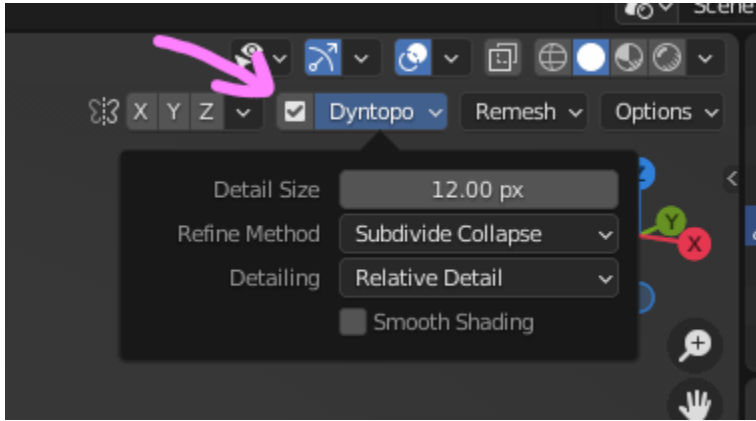Dyntopo is a setting in blender that allows geometry to be generated on the fly in real time as you are sculpting. Dyntopo is short for "Dynamic Topology" meaning that the geometry (topology) adapts dynamically as you sculpt.

The setting can be found at the top in sculpt mode

When checking the box, you will receive a warning. This informs you that certain characteristics of your model will not adapt (such as colors and UV data if your model is colored and/or textured) Generally, you can disregard the warning.

As an example of what dyntopo does, take this simple cube for example. It only has 8 vertices and is a poor choice for sculpting because of the low polygon count.
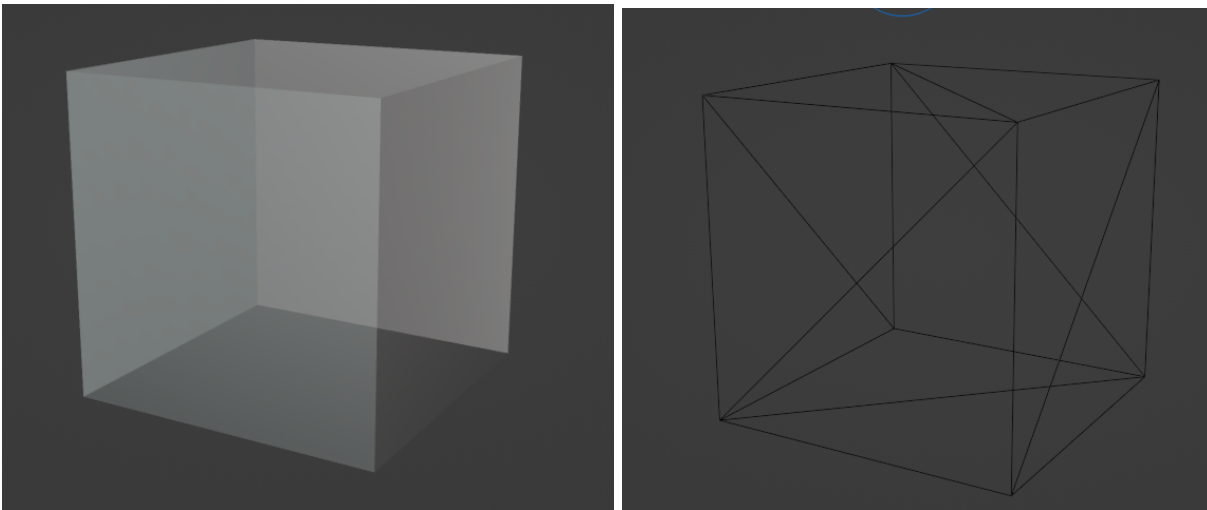

With Dyntopo enabled, here is what happened when I use a brush on the surface of the cube:
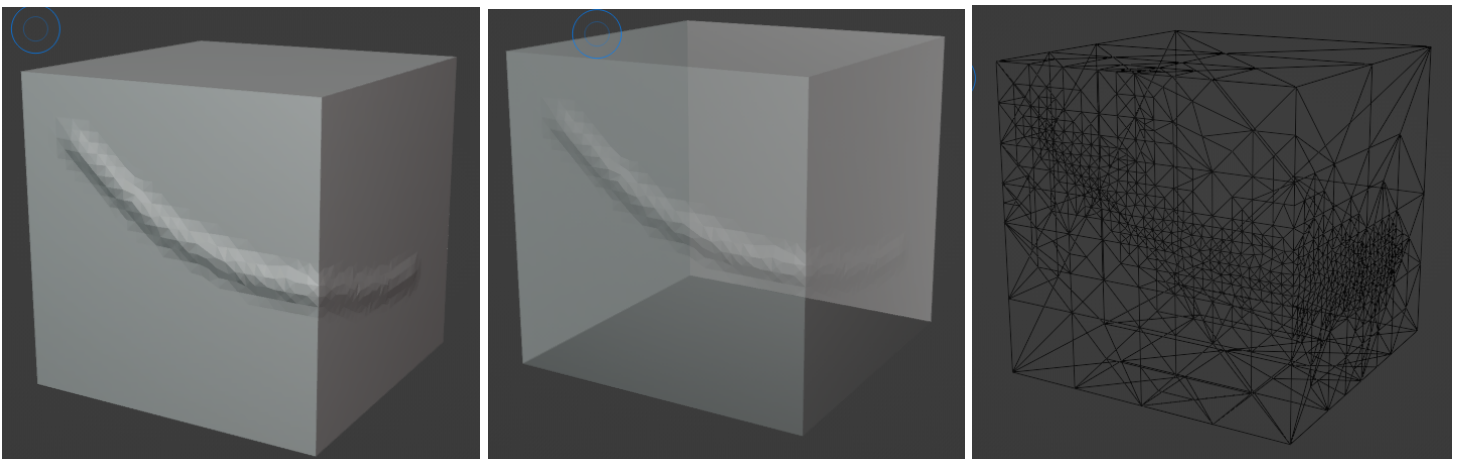
Notice how the polygons are formed dynamically in the areas where my brush stroke occurred. Now the cube has more polygons where I sculpted, giving me more resolution/definition in those areas only.
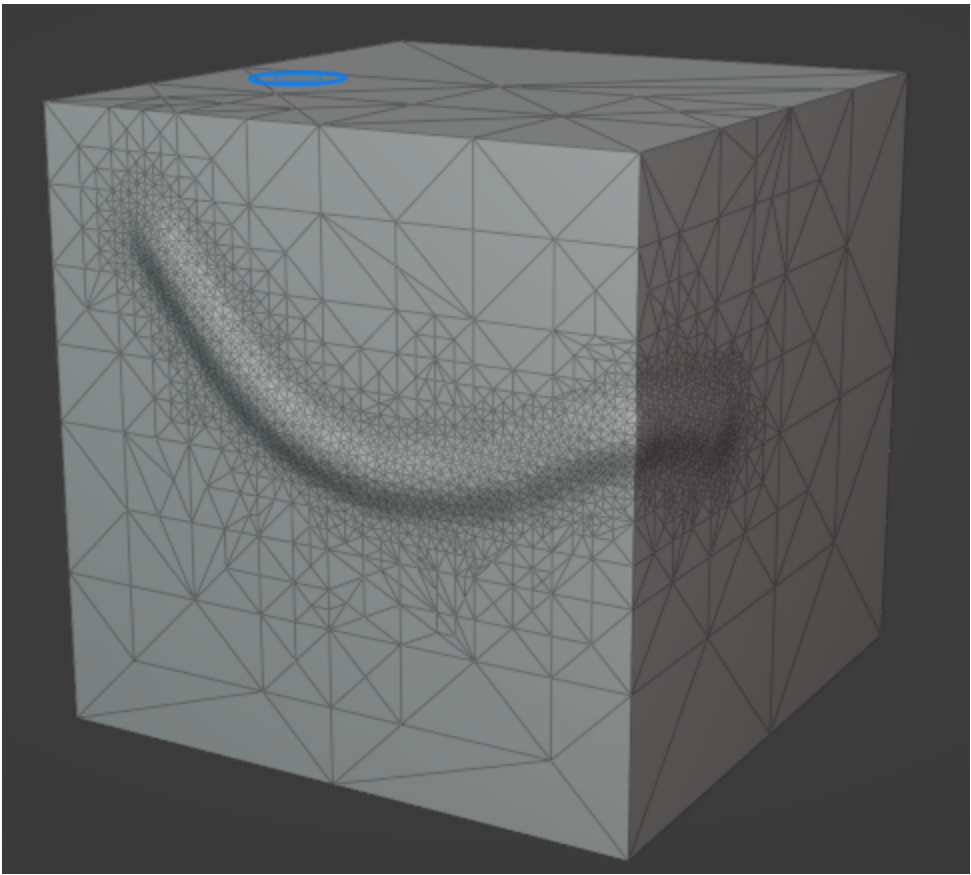
The Dyntopo settings take some trial and error. Setting an incorrect value could cause a computer crash due to too much resolution. One approach is to set the detail to "Constant Detail" and start with a low resolution value like 3 or 6. Then slowly bump up the resolution value as you sculpt until you arrive at a reasonable value that provides enough resolution for whatever it is that you are sculpting
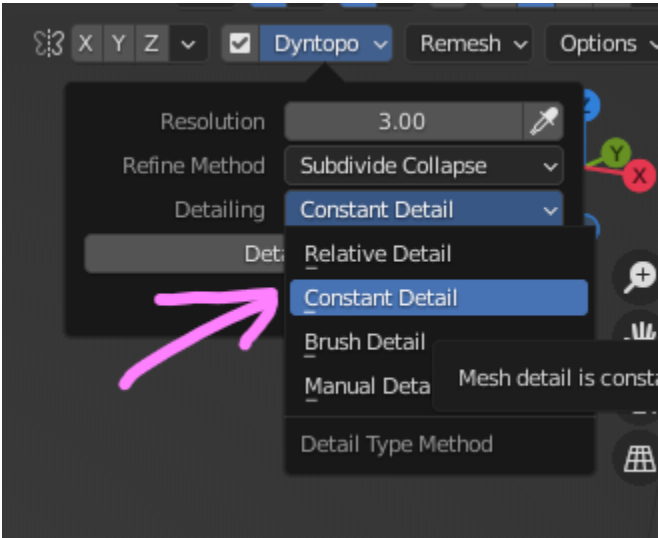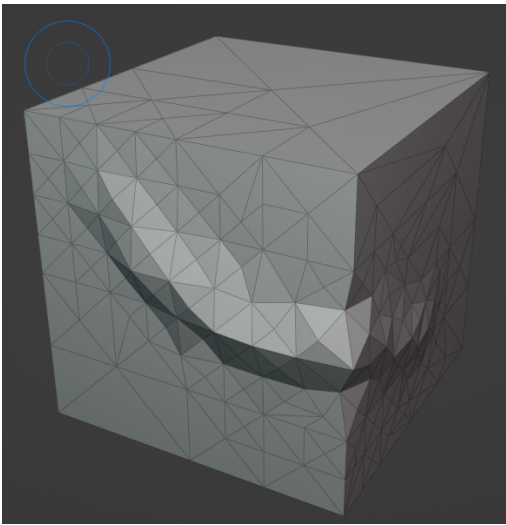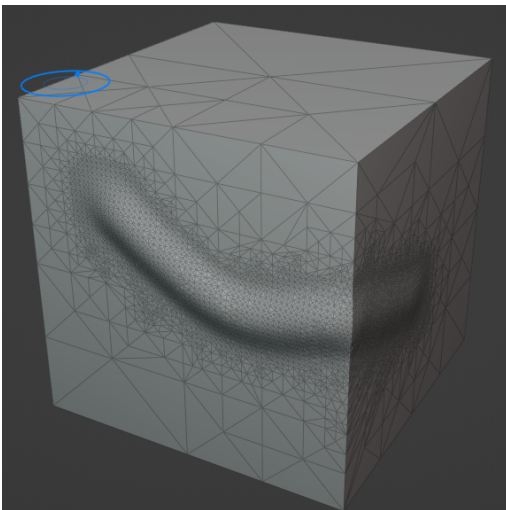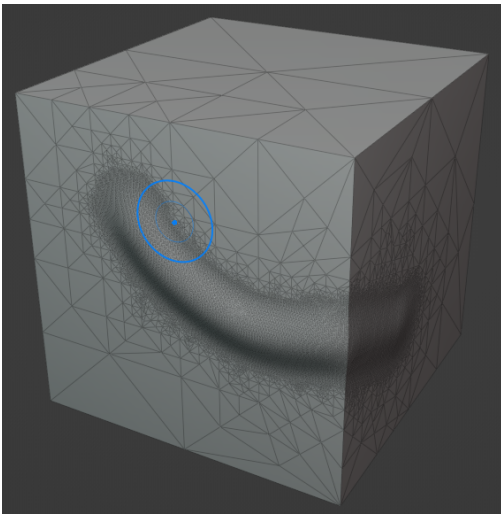
Sculpting on cube at 3.0 resolution with Constant Detail
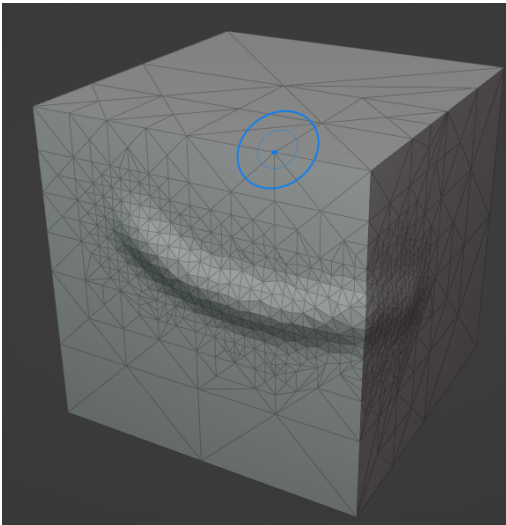
Sculpting on cube at 9.0 resolution with Constant Detail

Sculpting on cube at 27.0 resolution with Constant Detail

Sculpting on cube at 64.0 resolution with Constant Detail

Notice in the example above, 64 resolution is probably too much because 27.0 resolution provided enough already.

Dyntopo can work backwards as well to reduce the polygon count in specific areas of your model, say if you had a model with high polygon count, then you could set a low value for Dyntopo resolution and reduce the polygon count on the back side of the model that won't be seen (there is no point in having thousands of polygons on an area of the model that won't be seen, for example)
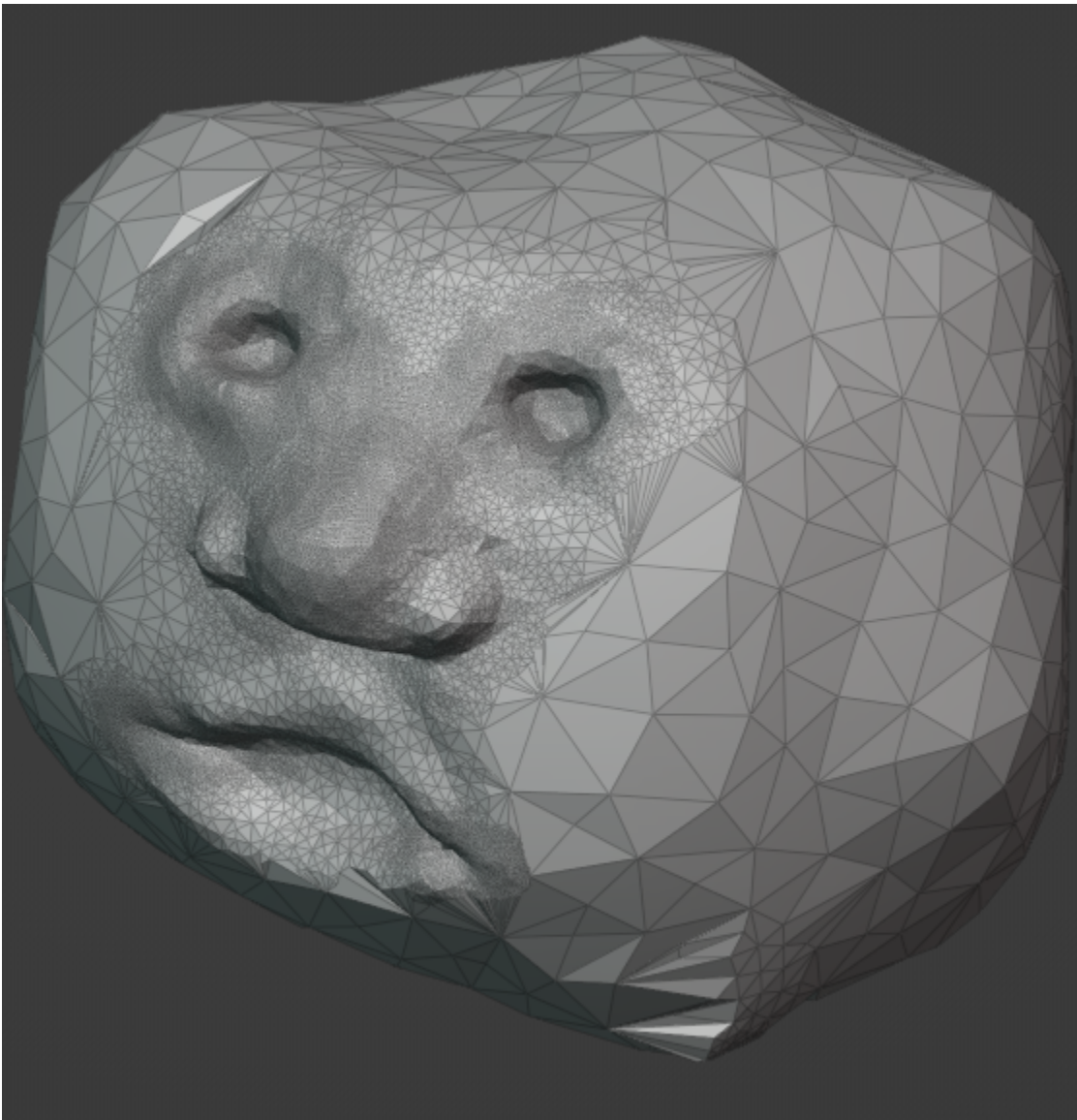
With Dyntopo, you can create a model with polygon density applied to only the areas that need the detail. This saves computer resources, and helps keep your model lightweight.

Note:
When switching from sculpting mode to object mode and back to sculpting mode (that is toggling between the different modes) the dyntopo setting will need to be reenabled with the warning popup again.

Try this exercise as well to get a good handle on dyntopo and why it is "dynamic"
Snake hook tool - pull some snakes without dyntopo - polygons become stretched
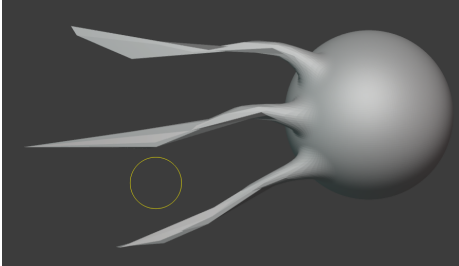
Now enable dyntopo and set to constant detail
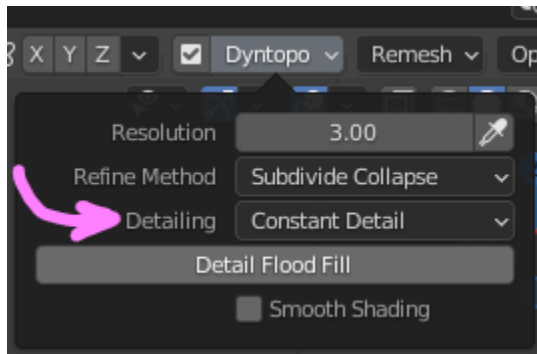
Try pulling a snake at resolution 3.00
Now increase the resolution by doubling to 6.00 and try pulling another snake
Now increase the resolution by doubling to 12.00 and try pulling another snake
Now increase the resolution by doubling to 24.00 and try pulling another snake
Finally increase the resolution by doubling to 48 and try pulling another snake
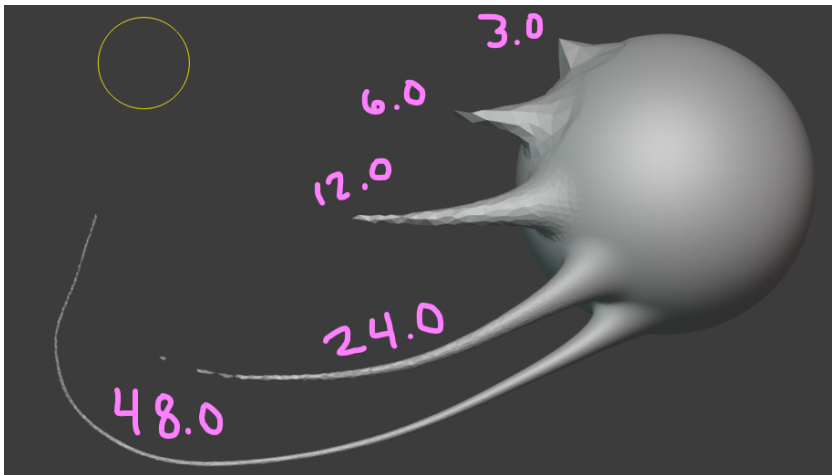
Pull a few more snakes at 48 resolution and switch over to the task of trying to erase the snakes from the form
Try using the smooth brush. It is challenging
Enable the mesh overlay to see the geometry while we work
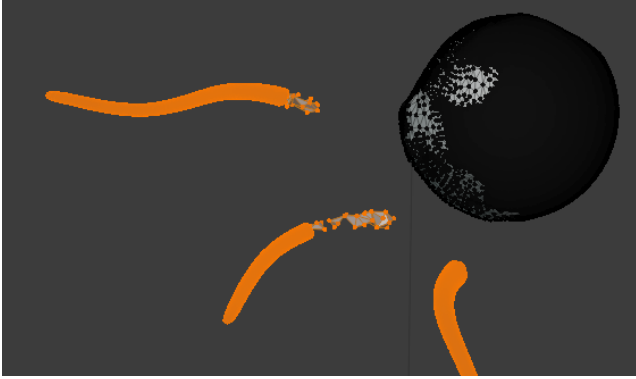Switch to the Simplify brush (oly works with dyntopo enabled)

Try simplifying the geometry using this brush to erase the snake hooks. Will require tinkering with the resolution setting in the dyntopo menu.

Tab into edit mode

Select a vertex on your object

ctrl+L to select linked

Invert the selection

Press **X** or press **Delete** key to erase the vertices

Press tab to return to sculpt mode