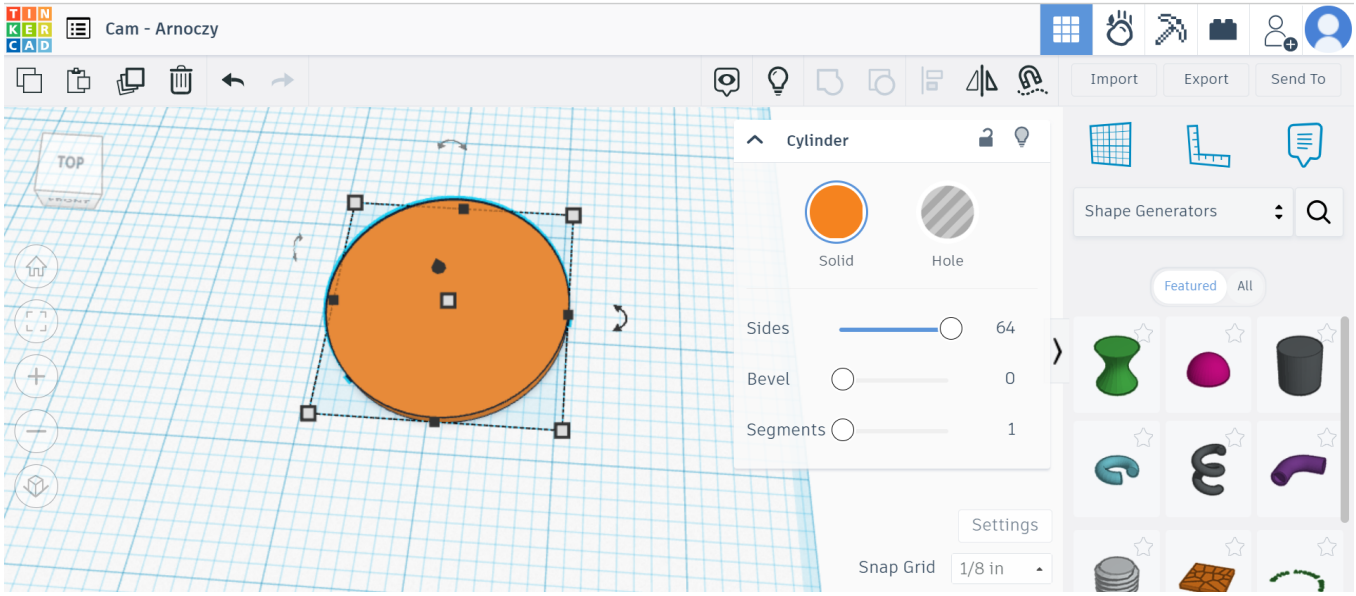
Tinkercad - Make an Automata Cam

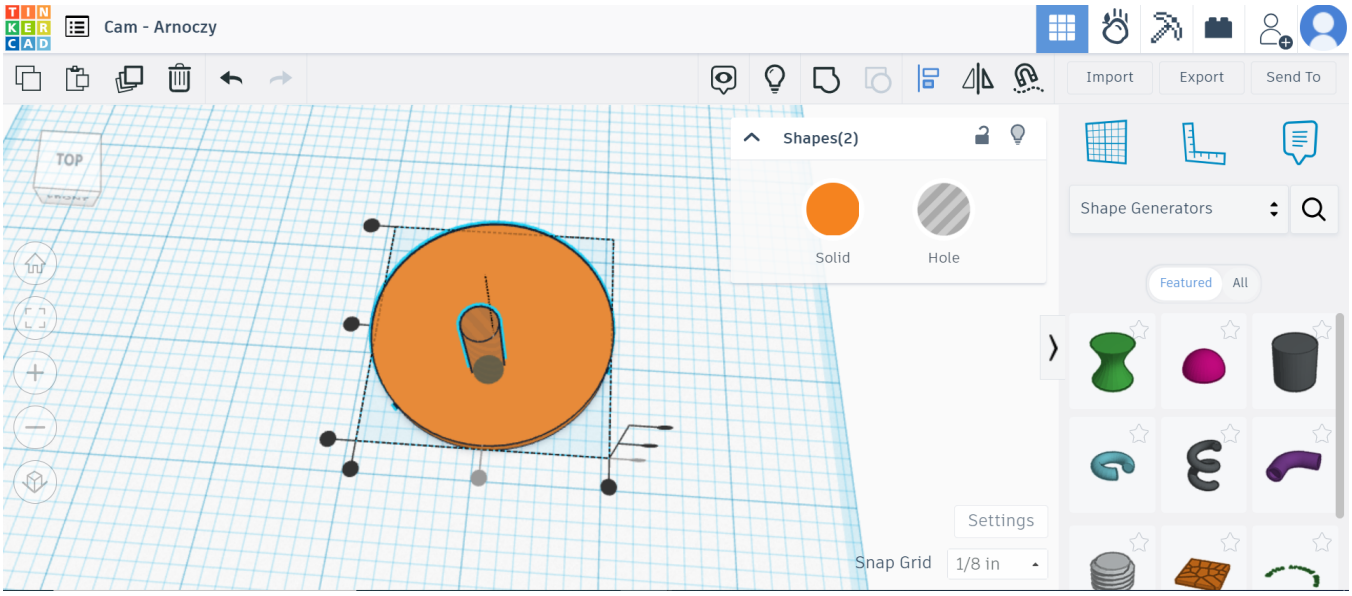
Week 1

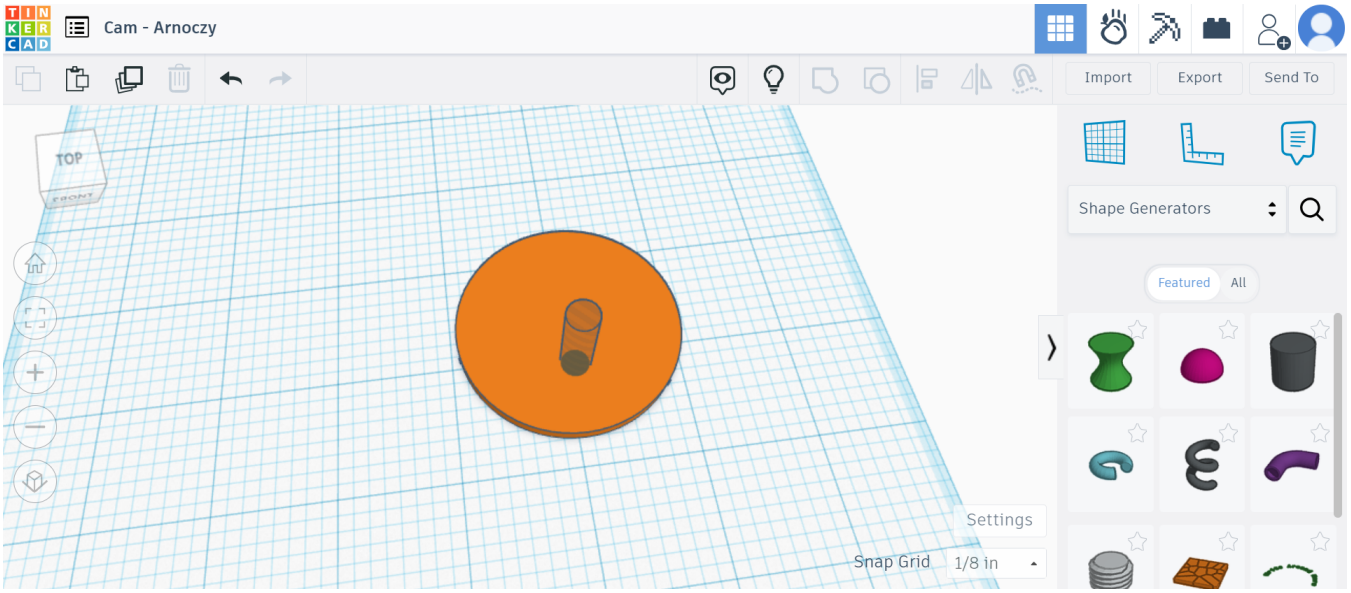
1. Open the TinkerCAD dashboard, go to the Cam Activity and create a new 3D design.
2. Rename your design with “Cam - Your name”. For example, Jordan Gray would name the design, “Cam - Jordan” or “Cam - Jordan G”.
3. If the units do not default to “inches”, go to Settings in the lower right-hand corner and change the units from mm to inches. Click the X to close Settings.
4. Pick a **Cylinder** in the shapes field on the right and place it on the field.
5. Increase the number of sides on the **Cylinder** to 64. This will make the **Cylinder** smoother.
6. Change the size of the **Cylinder** to 2” long x 2” wide x .125” tall.
7. Click True in the Warm-up Quiz.



Week 2

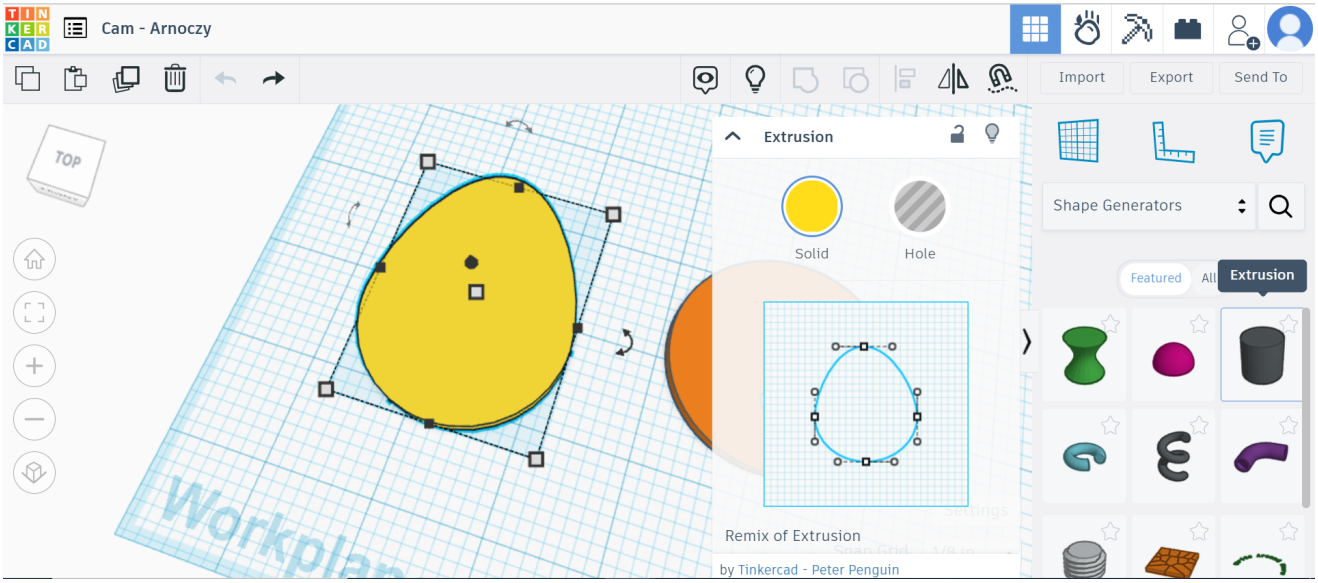
1. Open the TinkerCAD dashboard, reopen your Cam design.
2. Bring a **Cylinder Hole** onto the field.
3. Resize the **Cylinder hole** to 0.25” long x 0.25” wide x 1” tall.
4. Align the **Cylinder Hole** and the **Cylinder** so that they are centered on each other.
5. Move the **Cylinder Hole** so that it is off-center - this will make an Eccentric Cam.
6. Group the **Cylinder** and the **Cylinder Hole.**
7. Click True in the Warm-up Quiz





Week 3

1. Open the TinkerCAD dashboard, reopen your Cam design.
2. In the Shapes Library, go to the bottom and choose Shape Generators.
3. Choose the **Extrusion** object at the top right and bring it onto the field.
4. Change the size of the **Extrusion** to 2” long x 2” wide x 0.125” tall.
5. In the **Extrusion** editor, there is a small box that allows you to change the shape of the object.
6. Take a minute or so to play around with the shape of the **Extrusion**; you can undo your changes when you are done.
7. Make the **Extrusion** look like an egg.
8. Click True in the Warm-up Quiz



Week 4

1. Open the TinkerCAD dashboard, reopen your Cam design.
2. Choose another **Cylinder Hole** and bring it onto the field.
3. Change the size of the **Cylinder Hole** to 0.25” long x 0.25” wide x 1” tall.
4. Center the **Cylinder Hole** onto the **Extrusion**.
5. Offset the **Cylinder Hole** into the wider portion of the **Extrusion.**
6. Group the **Cylinder Hole** and the **Extrusion.**
7. Click True in the Warm-up Quiz