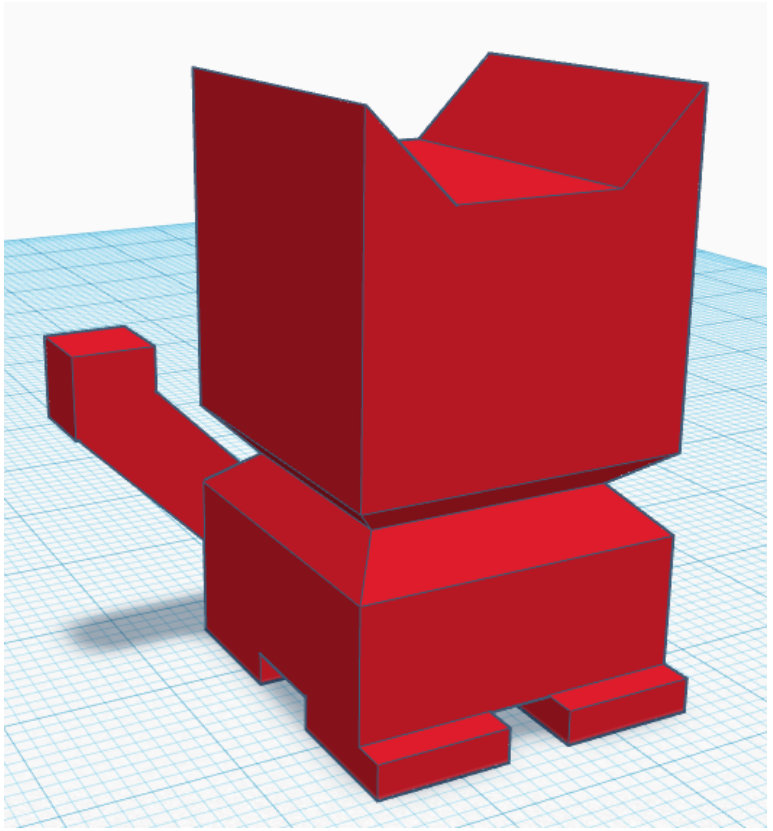
3D PRINTING

Basic skills project.



Name ……

Group ……

Term ……

Produced by A Bentall 2021

GET TO KNOW YOUR 3D PRINTER

What health and safety precautions need to be observed when using a 3d printer?

1 …… 3 ……

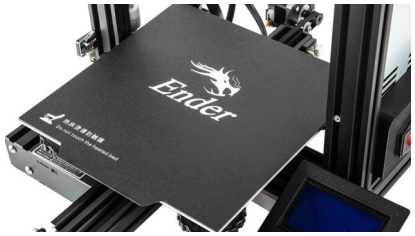
2 …… 4 ……

What are the following Axis

Z ……

X ……

Y ……



Part name

……

Equipment name

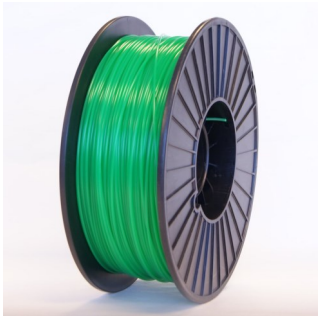
……

Part name

……

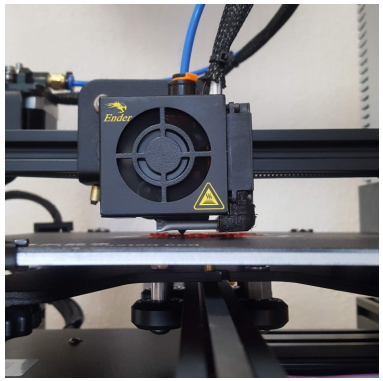
What is the name of the code that the 3d printer uses to print?

……



Part name

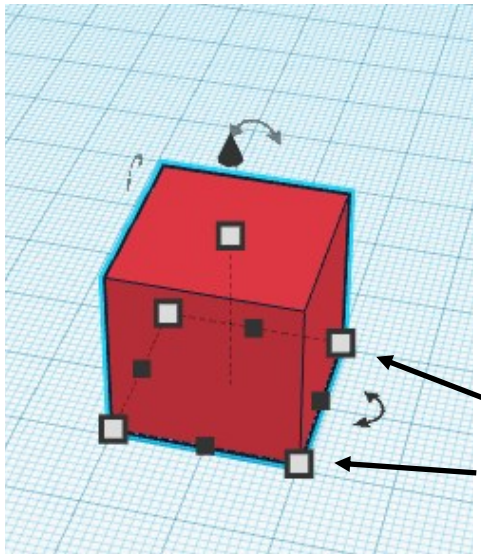
……



Part name

……

TINKERCAD BASICS



What does the cone at the top of the box do?

……

……

What does the white box at the top of the red box do?

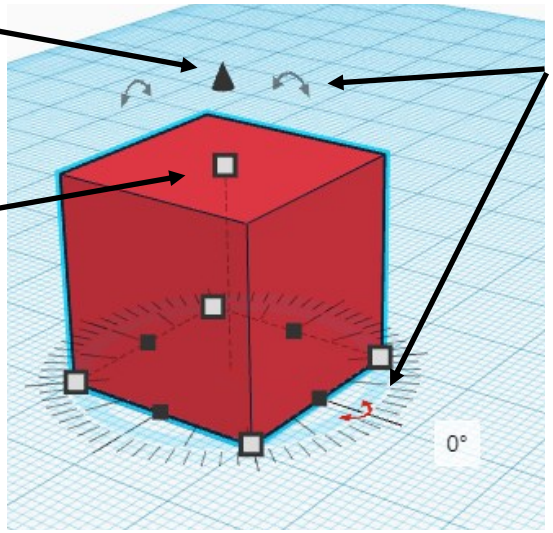
……

……

What do the boxes at the bottom of the red box do?

……

……

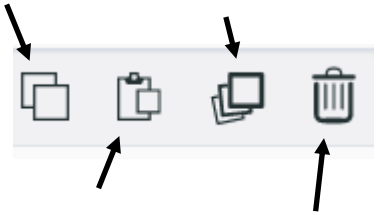


What do the arrowed arcs do?

……

……

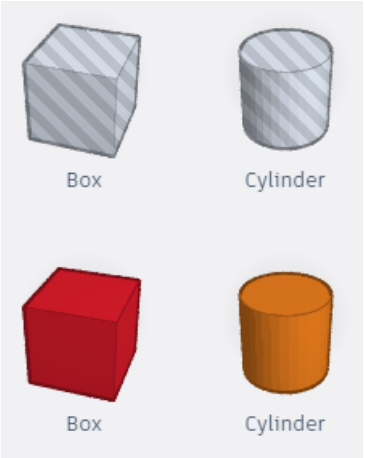
Label the icons below



What does this icon do?

……

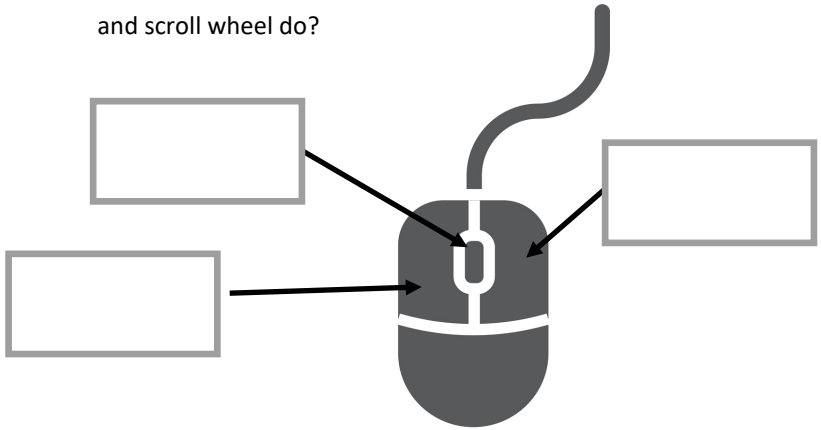
……



What is the difference between these two sets of shapes?

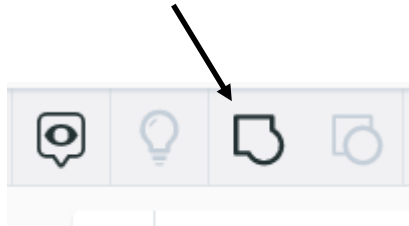
……

What actions do the mouse buttons and scroll wheel do?



What does this icon do?

……



HEAD AND BODY

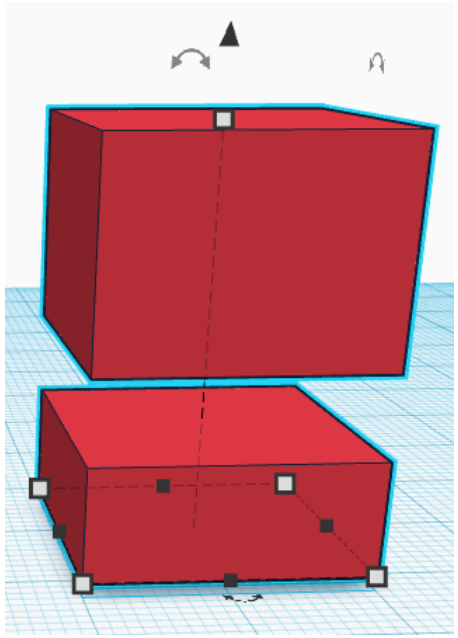
Head (Box) 20 x 20 x 15

Gap between head and body 5

Body (Box) 20 x 20 x 8

Draw a box 20 x 20 x 15 for the head then draw a box 20 x 20 x 8 for the body

Locate the head and the body above each other and leave a 5 gap

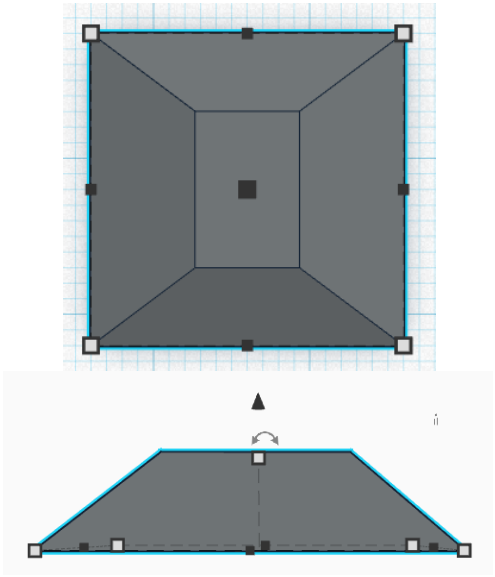


NECK

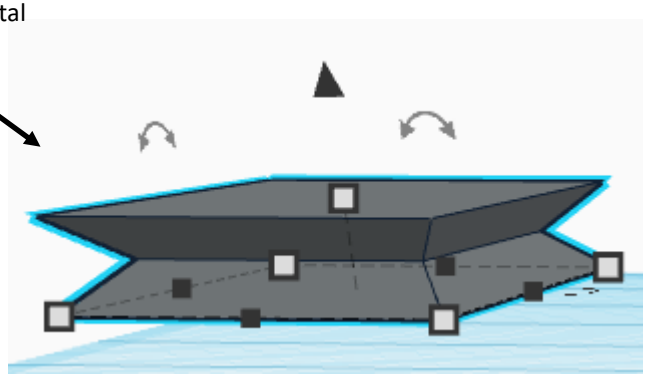
Neck (Double Trapezoid) 20 x 20 x 5

Draw a Double Trapezoid 20 x 20 x 5 then copy another next to the original.

Rotate the copy 180 and locate it over the original .

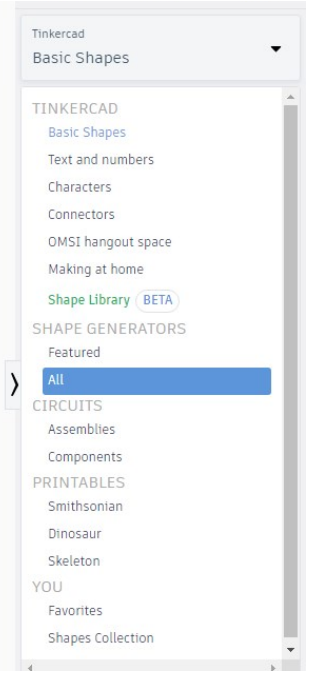


Now join the two trapezoids together so that the total height is 5

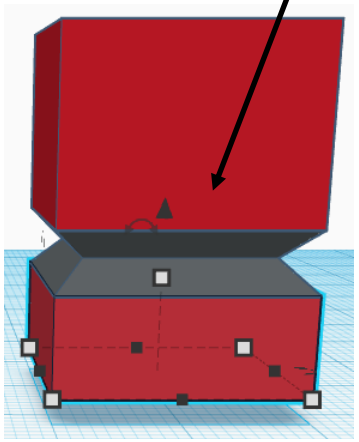


To find the Double Trapezoid you will need to go to the drop down menu in Basic Shapes and select **All**

Then scroll along to page 10, you will find it there.



Finally locate the neck between the head and the body.



EARS

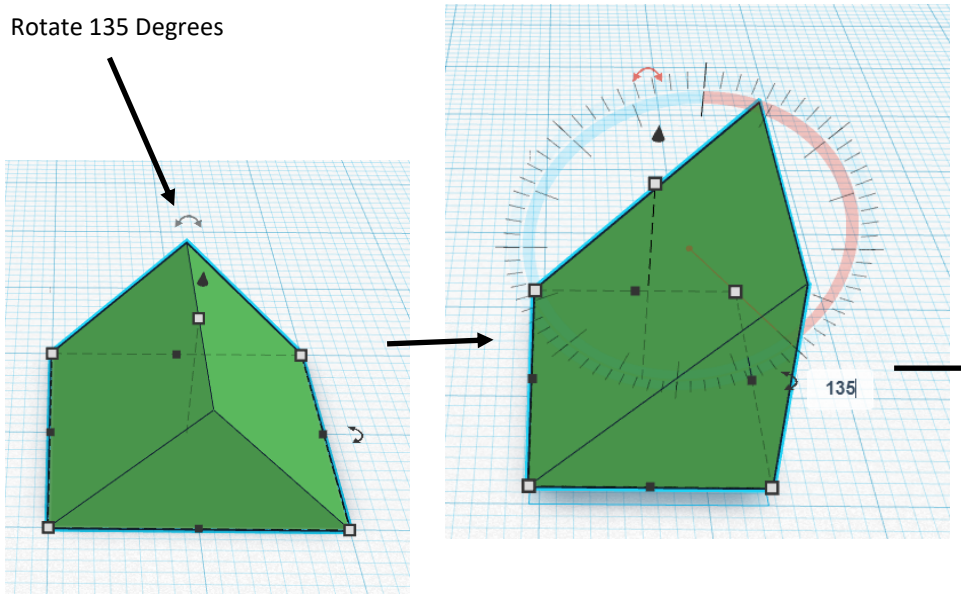
Ears (Roof) 20 x 5 x 5

To make the ears draw a roof and rotate it 135 degrees, then resize it to 20 x 5 x 5.

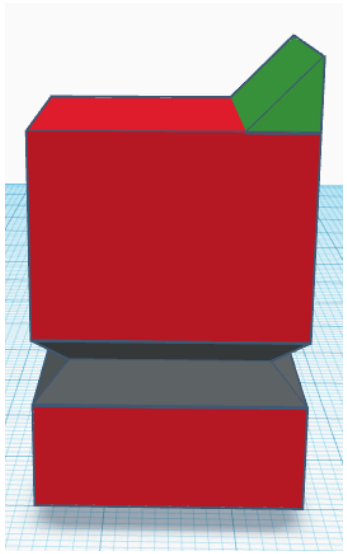
Now raise the ears to the top of the head and locate onto one side of the head.

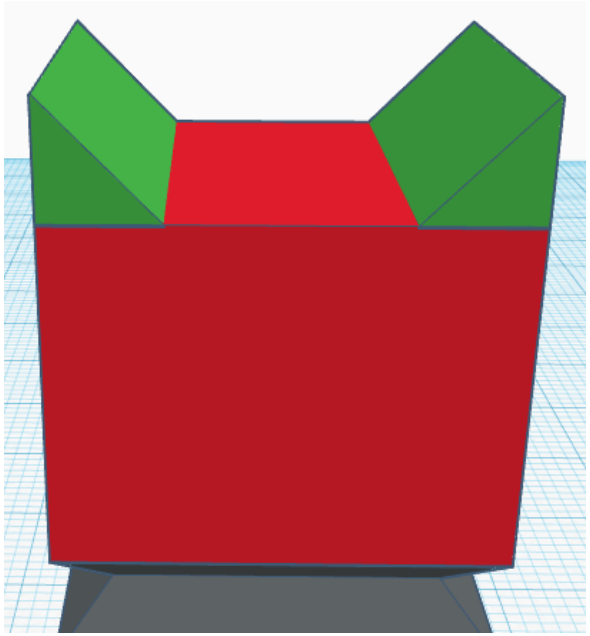
Then copy the ear shape over to the other side of the head.

Rotate 135 Degrees



Re-scale to 20 x 5 x 5



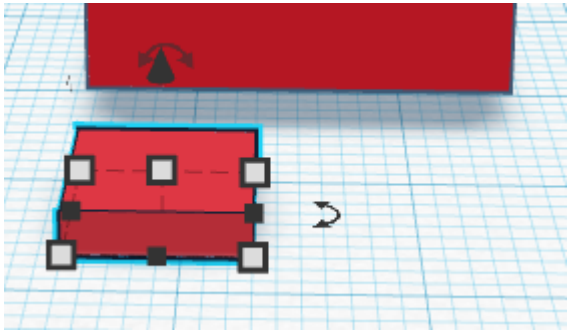


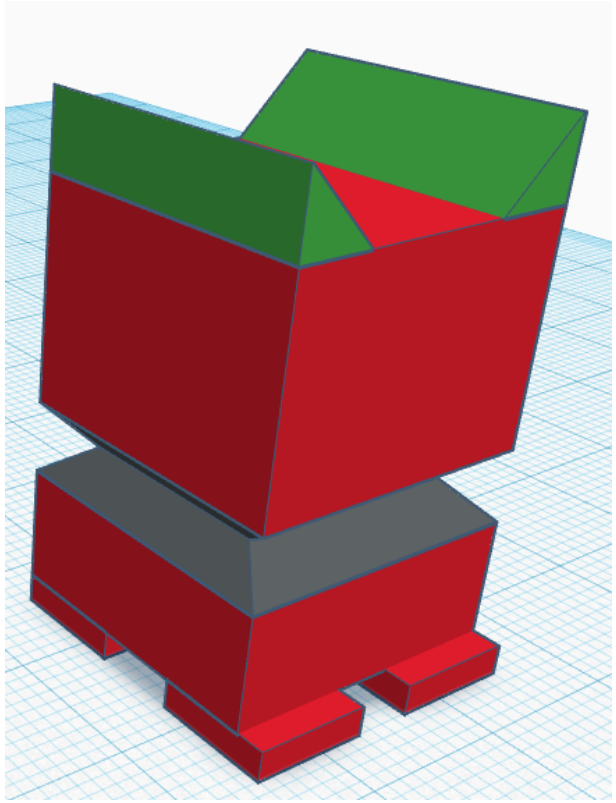
FEET

Feet (Box) 8 x 8 x 2

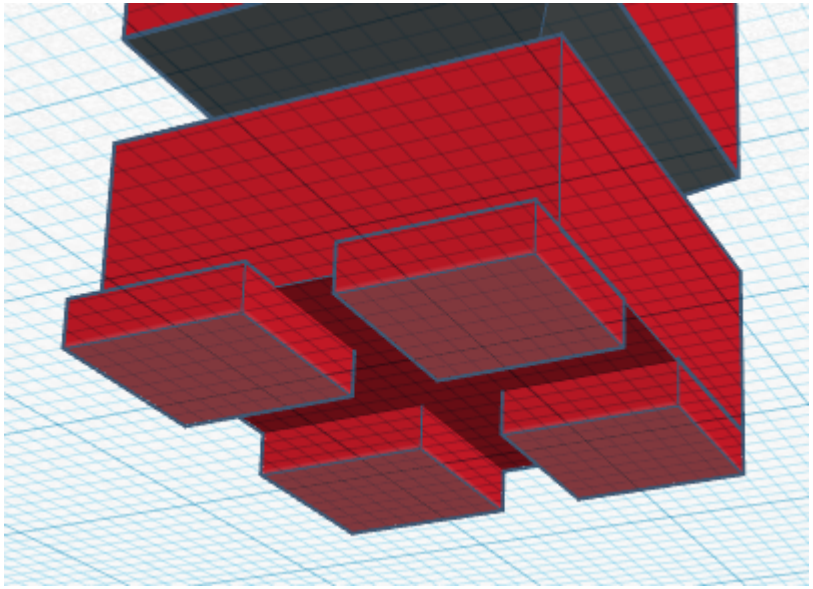
Firstly draw a box 8 x 8 x 2 and copy it.

Then locate the two boxes under the body in line with the sides but sticking out a about 2 at the front.





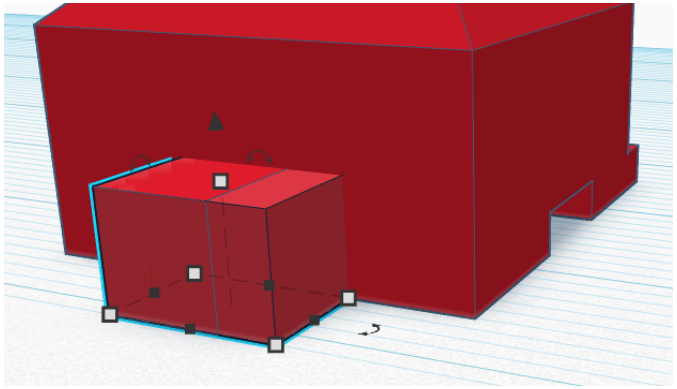
Then copy another two boxes for the rear feet, These will be located at the back of the body in line with the sides and back.



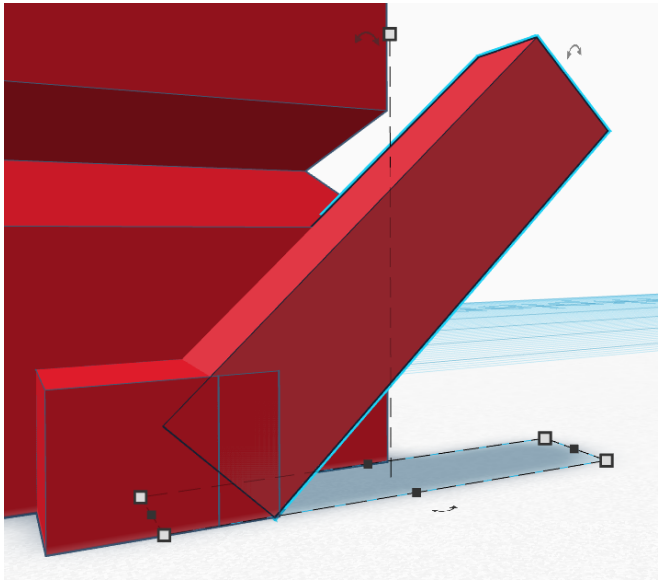
You might find it easier to rotate the cats body 180 degrees and place the feet on the base.

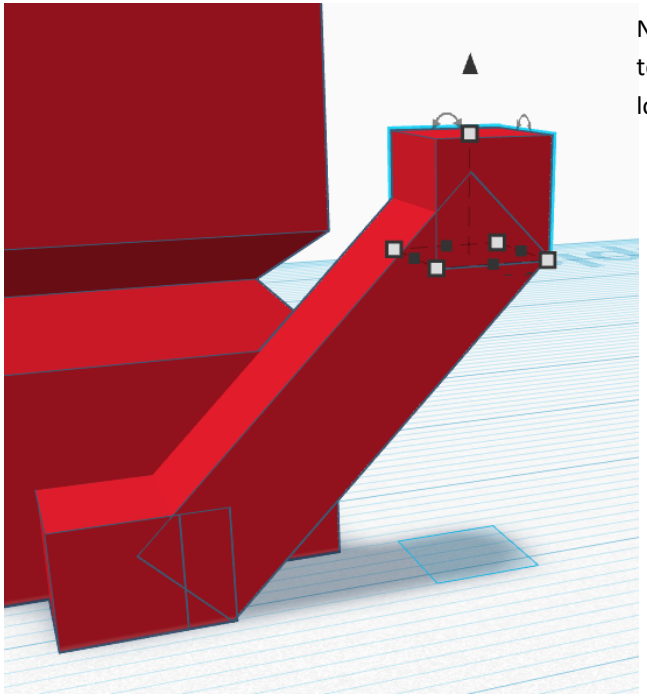
TAIL

Tail (Box) 5 x 7 x 5

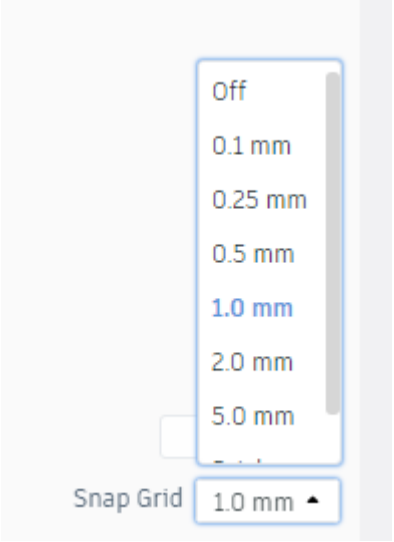


To make the tail firstly draw a box 5 x 7 x 5 and locate it at the back of the cat body.





Next draw a 5 x 5 x 5 box and locate it at the top of the tail inline with the corner of the long section.



The draw a box 5 x 15 x 5 and rotate it 45 degrees.

Then locate the tail inline with the bottom of the first box.

***TIP**

You will find it easier to move and align objects if you change the Snap Grid to 0.5 or less. The Snap Grid is set to 1.0mm default.

If you use the curser keys to move objects you will also find it easier to control the position of the object.

DETAILS

Once you have completed the main body ears and tail group the whole drawing together.

You can now add eyes a nose and whiskers.