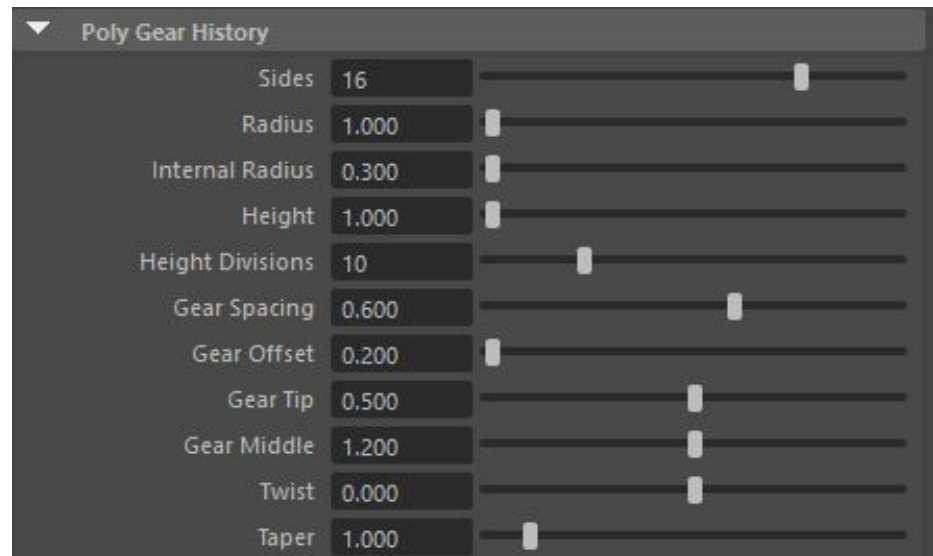# Basic modifiers and tools for working with objects
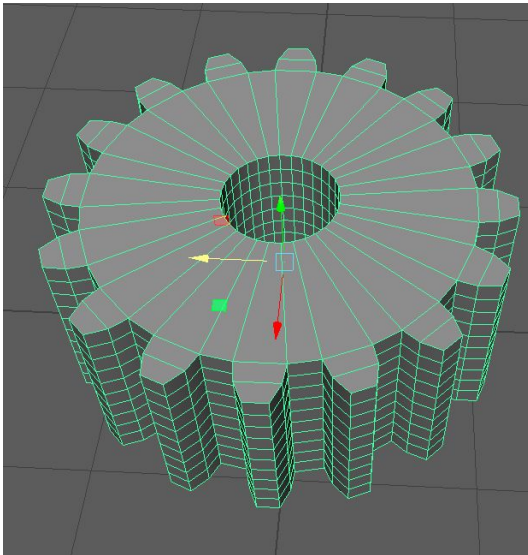
Aiganym Soltiyeva

Create->Polygon Primitives->Gear

**Poly Gear History**

Sides	16
Radius	1.000
Internal Radius	0.300
Height	1.000
Height Divisions	10
Gear Spacing	0.600
Gear Offset	0.200
Gear Tip	0.500
Gear Middle	1.200
Twist	0.000
Taper	1.000

Create->Polygon Primitives->Gear

Poly Helix History

Coils	3.214
Height	3.618
Width	2.000
Radius	0.216
Subdivisions Axis	8
Subdivisions Coil	50
Subdivisions Caps	0
Round Cap	
Direction	Counterclockwise
Create UVs	Normalize and Preserve Aspect Ratio
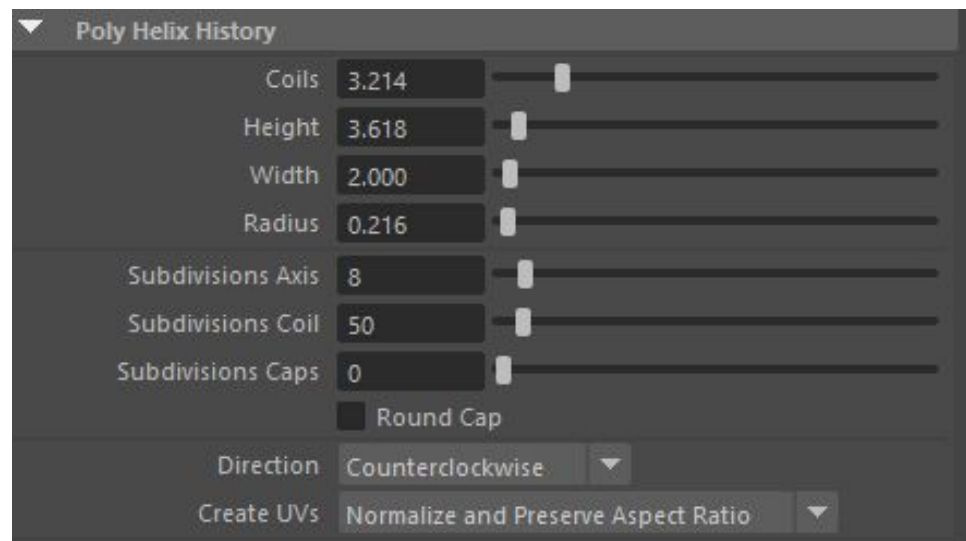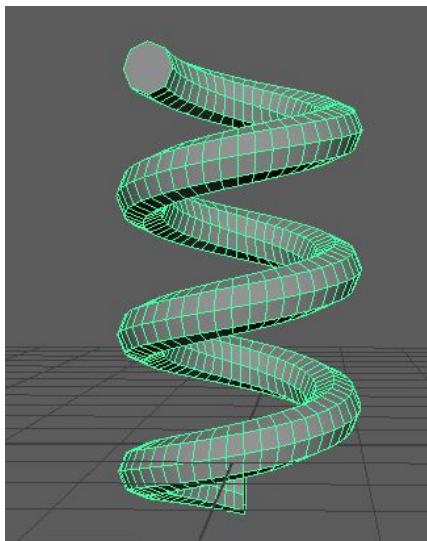
Deformers as modeling tools

- You can use deformers as modeling tools for shaping NURBS or polygonal objects. You can create a deformer, for example a sculpt deformer tool, and tweak the model's shape with it. When you are finished modeling with the deformer, delete it along with the rest of the object's history (choose Edit > Delete by Type > History). When you delete the object's history, the deformer is deleted, but all the deform operations are baked into the object's shape so that it retains its final deformed state.
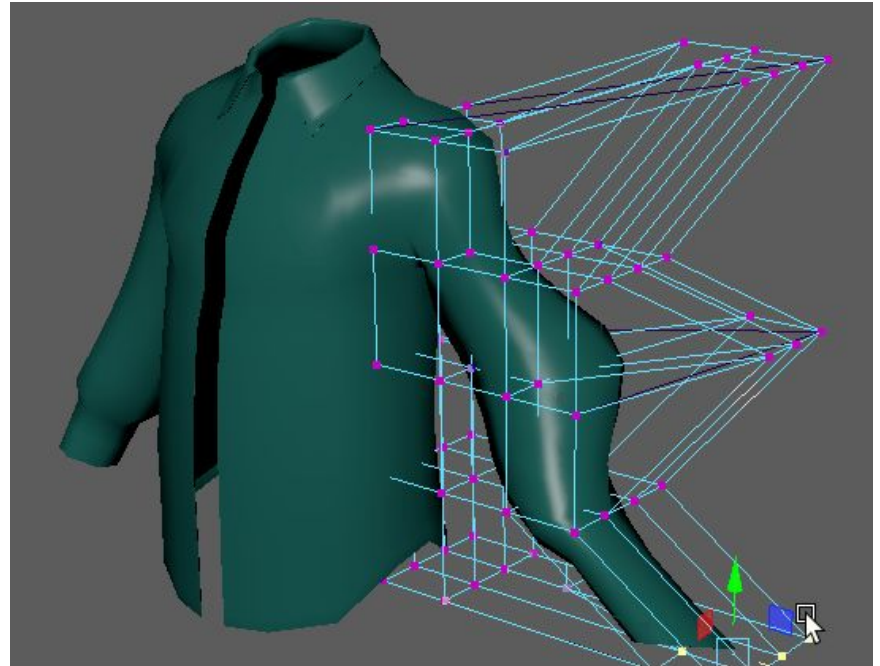
Lattice deformer

Lattice deformers let you deform objects with lattices. A lattice deformer surrounds a deformable object with a lattice that you can manipulate to change the object's shape.
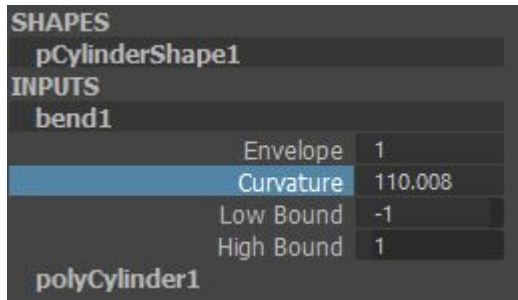
To create a lattice deformer

1. Select one or more deformable objects.

2. Select Deform > (Create) Lattice > .
   The Lattice Options window appears.
3. Click the Basic and Advanced tabs and set the creation options.
4. Click Create to create a lattice deformer. A skeletal lattice box surrounds the object.
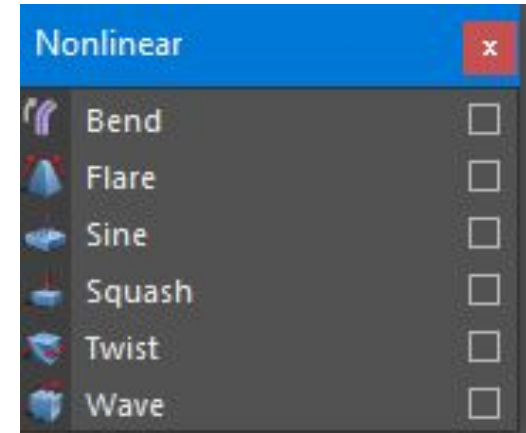5. Move, rotate, or scale influence lattice points.
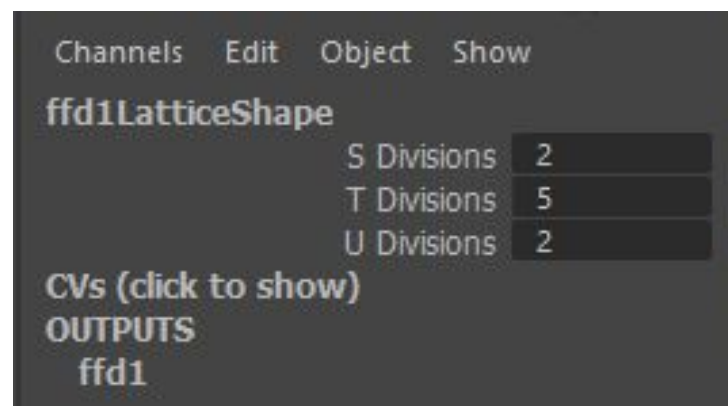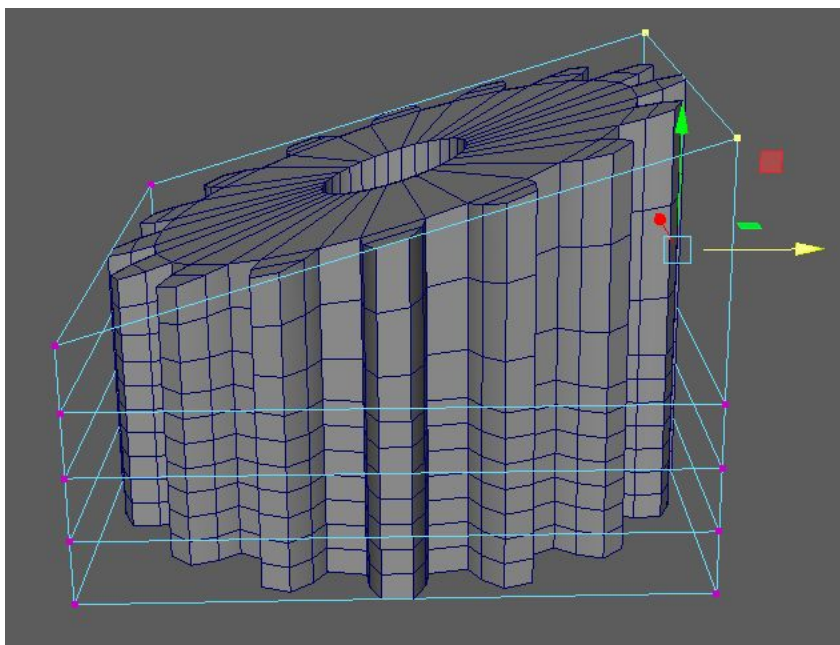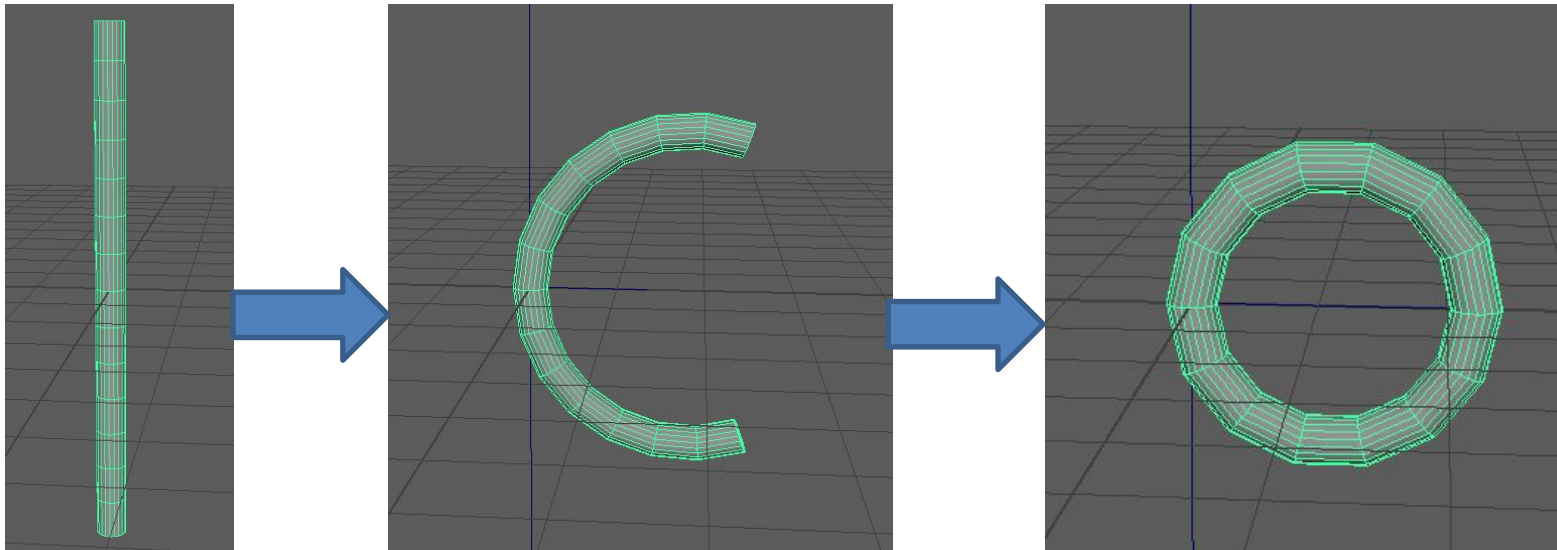
Nonlinear deformers

To create a deformer

○ Select the object(s) you want to deform.
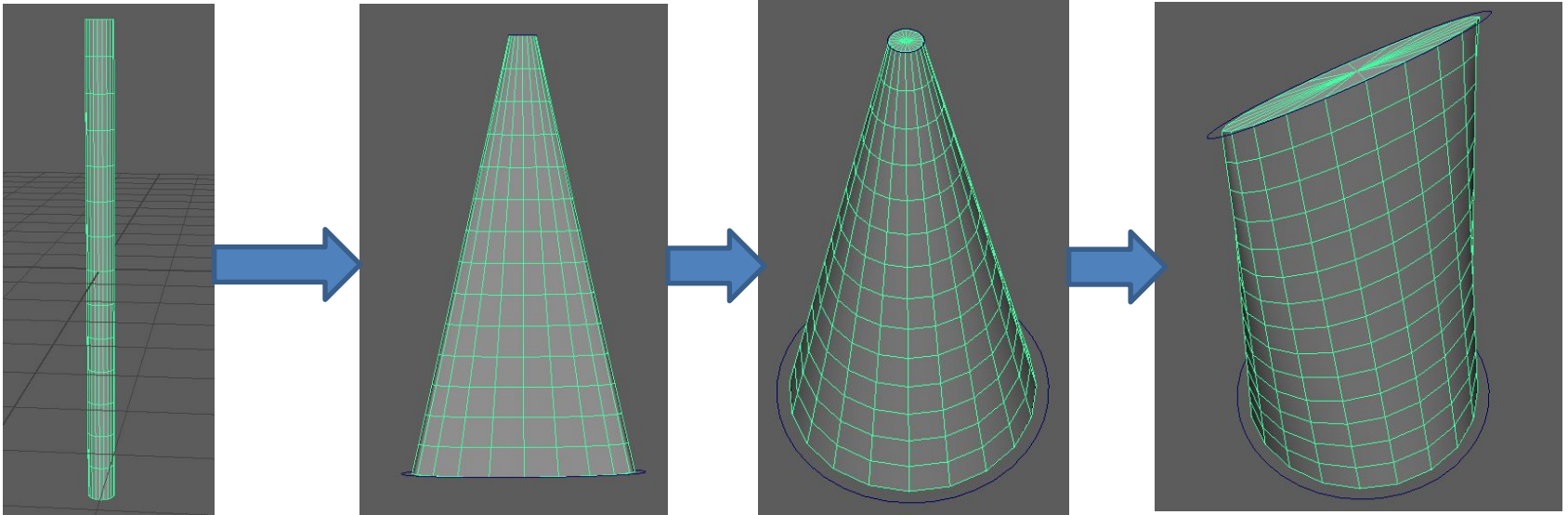○ Select Deform > (Create) Nonlinear >

```
SHAPES
  pCylinderShape1
INPUTS
  bend1
              Envelope    1
              Curvature   110.008
              Low Bound   -1
              High Bound  1
polyCylinder1
```

Nonlinear

- Bend
- Flare
- Sine
- Squash
- Twist
- Wave

Bend Deformer

Flare Deformer

To edit flares with the Channel Box
Select the flare deformer node (default name:
flare*n*).One quick way to select the flare deformer node
is to select the object being deformed, and then select
the flare deformer node in its history from the Channel
Box (under INPUTS).
You can control which attributes are listed as keyable
attributes (channels) in the Channel Box with
the Channel Control editor (select Window > General
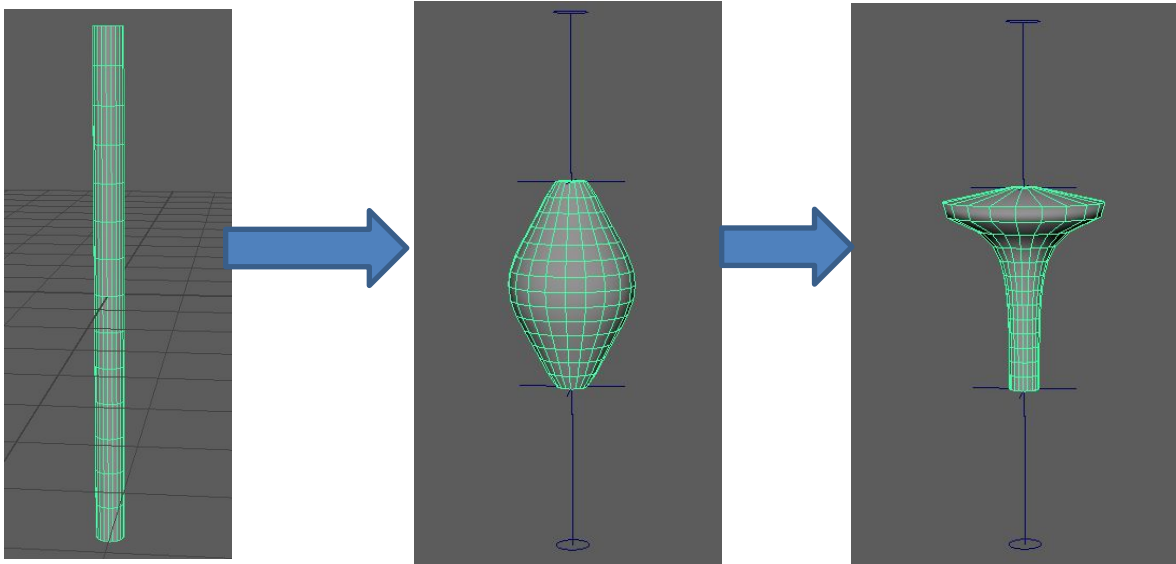Editors > Channel Control).

Sine deformer
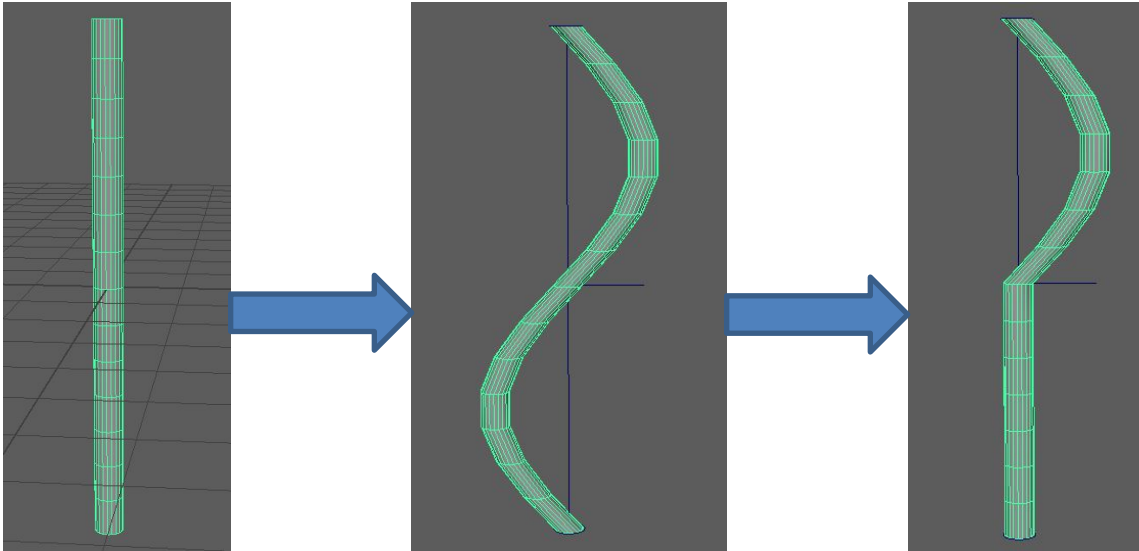
INPUTS	
sine1	
Envelope	1
Amplitude	0
Wavelength	2
Offset	0
Dropoff	0
Low Bound	-1
High Bound	1

Squash deformer

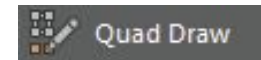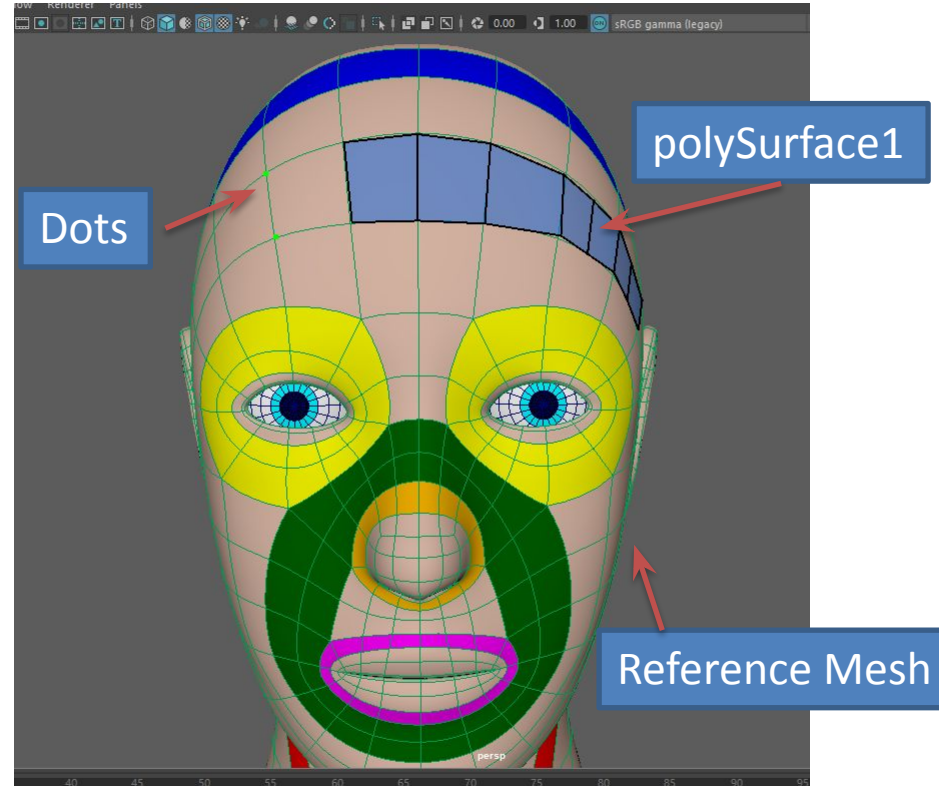| INPUTS	
squash1	
Envelope	1
Factor	-1.6
Expand	1
Max Expand Pos	0.9
Start Smoothness	0
End Smoothness	0
Low Bound	-1
High Bound	1

Quad Draw Tool

You can model in a natural and organic way using Quad Draw Tool, which offers a streamlined, one-tool workflow for retopologizing meshes. The manual retopology process lets you create clean meshes while preserving the shape of your reference surface.
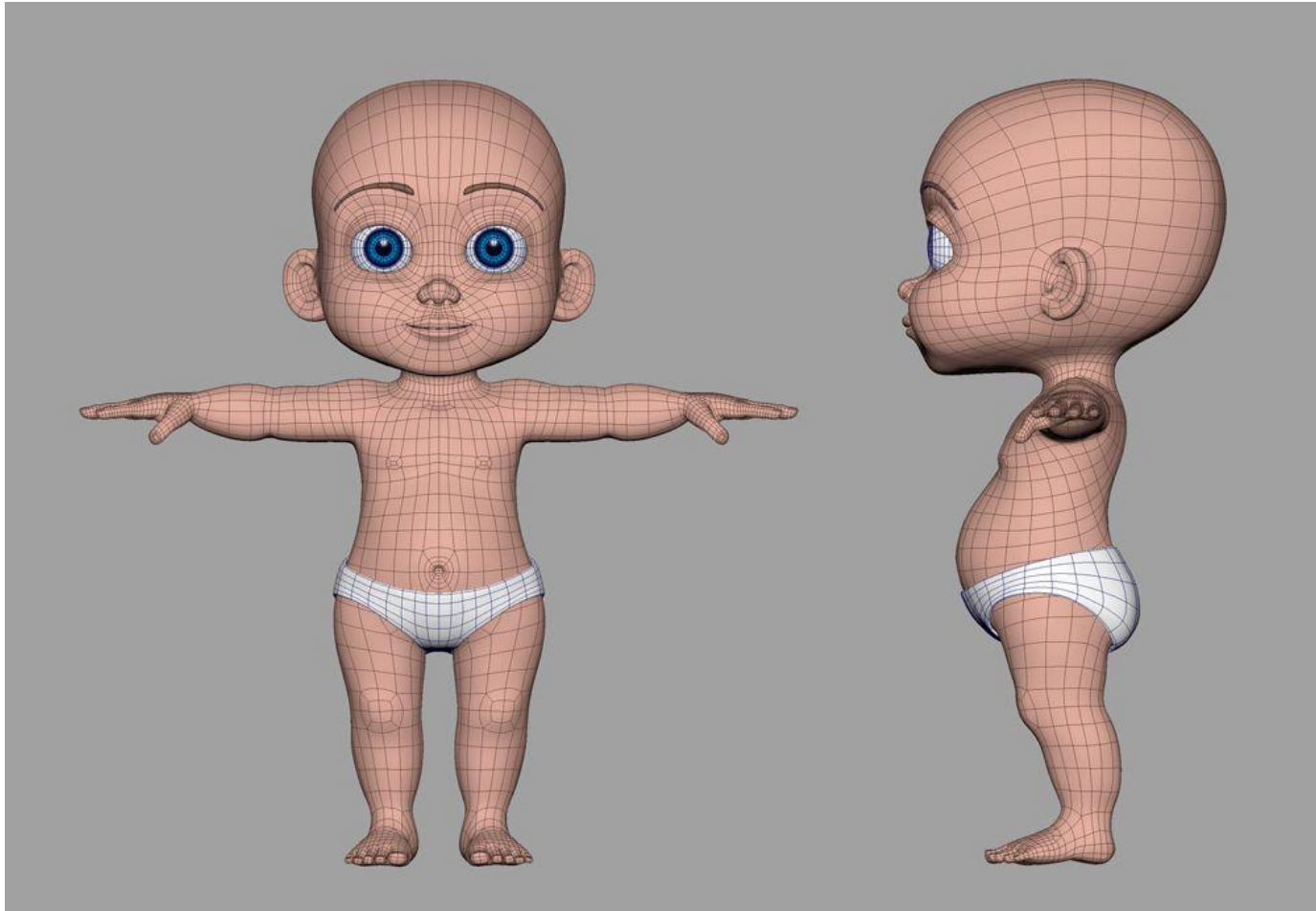
To set a reference mesh

○ Select the object you want to use as your reference mesh
○ Click the Make Live icon in the Status Line.
○ Right-click the object, and then select Make   Live.

You can access the Quad Draw Tool via:
- The Tools section of the [Modeling Toolkit](#) window, by clicking   Quad Draw   .
- The main menu bar, by selecting Mesh Tools > Quad Draw.
- The marking menu, by selecting Quad Draw Tool (to open the marking menu, Shift + right-click in the scene).

Homework #6

Something interesting

- https://www.indeed.com/career/3d-modeler/salaries
- https://www.computercareers.org/3d-modeler-salary/
- https://www.salary.com/research/salary/posting/3d-modeler-salary