



Straw support Fusion 360

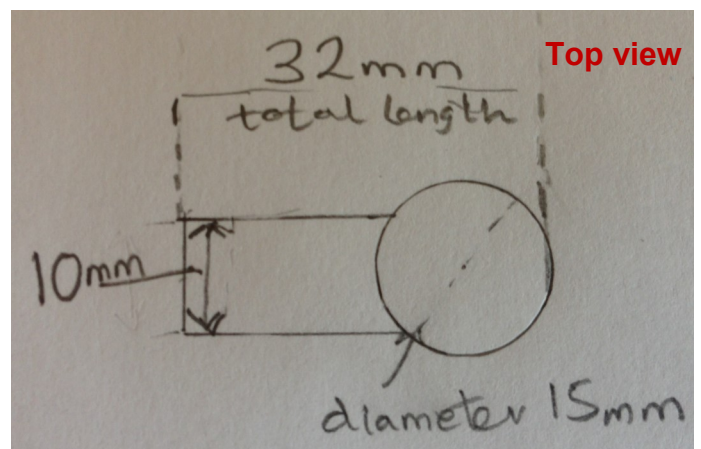
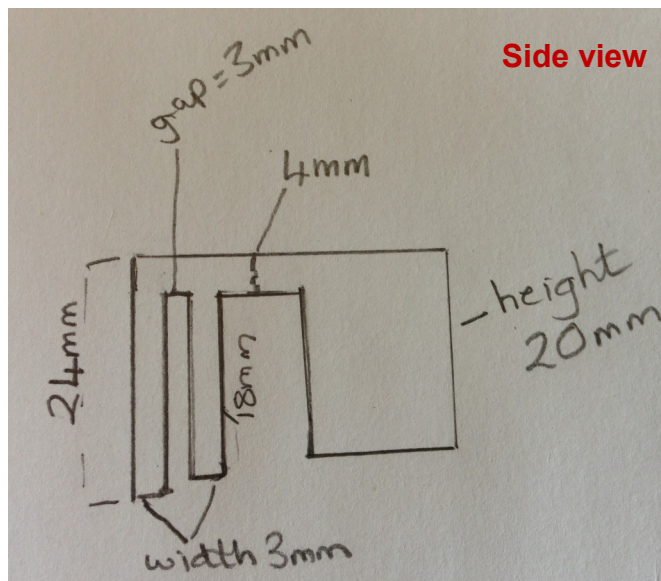


Before using these instructions, watch the video screencast of the CAD drawing actually being done in the software. [Click this link for video tutorial](#)

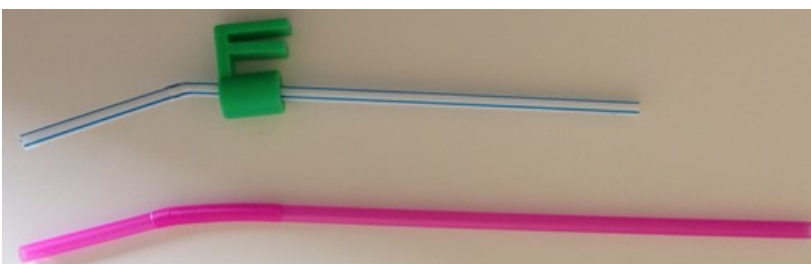
This design works on a variety of glasses/mugs – straight sided, angled and champagne flute. The gap between the prongs is 3mm, but there's enough flex in the plastic for it to work on slightly thicker rims.



Key measurements before starting your CAD drawing for the straw support



Making the right size hole for the straw



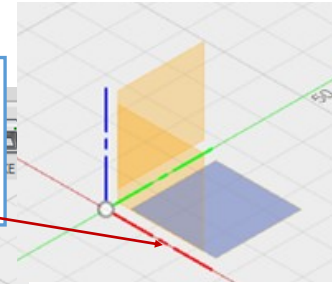
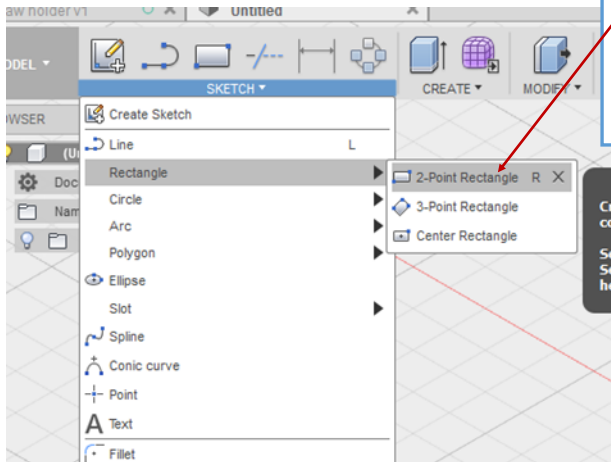
Note, tolerances vary on different 3D printers, so you may need to add a different amount on to your straw diameter for your printer to produce the correct hole size.

Check the diameter of your straw. Standard supermarket straws are 5mm diameter and around 220mm long (like blue striped one). Extra long straws are 6mm diameter around 280mm long (like the pink one).

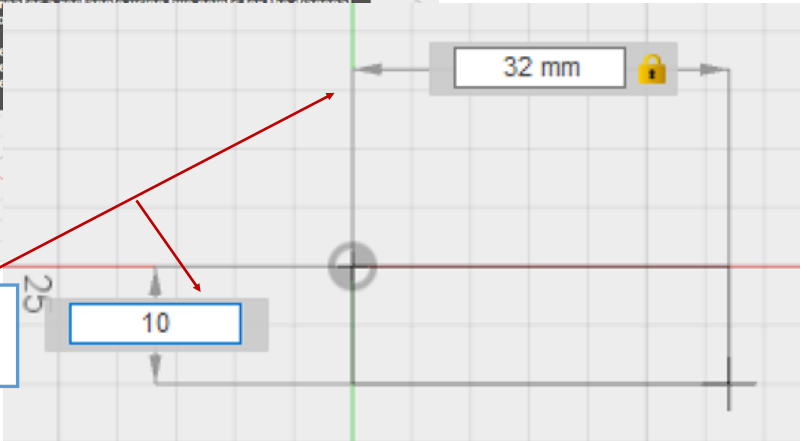
Make the straw hole about 0.2mm bigger than the straw diameter so the hole has adequate room to push the straw in and out, whilst still gripping the straw enough to keep it in place. So, 5.2mm for the standard straw and 6.2mm for the long straw.

Sketching the outline of your straw support

1 Select Sketch Rectangle, 2 Point Rectangle, then click on the XY plane to start sketching.

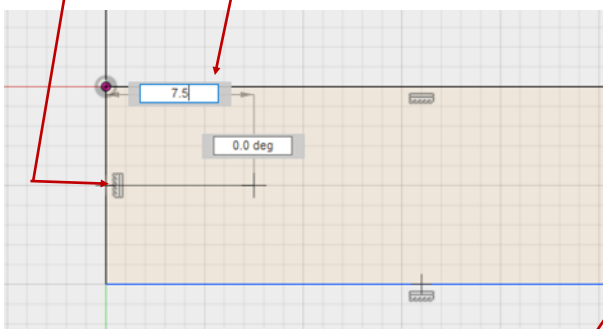
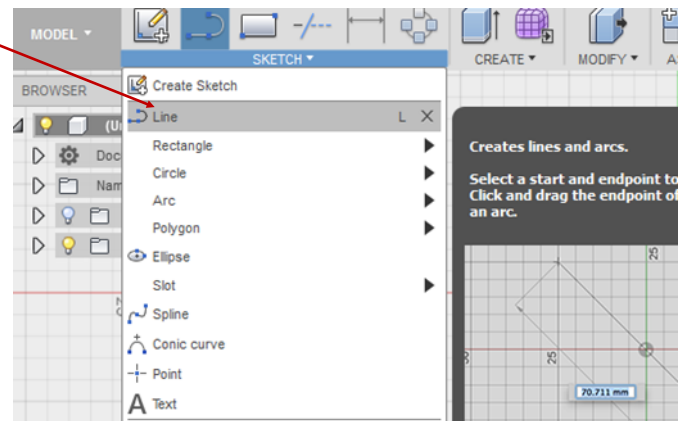


2) Make your rectangle 32mm x 10mm and press Enter to finish the rectangle.

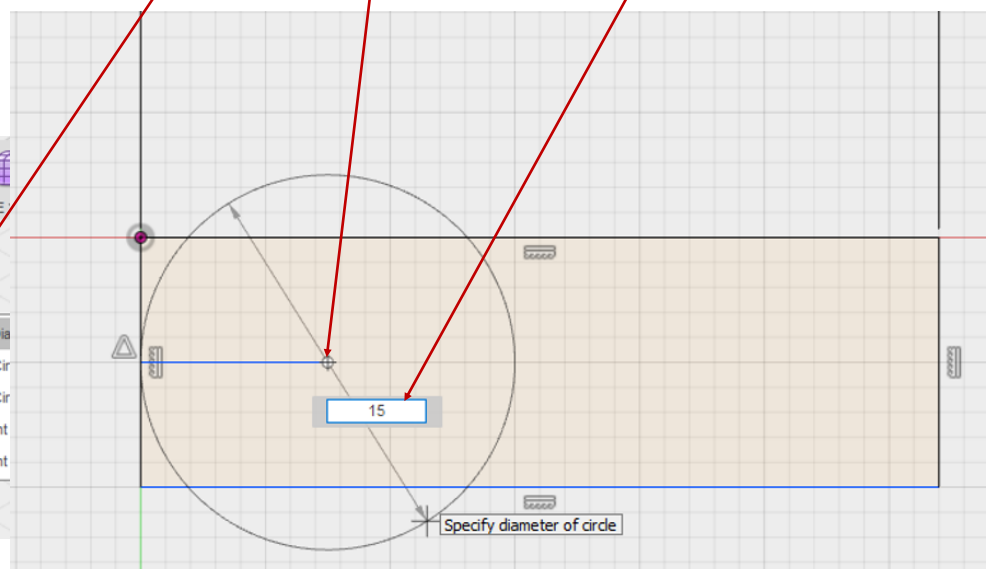
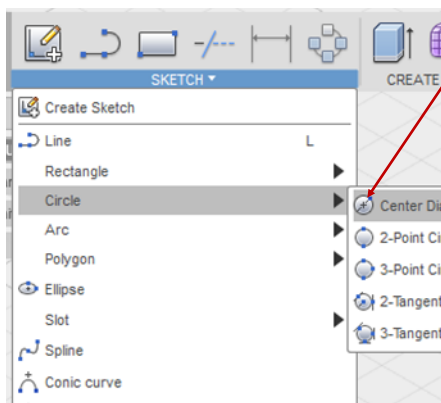


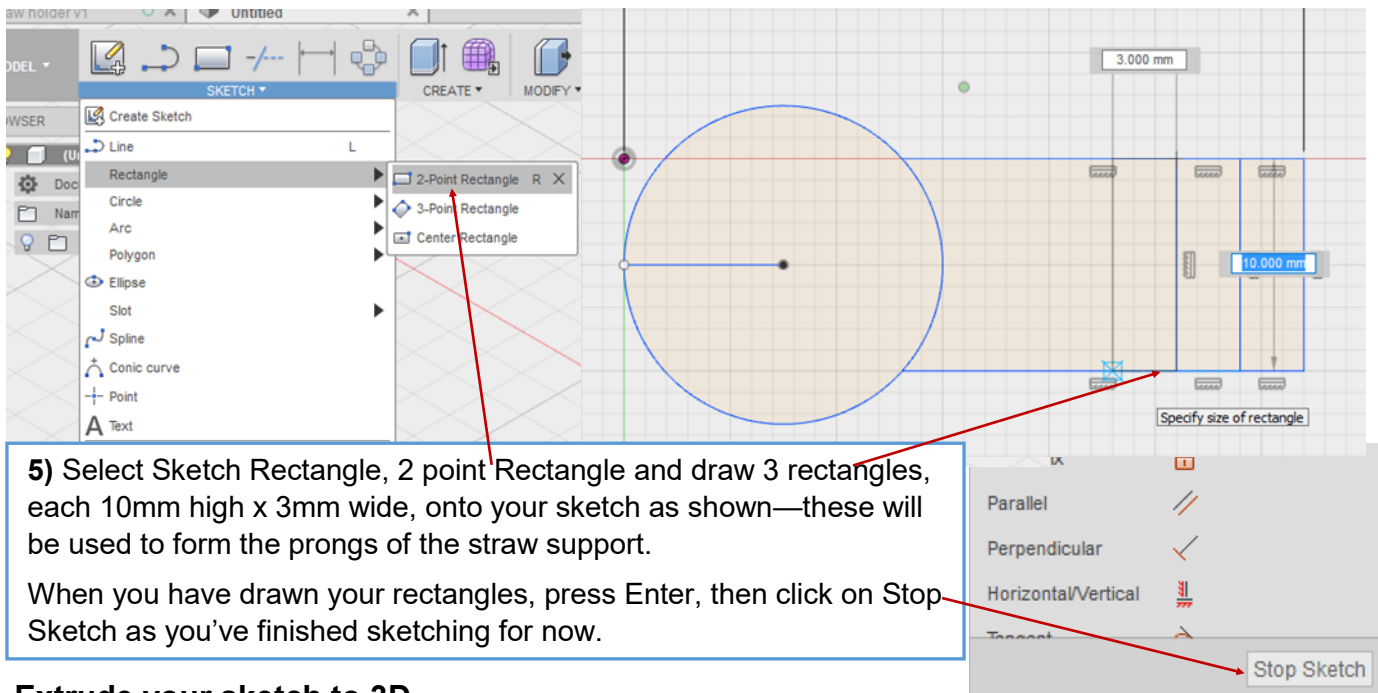
3) Select Sketch Line (or keyboard shortcut L) and starting at the centre marker of the shorter side, draw a line 7.5mm long, press Enter to finish the line.

This line will be used as a guide for drawing the circle in point 4) below.

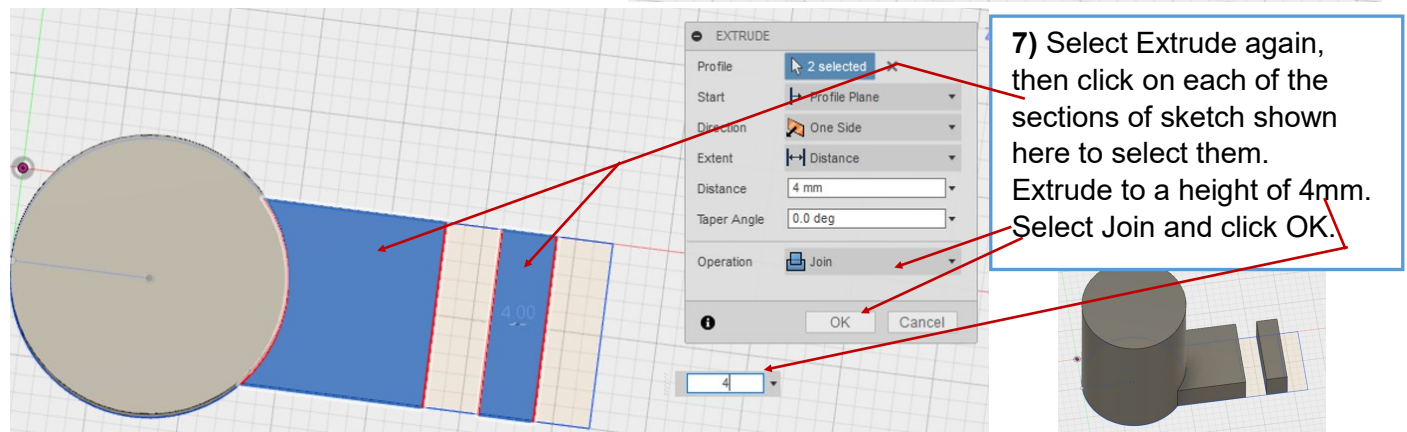
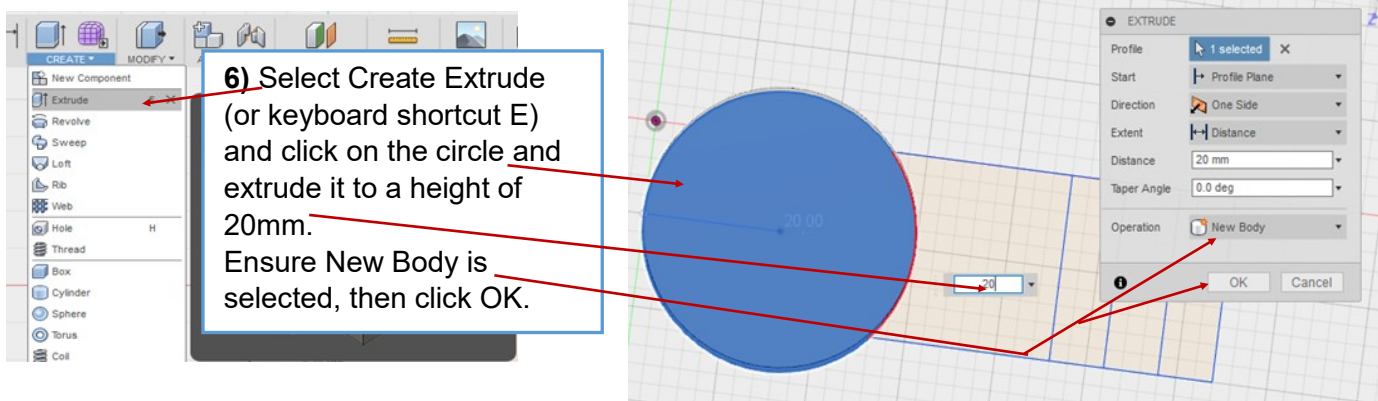


4) Select Sketch, Circle, Center Diameter Circle, and starting at the end of the line you just drew, make your circle a diameter of 15mm (radius 7.5mm), press Enter to finish your circle.



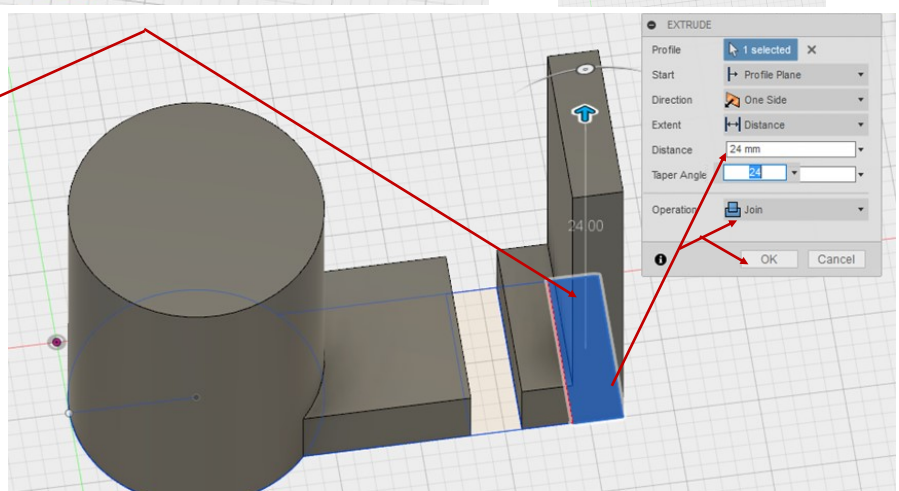


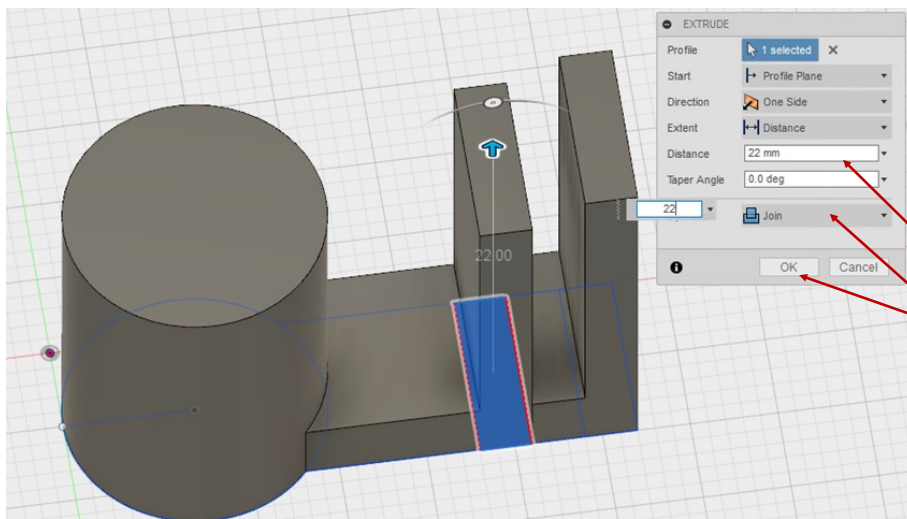
Extrude your sketch to 3D



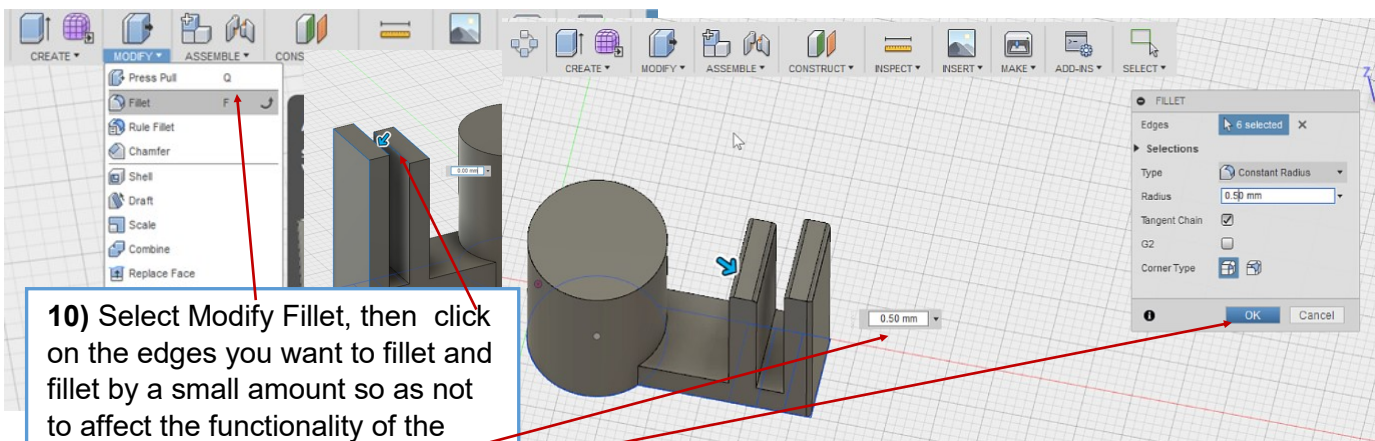
8) Select Extrude again, then click on the end rectangle sketch to select it. Extrude to a height of 24mm. Select Join and click OK.

This will form the outer prong of the straw support.



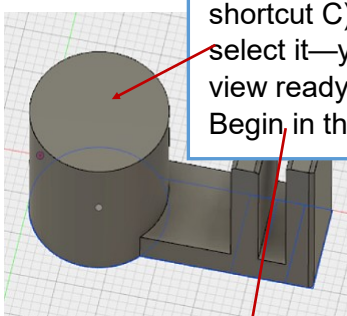


9) Now form the inner, shorter prong of the straw support. Select Extrude again, then click on the inner rectangle sketch to select it. Extrude to a height of 22mm. Select Join and click OK.



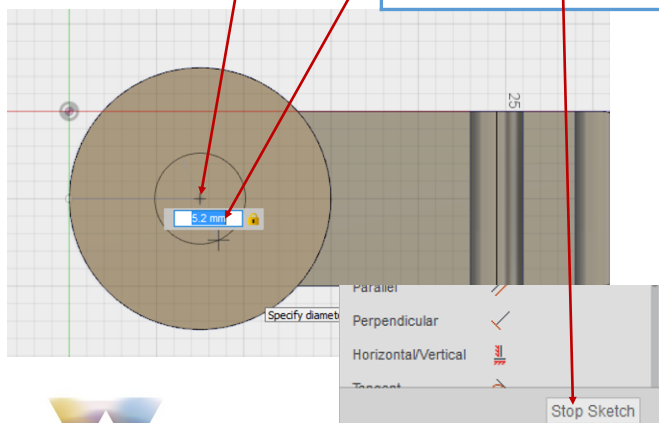
10) Select Modify Fillet, then click on the edges you want to fillet and fillet by a small amount so as not to affect the functionality of the straw support—e.g. 0.5mm. Click OK to finish.

Making the hole for the Straw

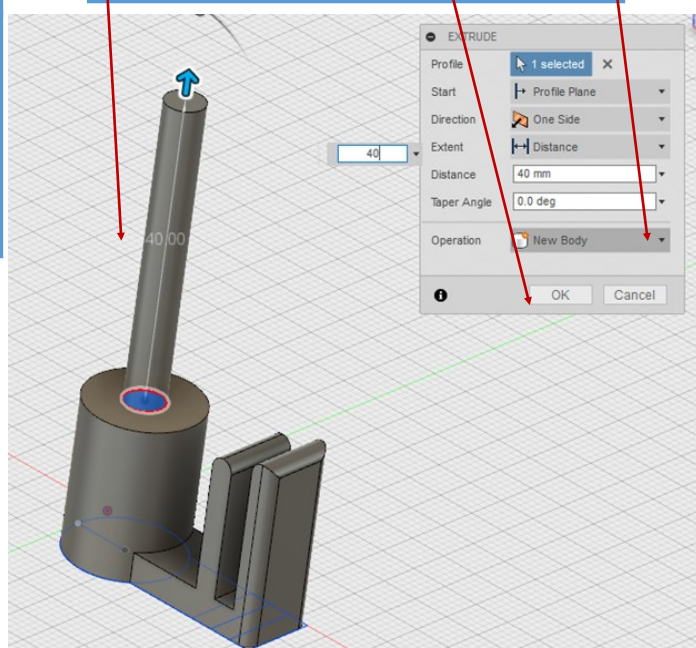


11) Select Sketch, Circle, Center Diameter Circle (or keyboard shortcut C), click on this surface to select it—you will go into TOP view ready to start sketching. Begin in the centre and draw a

circle the correct diameter for your straw—5.2mm here. Press Enter to finish your circle. Then Stop Sketch.



12) Select Create, Extrude (or just press keyboard shortcut E). click on your circle and extrude to make a tall cylinder — **ensure New Body is selected** here so that this cylinder can be moved around and is not joined to the straw bung. Click OK



Moving the cylinder to the correct position to cut the hole for the straw

