

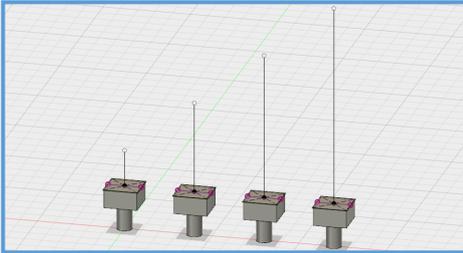


Skyscraper Game Pieces Fusion 360 Tutorial



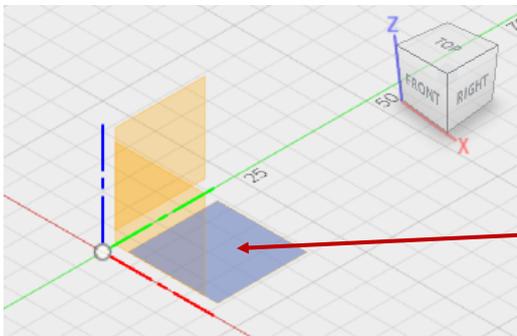
Before using these instructions, it is helpful to watch this video screencast of the CAD drawing actually being done in the software. [Click this link for Video instructions](#)

Overview

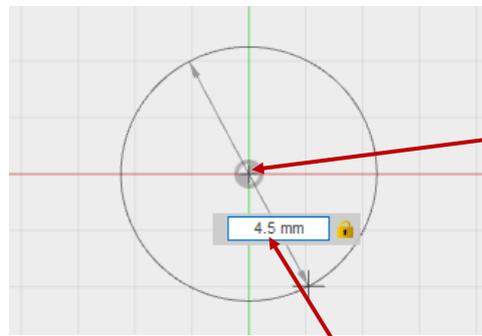


This tutorial shows you how to create the base of the game pieces for the Skyscraper game. I will show an example of one of the buildings I created. Then you should be able to create your own buildings. It is important that you have 4 different size buildings! All will have a 10mm by 10mm size base but the smallest should be about 10mm tall and the tallest should be about 40mm tall.

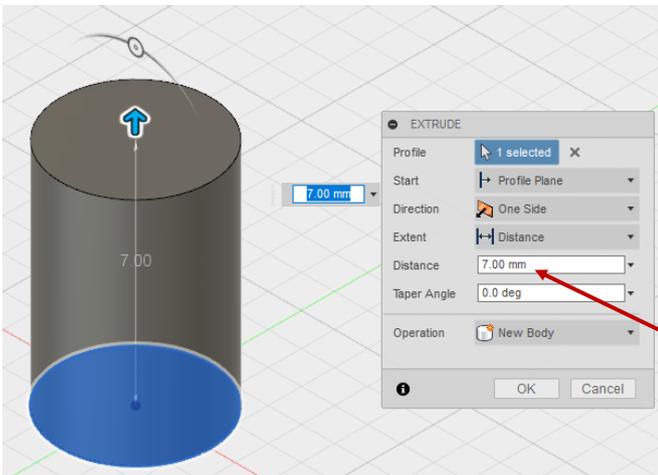
Creating the Base



1) Press "C" to get circle tool. Then select the top plane to sketch on.



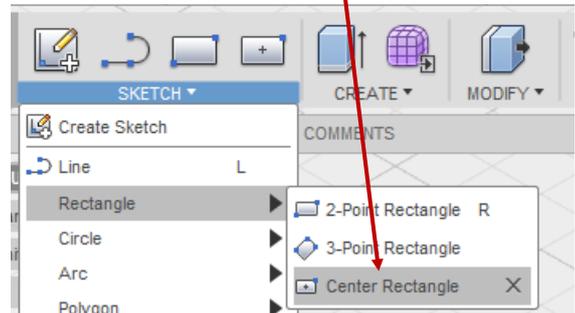
2) Starting from the centre point create a 4.5mm wide circle.



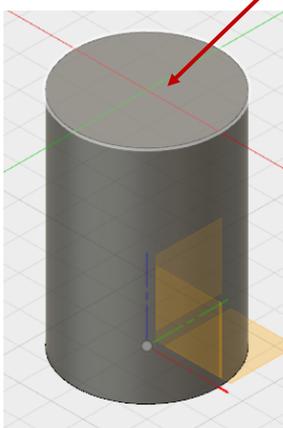
Note: If you remember the hole we made in the board was 5mm wide. Therefore in order to have the base of the piece fit comfortably in the hole, it needs to be smaller. That is why the diameter of the circle is 4.5mm and not 5mm.

3) Extrude your circle to a height of 7mm.

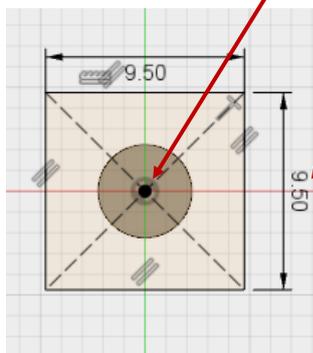
4) Activate the "Centre Rectangle tool."



5) Sketch on the top face of the cylinder you just made.

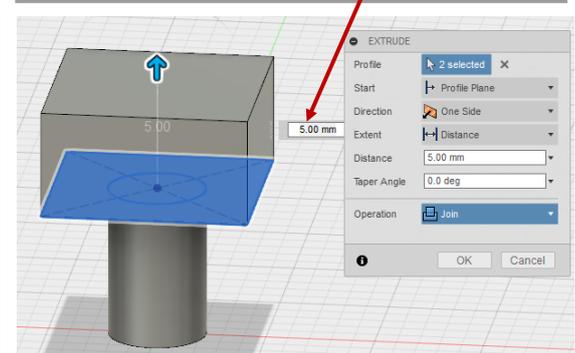


6) Starting from the centre point make a 9.5mm square.



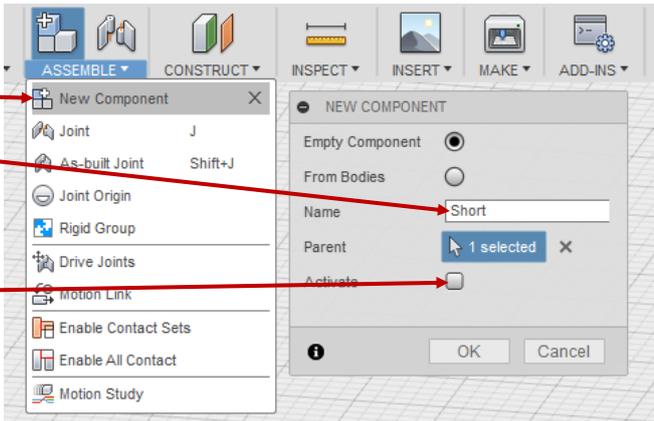
Note: The square is 9.5mm wide for the same reason the circle was made 4.5mm wide.

7) Extrude square to a height of 5mm

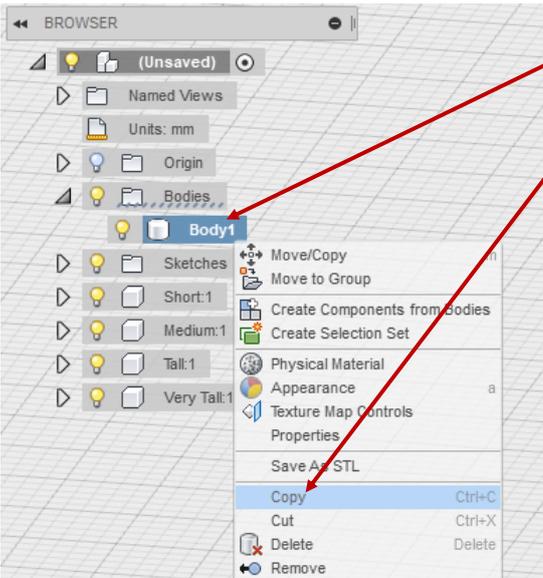
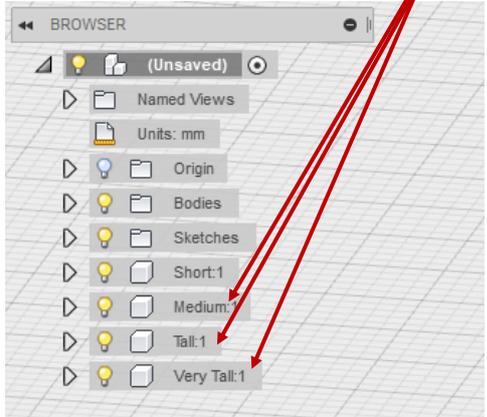


Creating Copies into New Components

8) Create a new component. Give it a name, I've called mine "Short". Uncheck the activate box. Then click "OK".

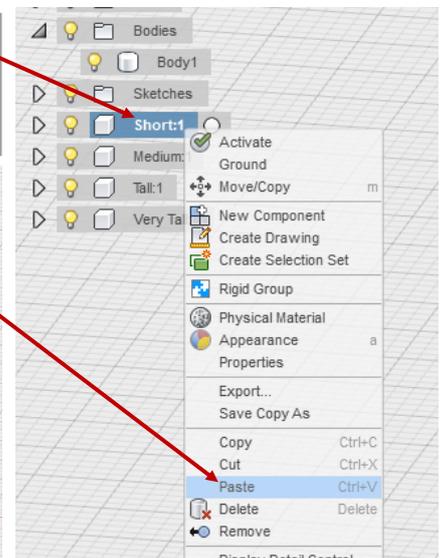
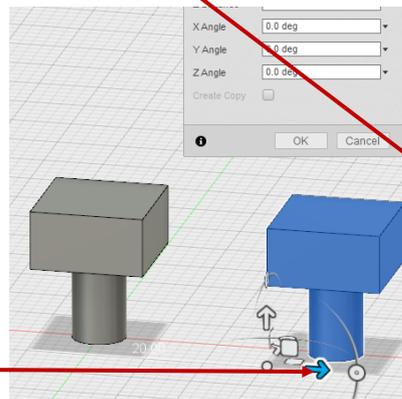


9) Create three more components. Give each a different name. They should appear in your browser.

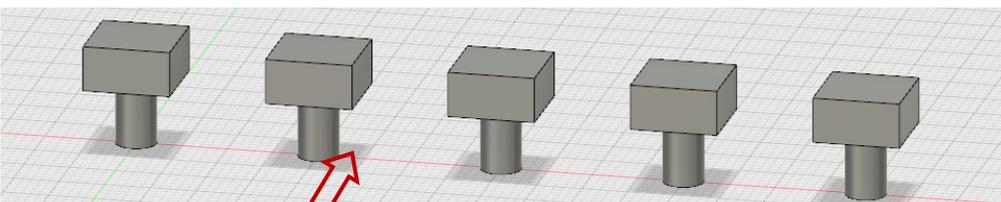


10) Go to the "Bodies" folder and right click the Body. Select "Copy".

11) Now right click on your first component and select "Paste".

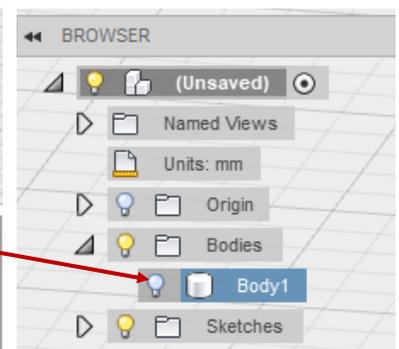


12) Use the arrow to drag the copy to the right, about 20mm away.

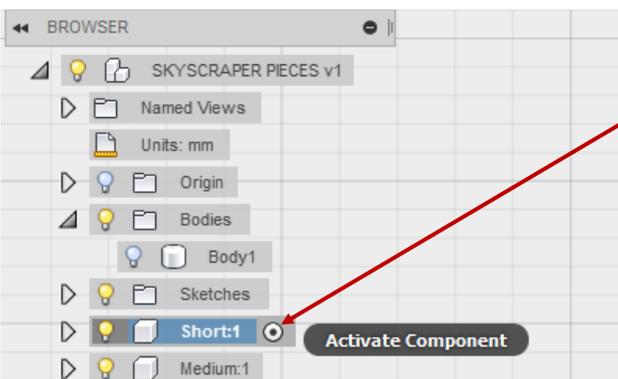


13) Paste the body into the other 3 components. You should have 5 identical bases on your screen.

14) Turn off the light bulb of the body that you copied. You should now have 4 bases visible on your screen.

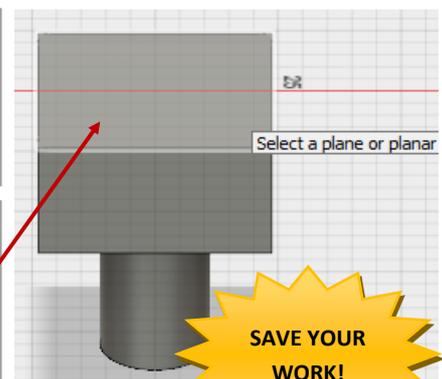


Setting the Limits of the Buildings



15) Click on your first component and make it active by clicking the circle.

16) Activate the centre rectangle tool and select the top face of the base.



17) Create a 10mm square starting your sketch from the centre point.

18) Click "STOP SKETCH"

19) Press "L" to initiate line tool. Select the front plane.

20) Starting from the top of the base draw a vertical line 10mm in length.

21) Now activate the next component and repeat steps 16 - 20. For your second component make the line 20mm in length. Then 30mm for the third component and 40mm for the fourth.

The square and the line indicate the boundaries in which you can create your buildings. Meaning make the width of your buildings around 10mm and height around the height of the line for that component.

Example - Creating a Bungalow Building

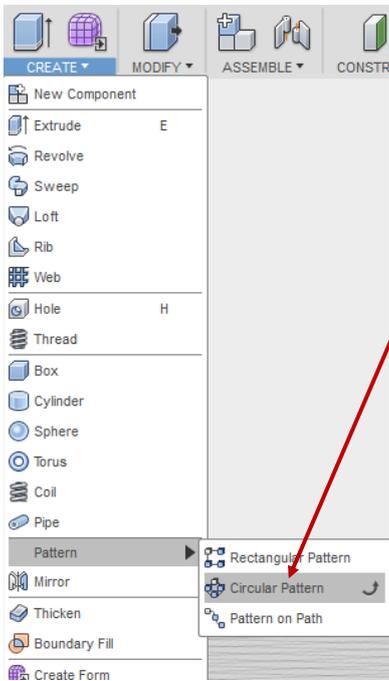
Now it's time for you to design and make your buildings. Ensure you stick to the boundaries of your square and vertical line. If you want some help or ideas in creating your building, read on as I show you how I created my smallest building, "Bungalow". Or you can just start creating your own buildings now!

22) Activate your smallest building component. In my case that is the one I called "Bungalow".

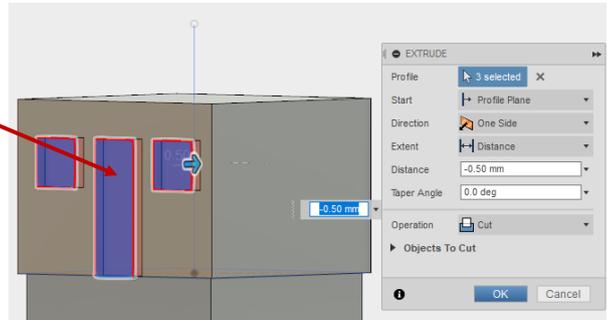
23) Extrude the 10x10mm square base upward to 7mm. Ensure you make the "Operation" a "New Bodies".

24) Initiate the 2-point rectangle tool then select the front face of your extruded feature to sketch on it.

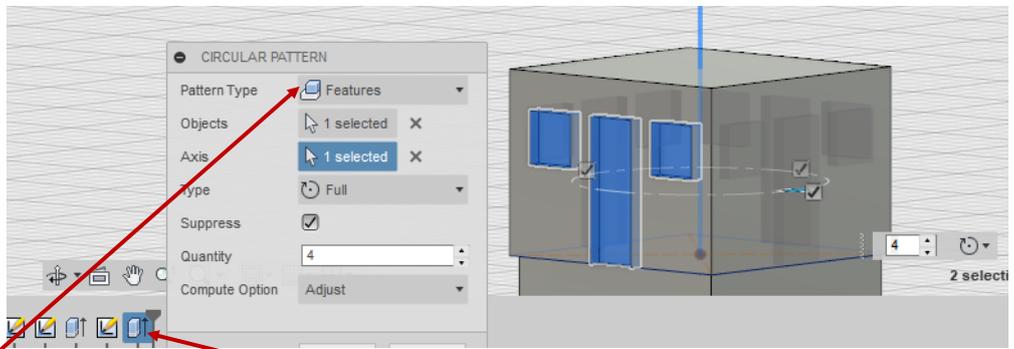
25) Sketch a door and some windows.



26) Press "E" then cut the door and windows into the body of the building by 0.5mm.

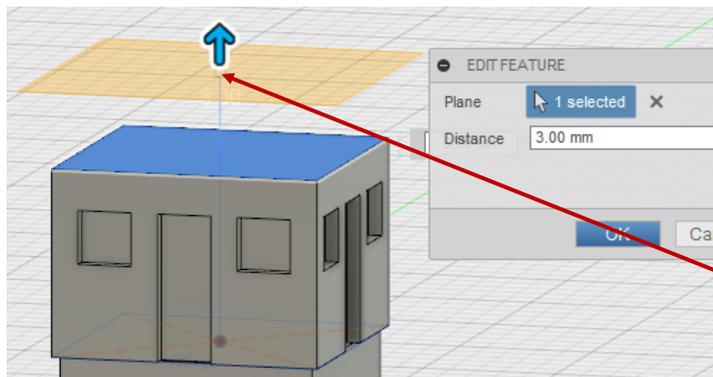
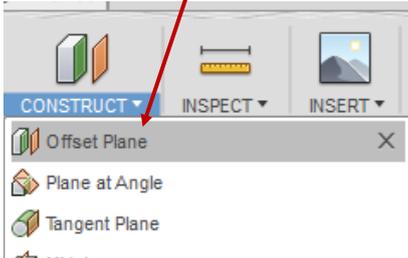


27) Go to "CREATE" then "Pattern" and select the "Circular Pattern" tool

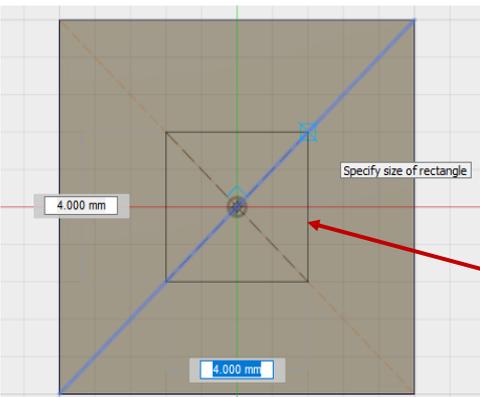


28) Change the "Pattern Type" to "Features" then select the last feature in you timeline (this is the cut you just preformed). Then make the vertical line the axis. Change the quantity to 4 then click "OK".

29) Go to "CONTRUST" then select "Offset Plane".



30) Click on the top plane of the building then use the arrow to raise the plane so that it touches the top of he vertical line. Click "OK".

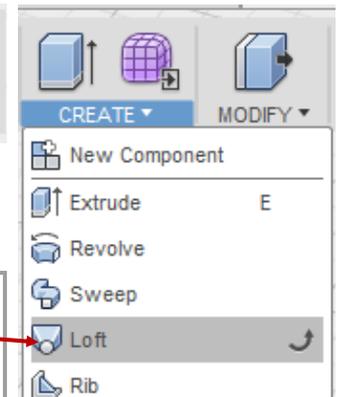


31) Initiate the centre rectangle tool the sketch it onto the plane you just made. Create a 4x4mm square starting from the centre of the building.

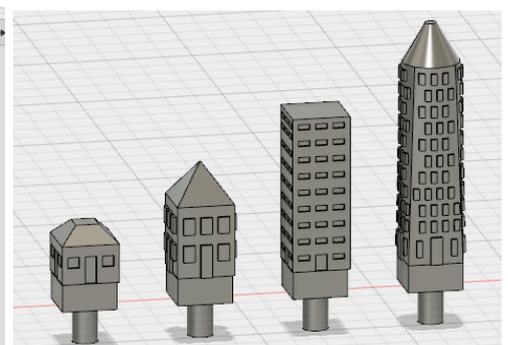
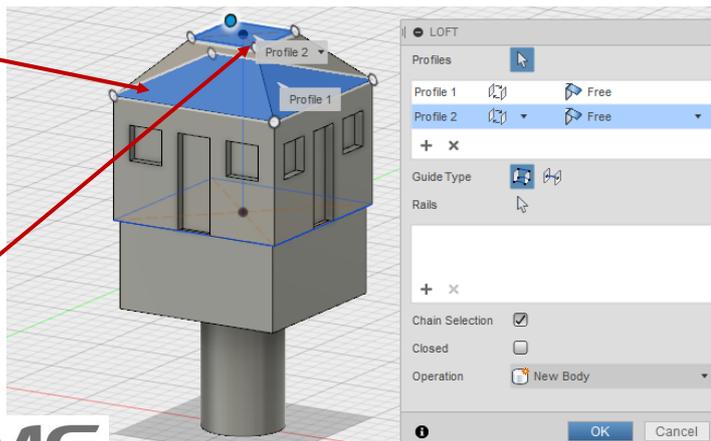


32) Click "STOP SKETCH".

33) Go to "CREATE" then select the "Loft" tool.



34) First click on the top face of the building then the 4x4mm square. Click "OK".



Now have fun creating your other buildings!