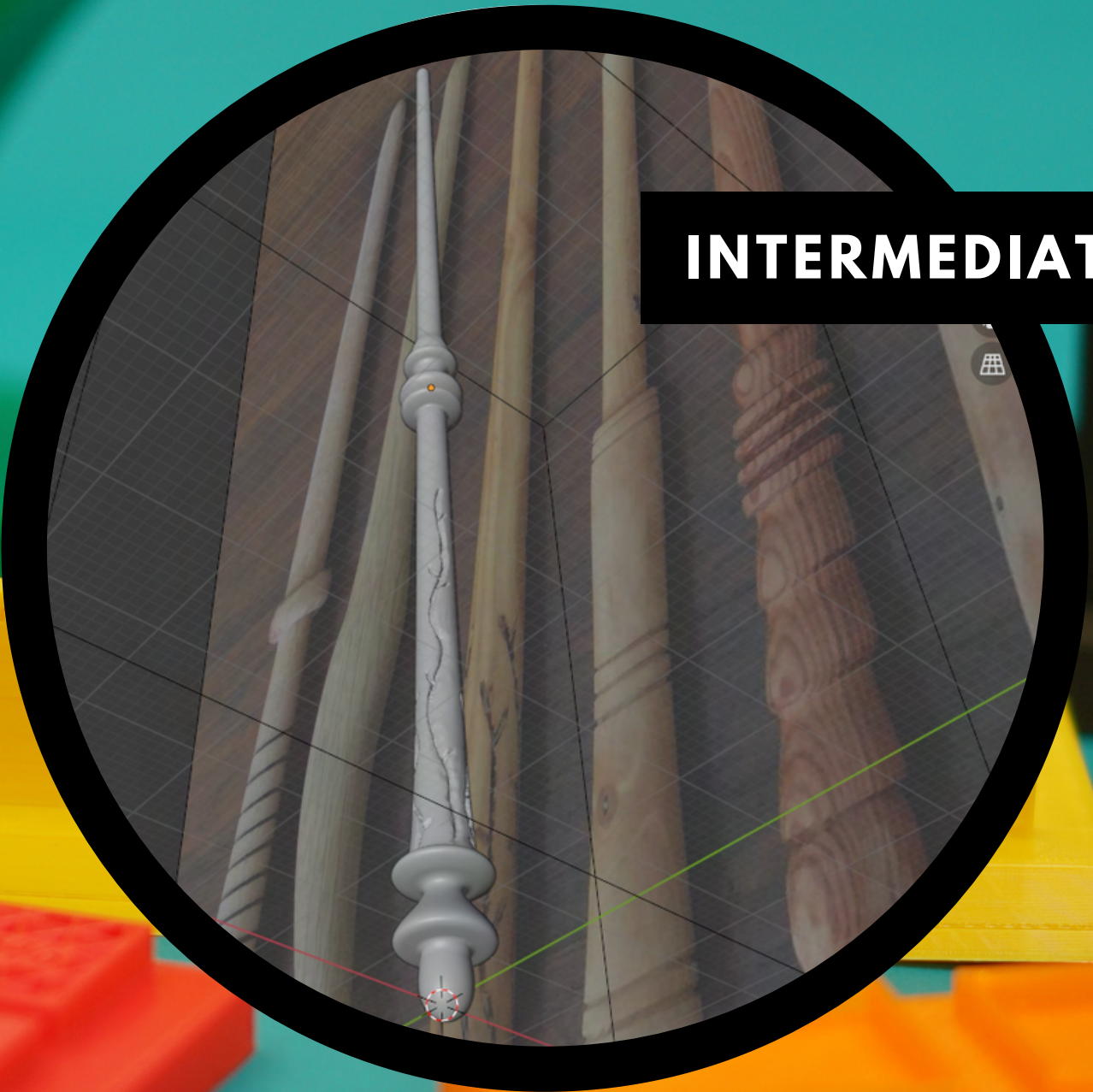


MAKER GUIDE

MAKE A WAND USING FUSION 360 AND BLENDER

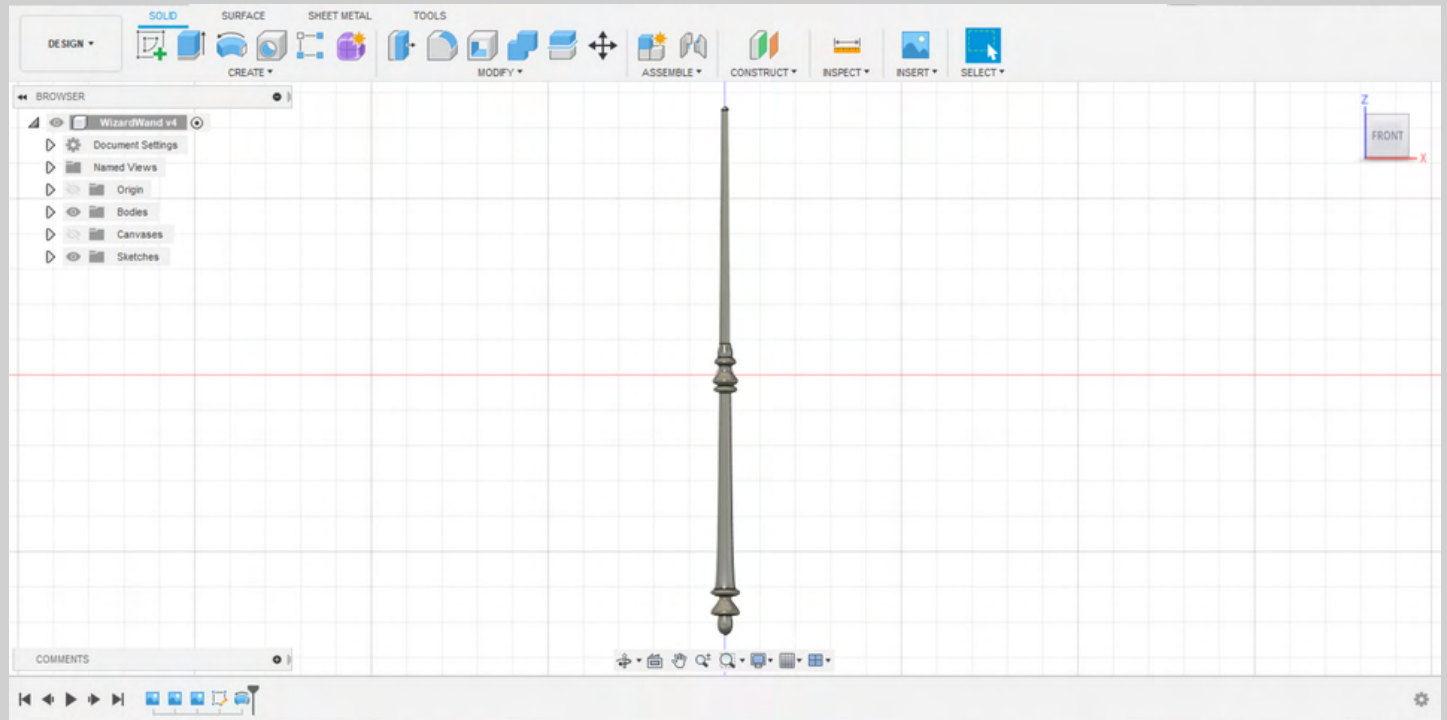
INTERMEDIATE



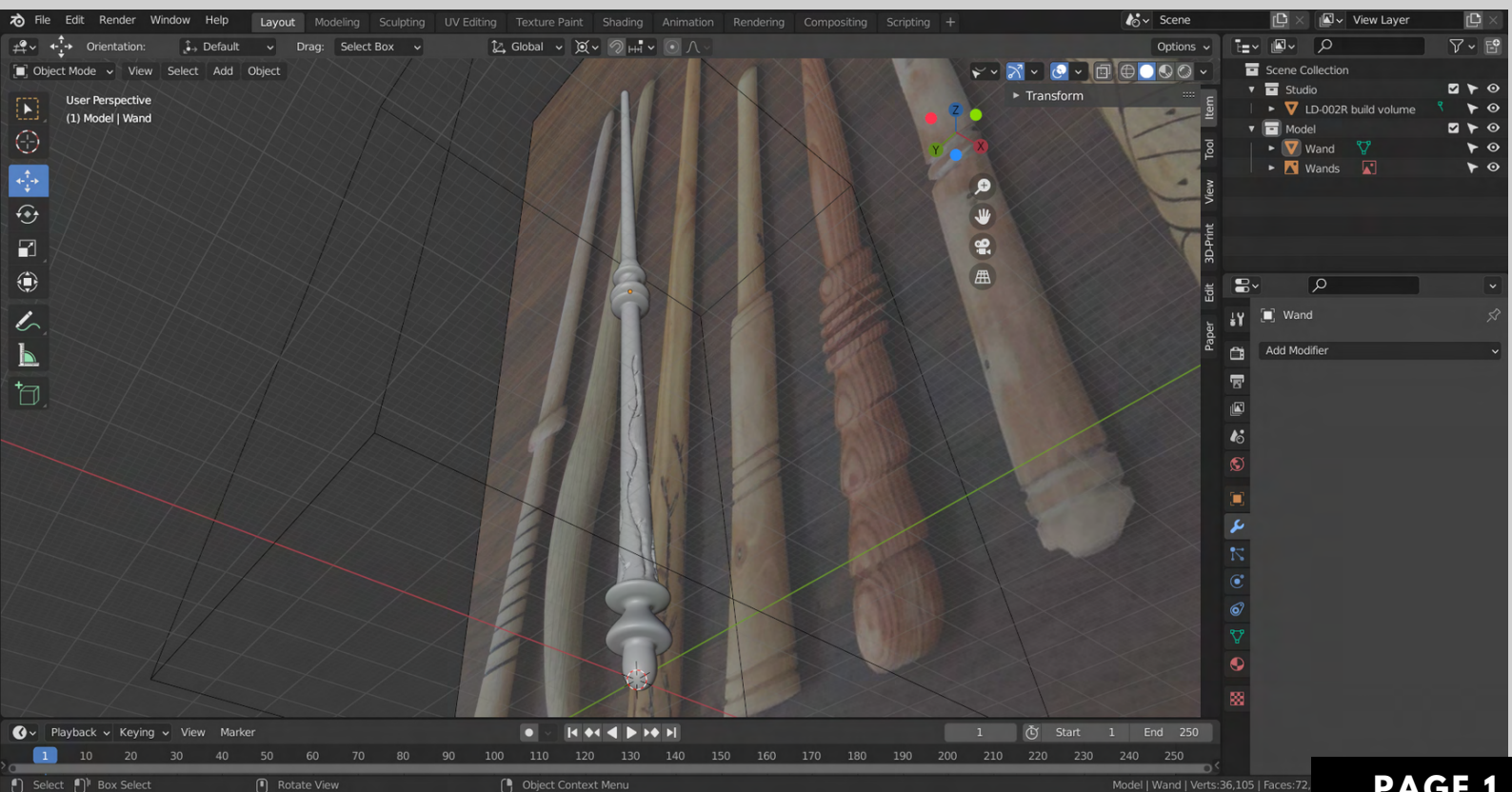


PAGE 1

In this tutorial we'll be making a custom wand using Fusion 360 to make the base shape...



...and decorating it in Blender. Every wand is unique so let's start modeling!





PAGE 2

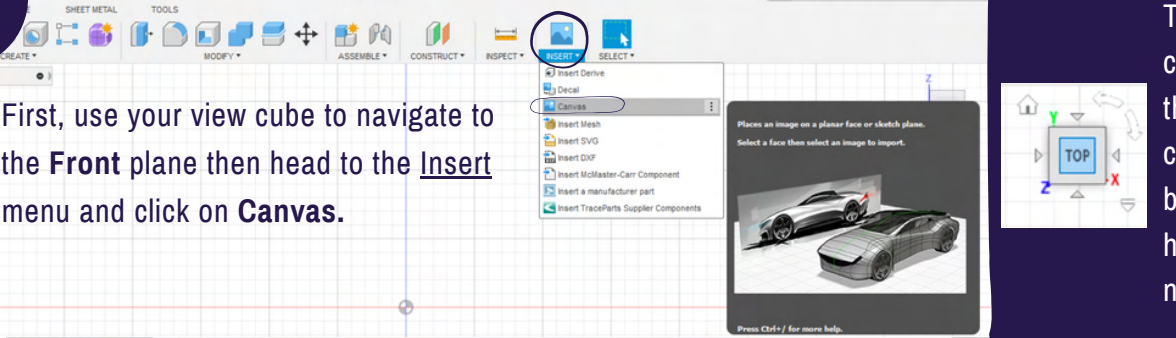
1

We'll start by inserting some references into Fusion 360 to work from.

First, use your view cube to navigate to the **Front** plane then head to the **Insert** menu and click on **Canvas**.

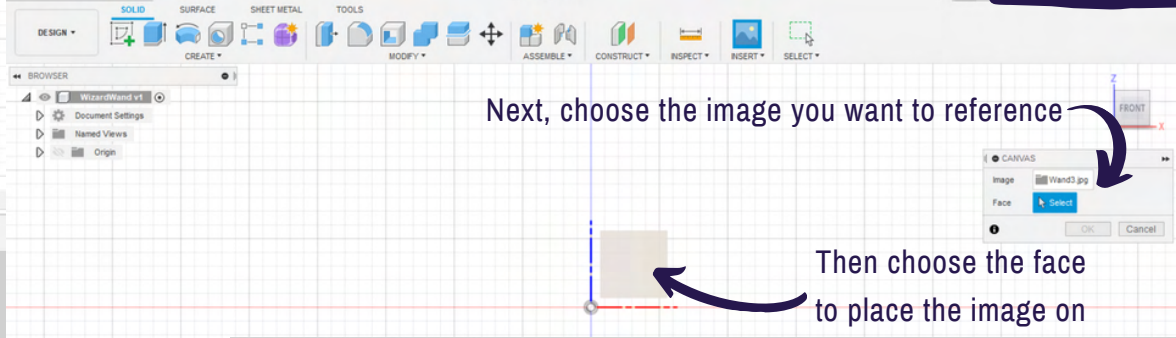
Technical Pointers

The View Cube can be found on the top right corner of your browser and can help a lot with navigation.

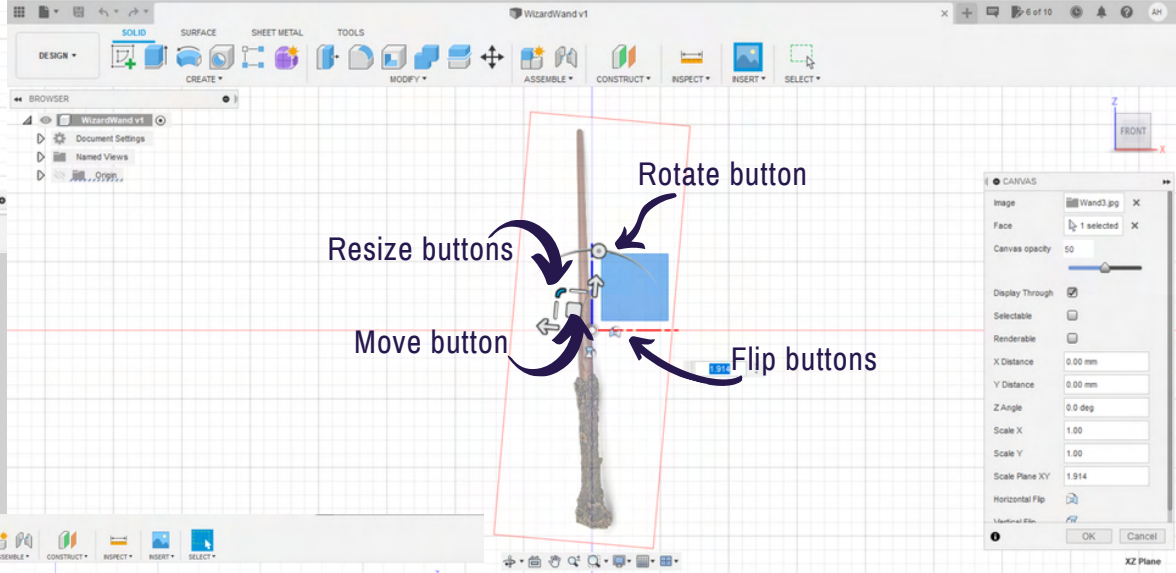


Next, choose the image you want to reference

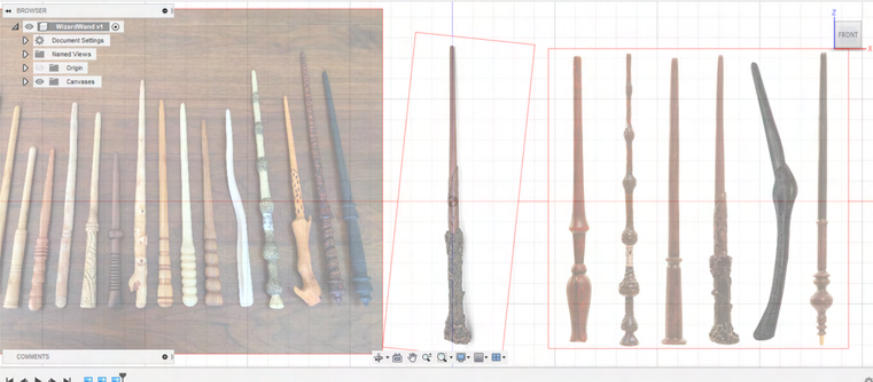
Then choose the face to place the image on



Rotate button
Resize buttons
Move button
Flip buttons



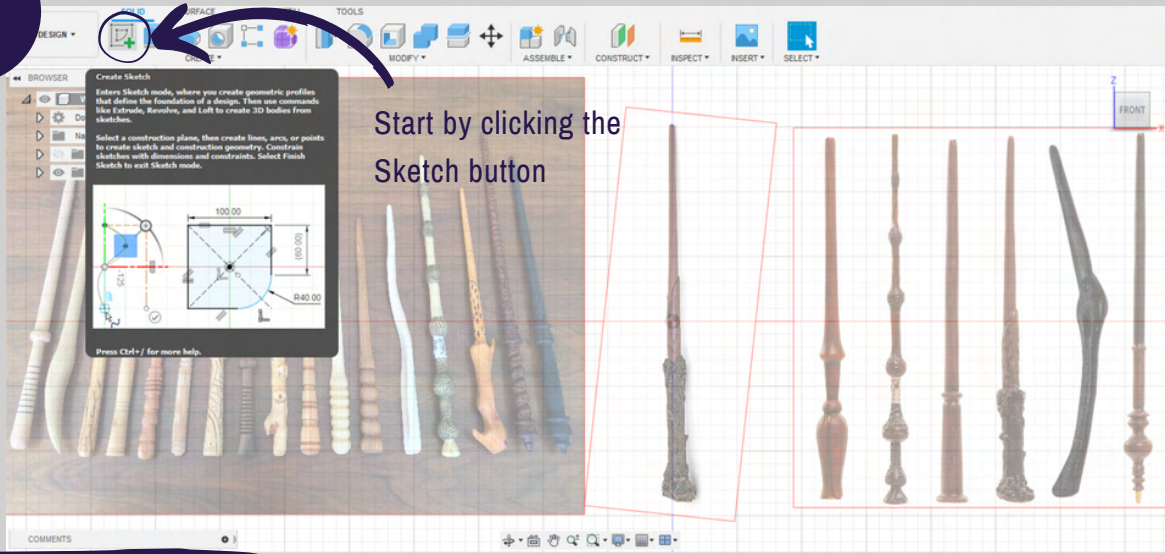
Finally, adjust the image and add in any extra reference images you want.





PAGE 3

2 Next let's start drawing our wand shape.

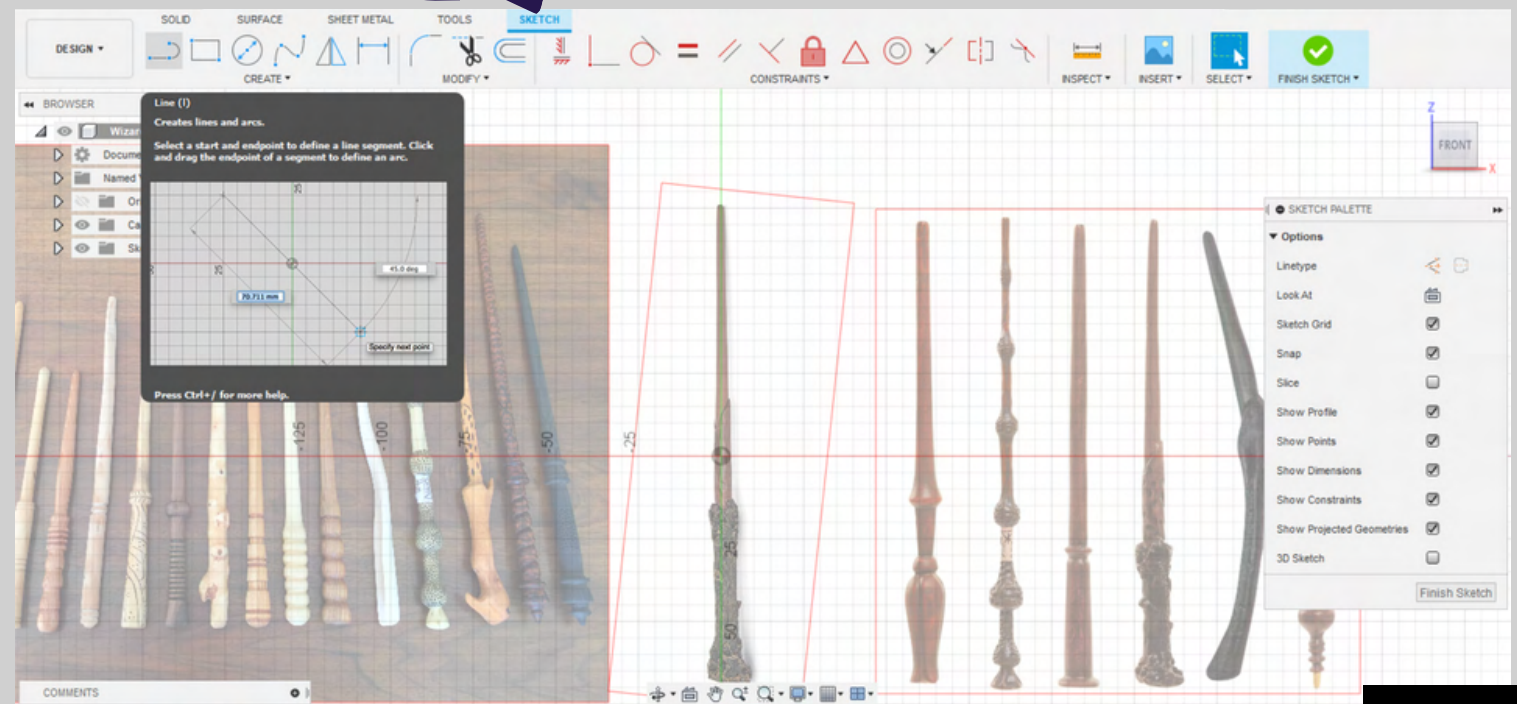
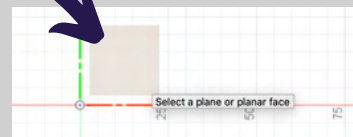
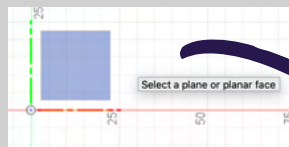


Technical Pointers

When you start Fusion you'll be in the Design Workspace and the Solid Tab.

When you start a sketch, you'll enter the Sketch Tab.

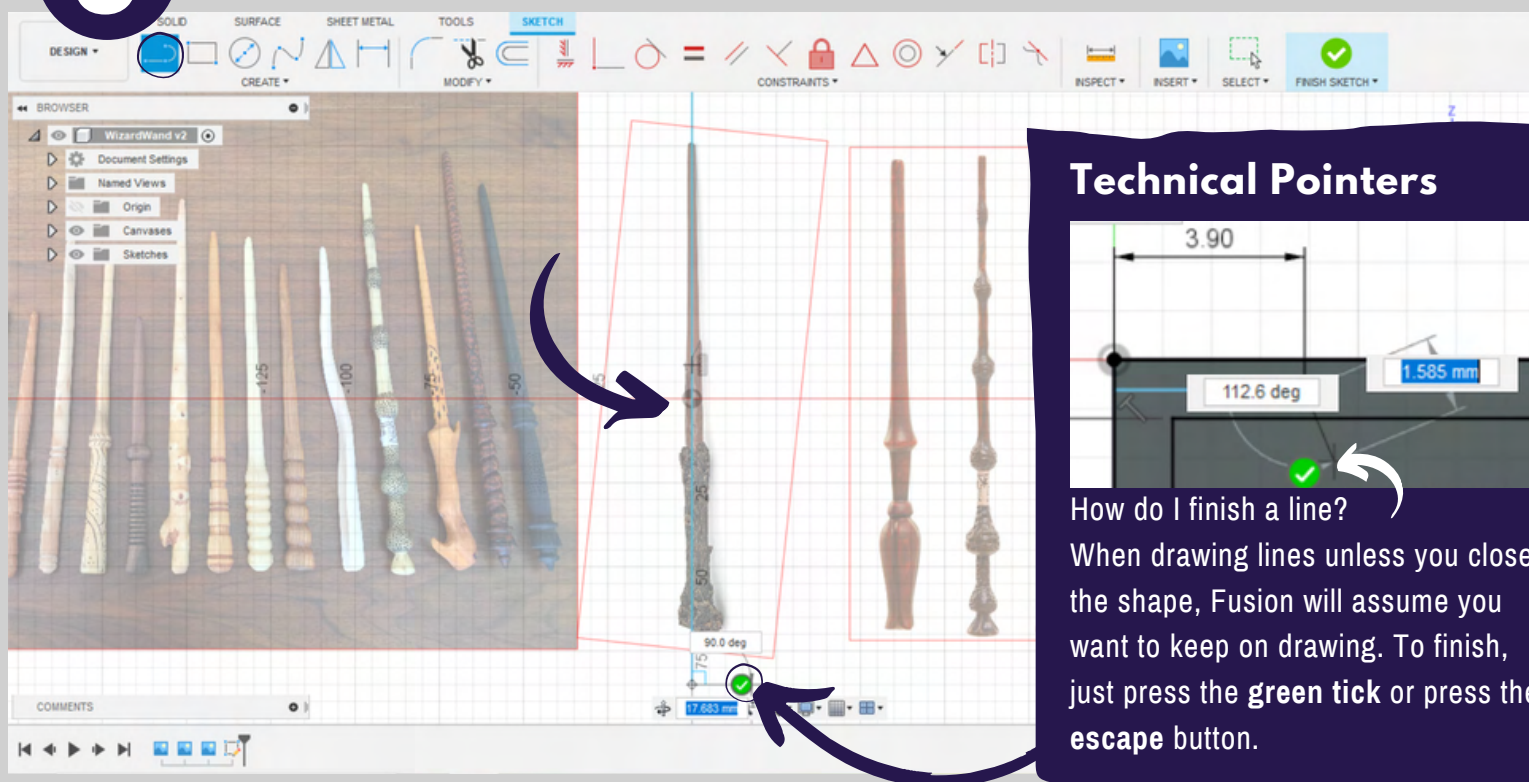
When you start a sketch you'll need to select a plane to work on. Select the plane by hovering over it and clicking.



PAGE 4

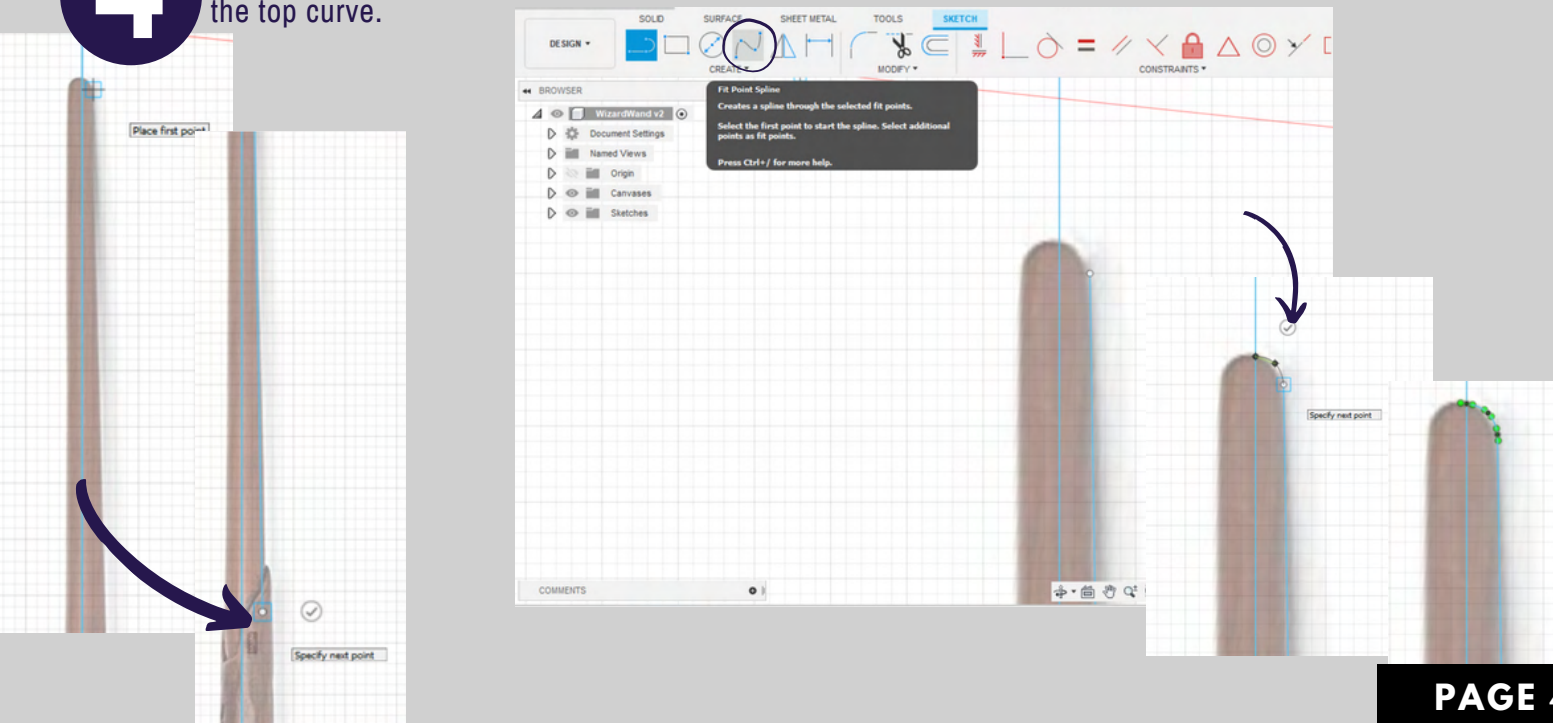
3

Next, draw a line that's the full length of your wand. You can use this step to measure how long your wand will be when you print it out. You may want to create something between 220mm and 300mm.



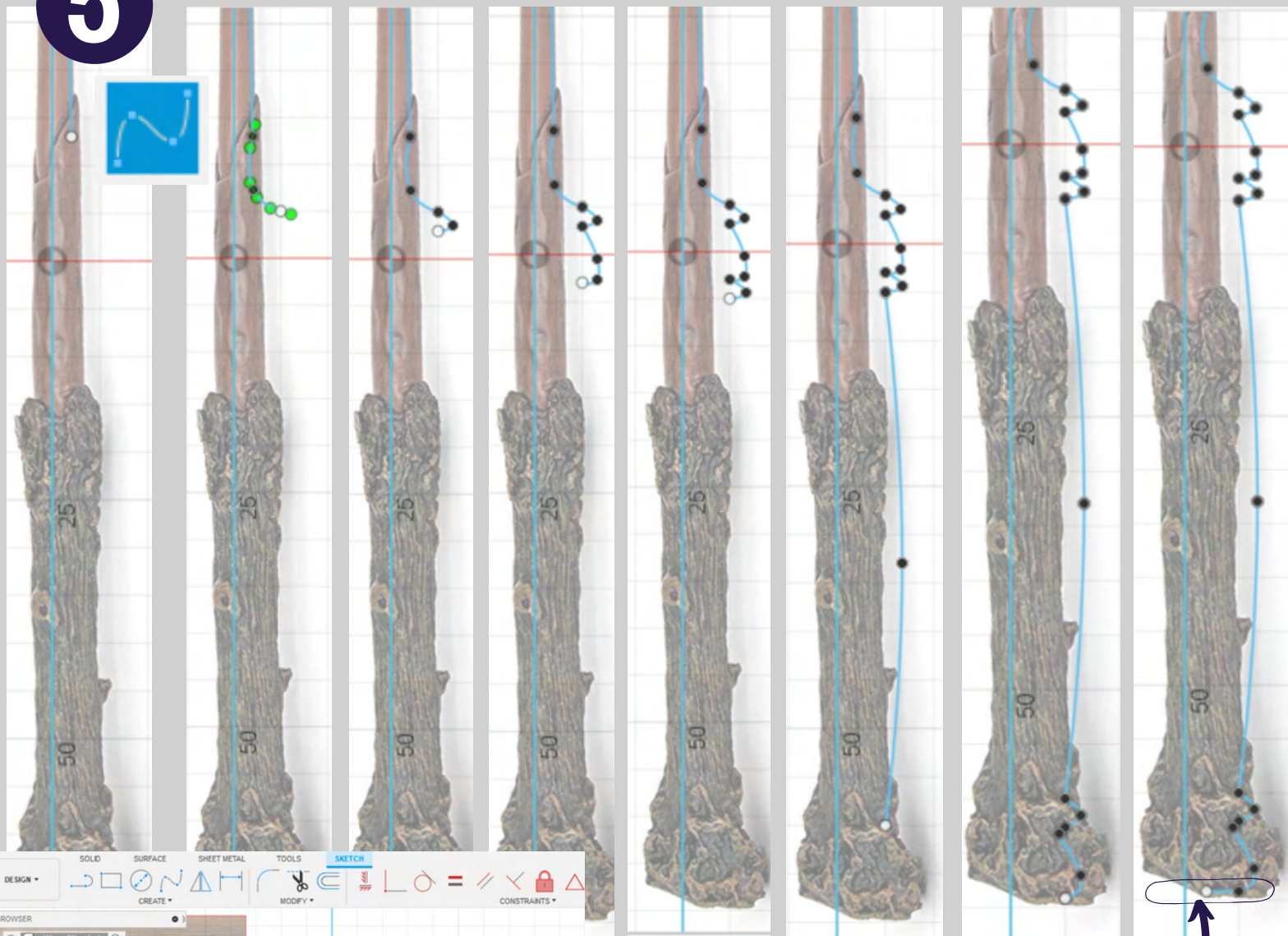
4

Then start drawing out the 'pointy end' of your wand. Use the **Fit Point Spline** tool to draw the top curve.



PAGE 5

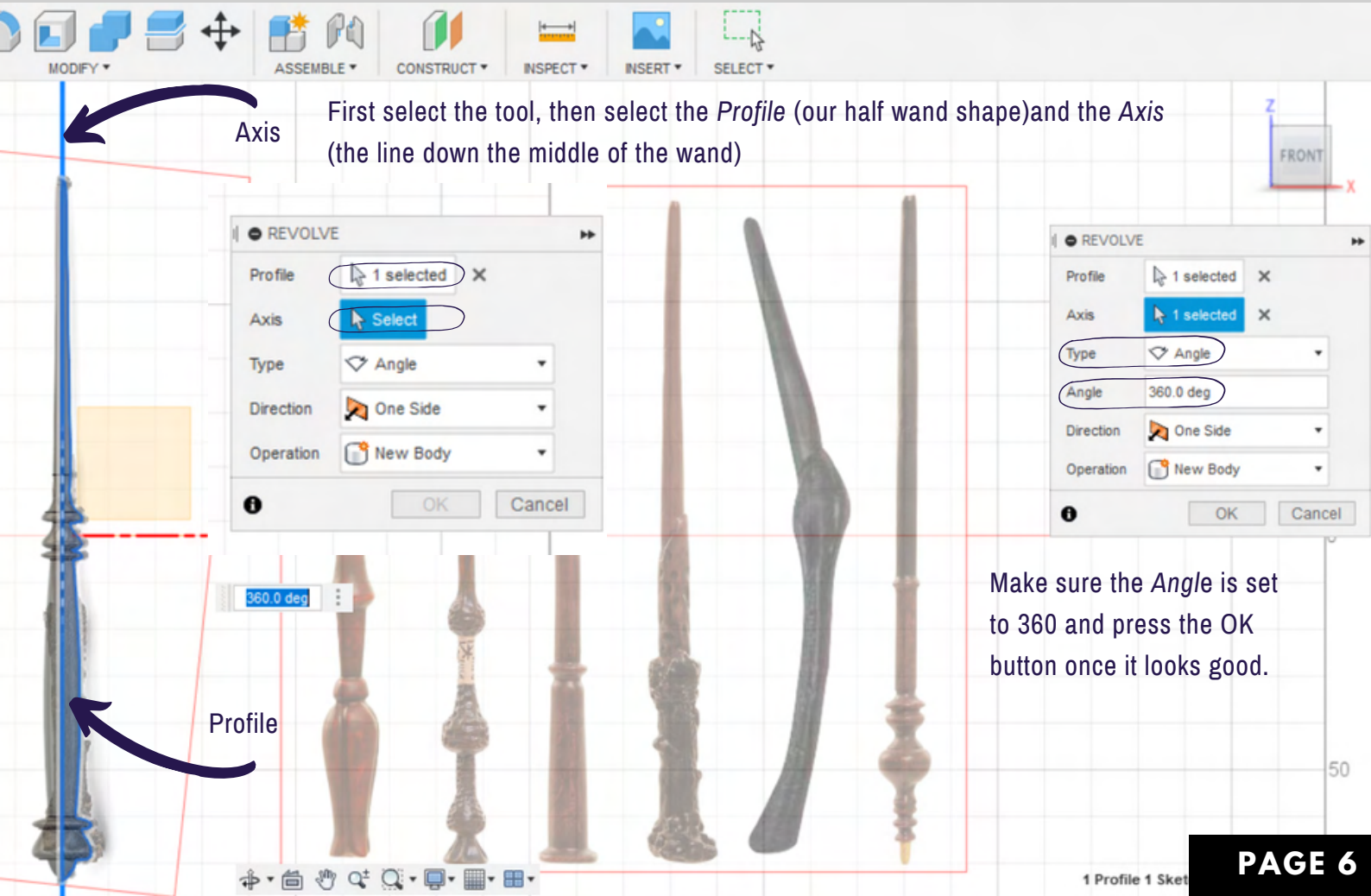
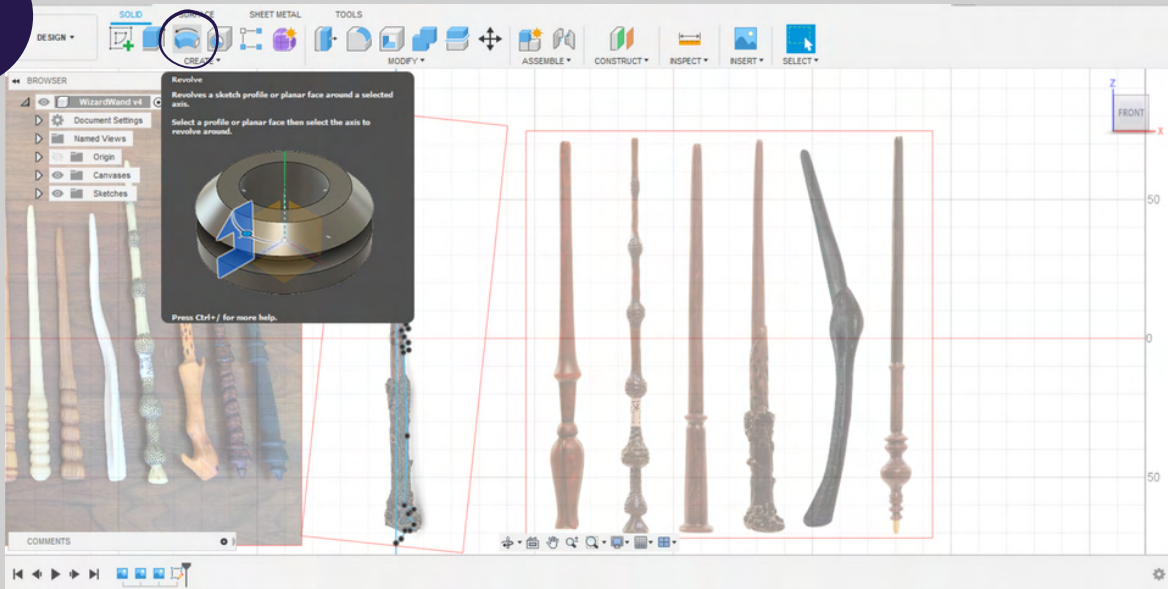
5



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6

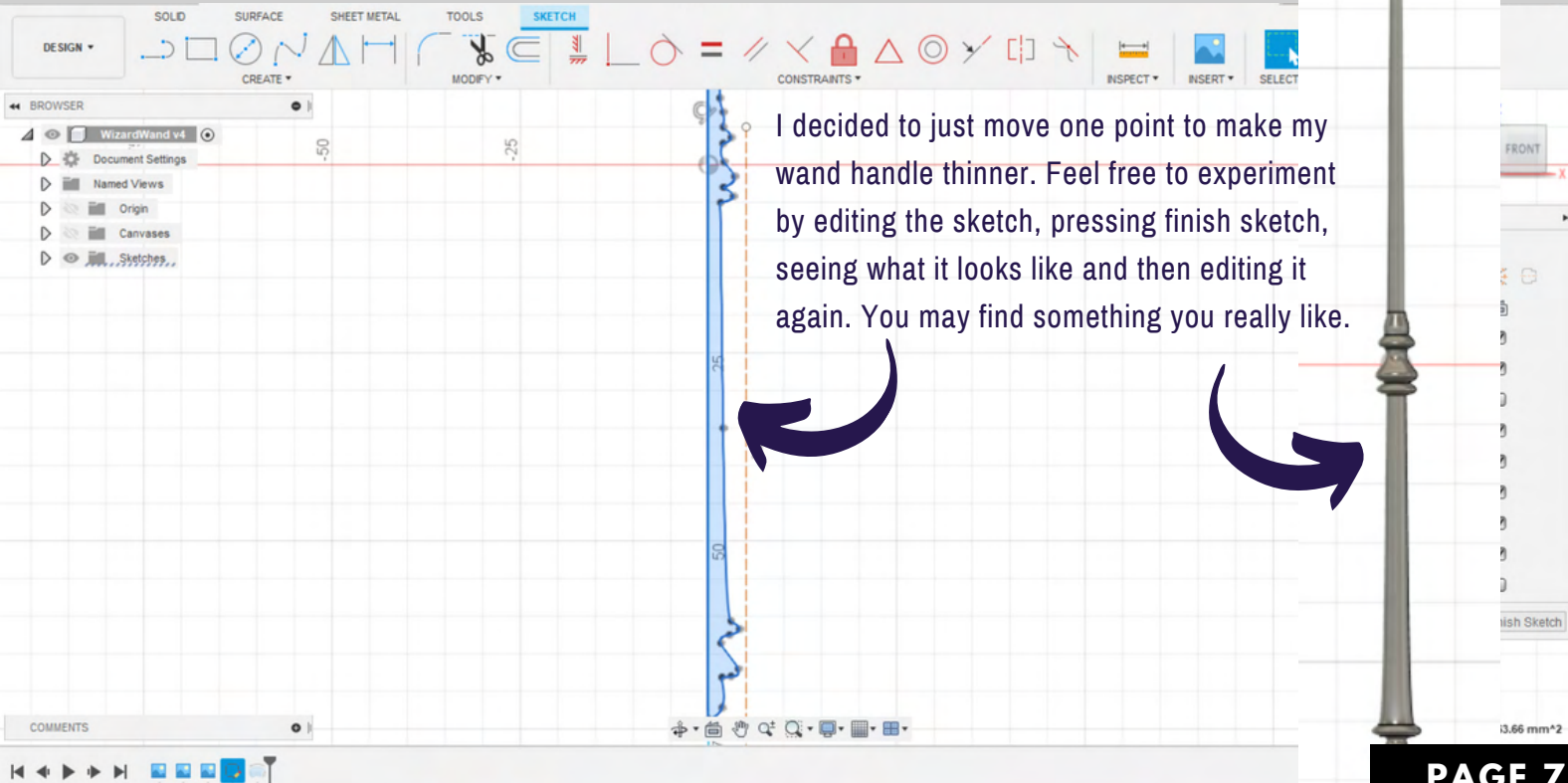
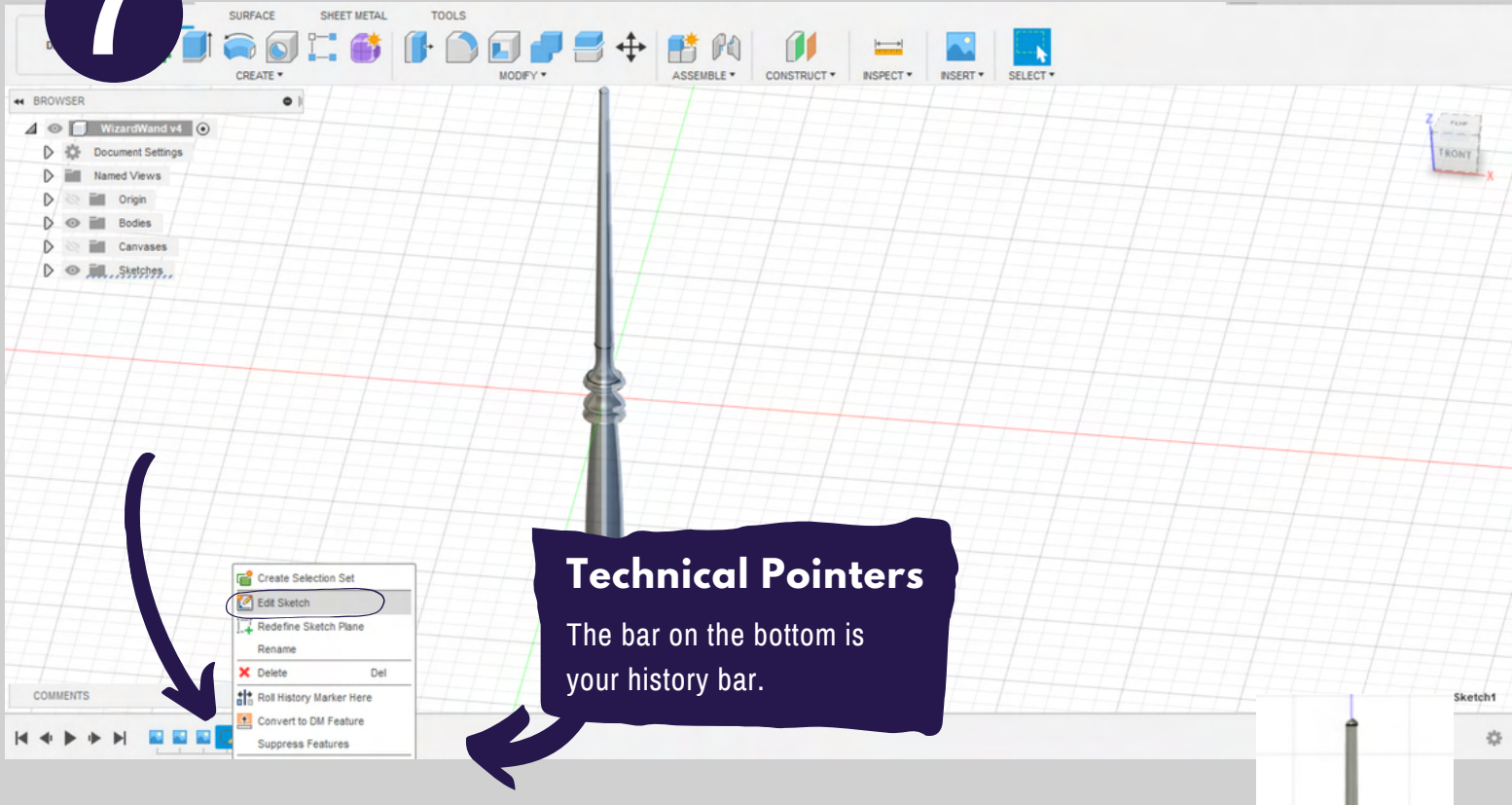
Now we'll use the **Revolve** tool to create a circular wand.



A QUICK REVISION

If you decide you want to change the shape of your wand after seeing how it looks, you can right-click on the sketch icon in the **History Bar** and choose *Edit Sketch*.

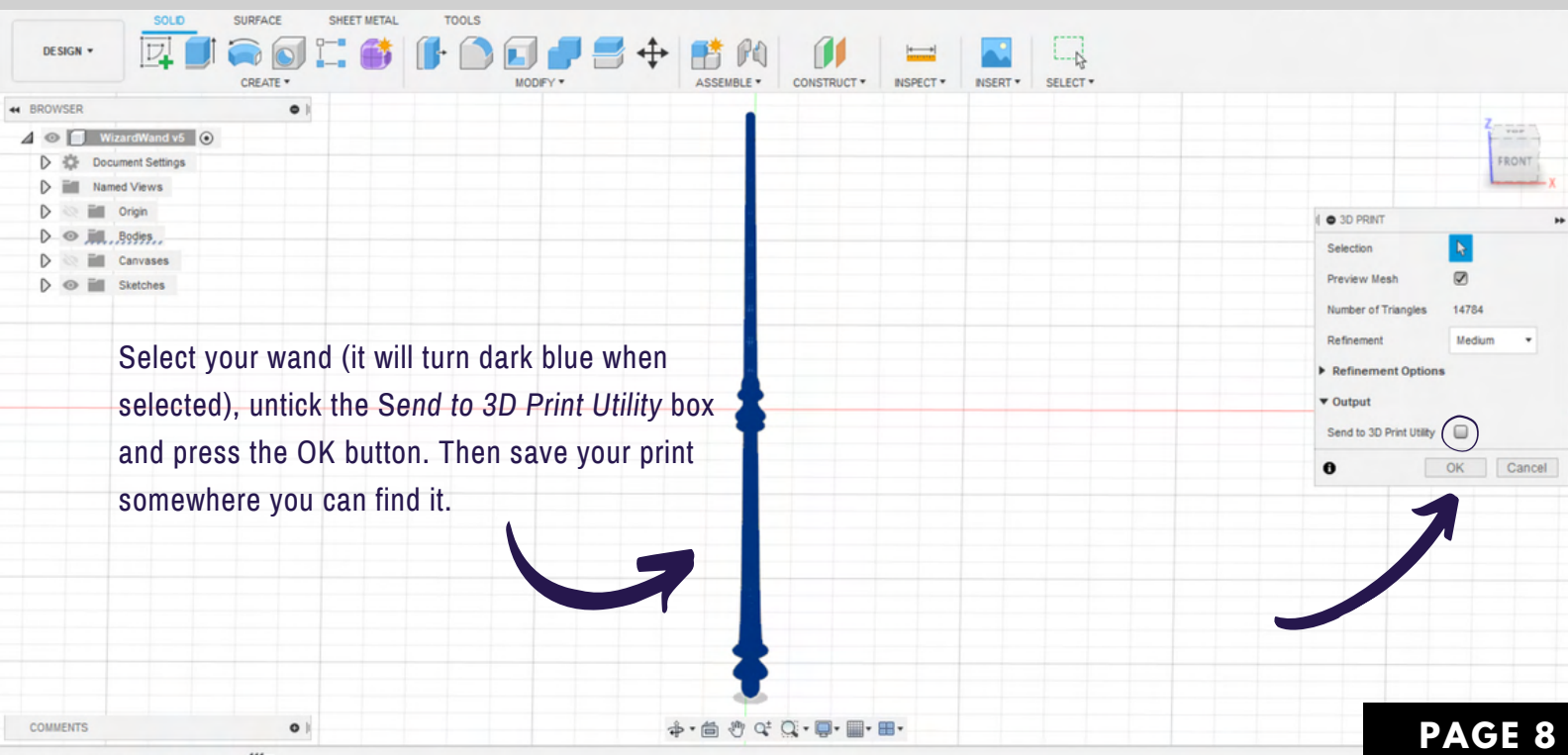
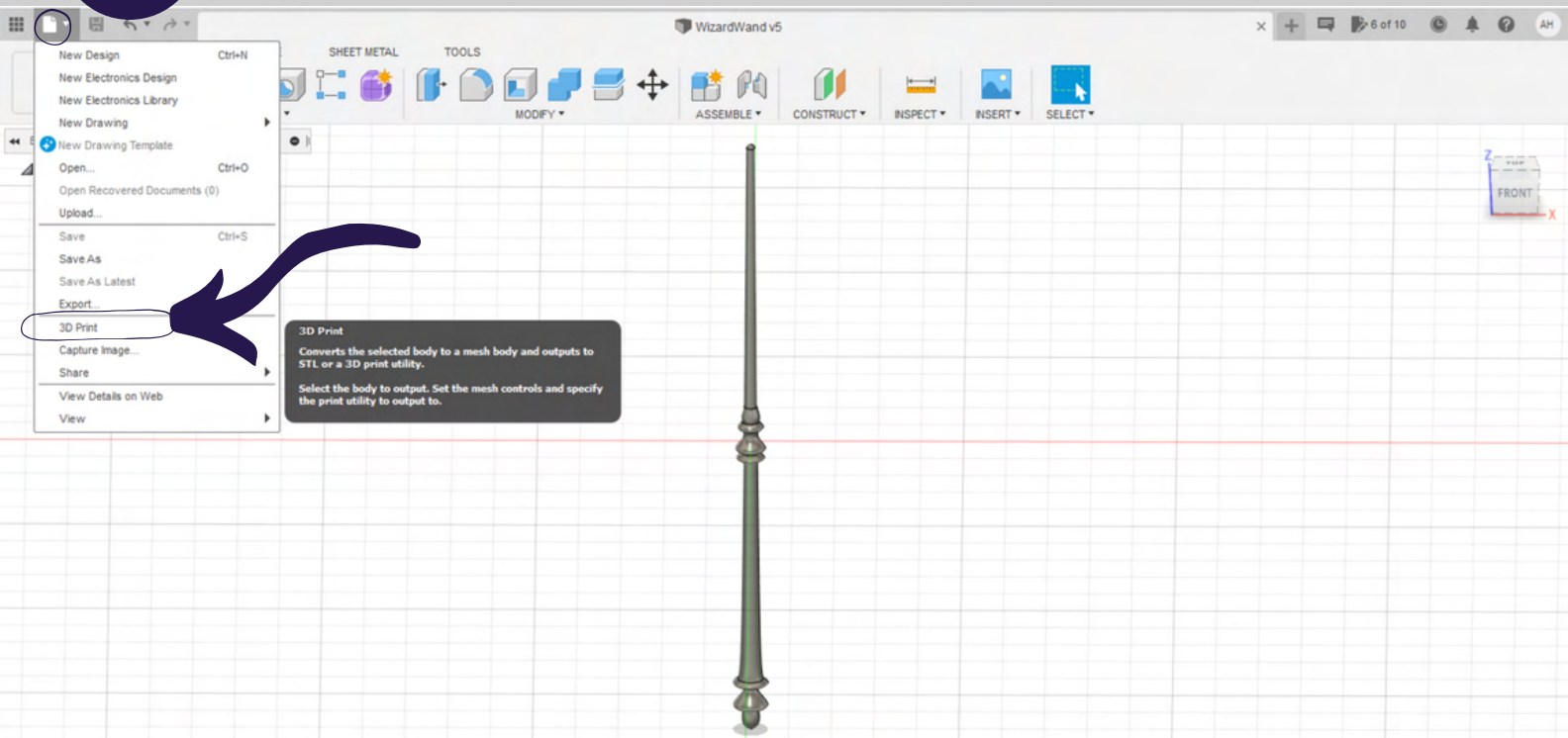
7



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8

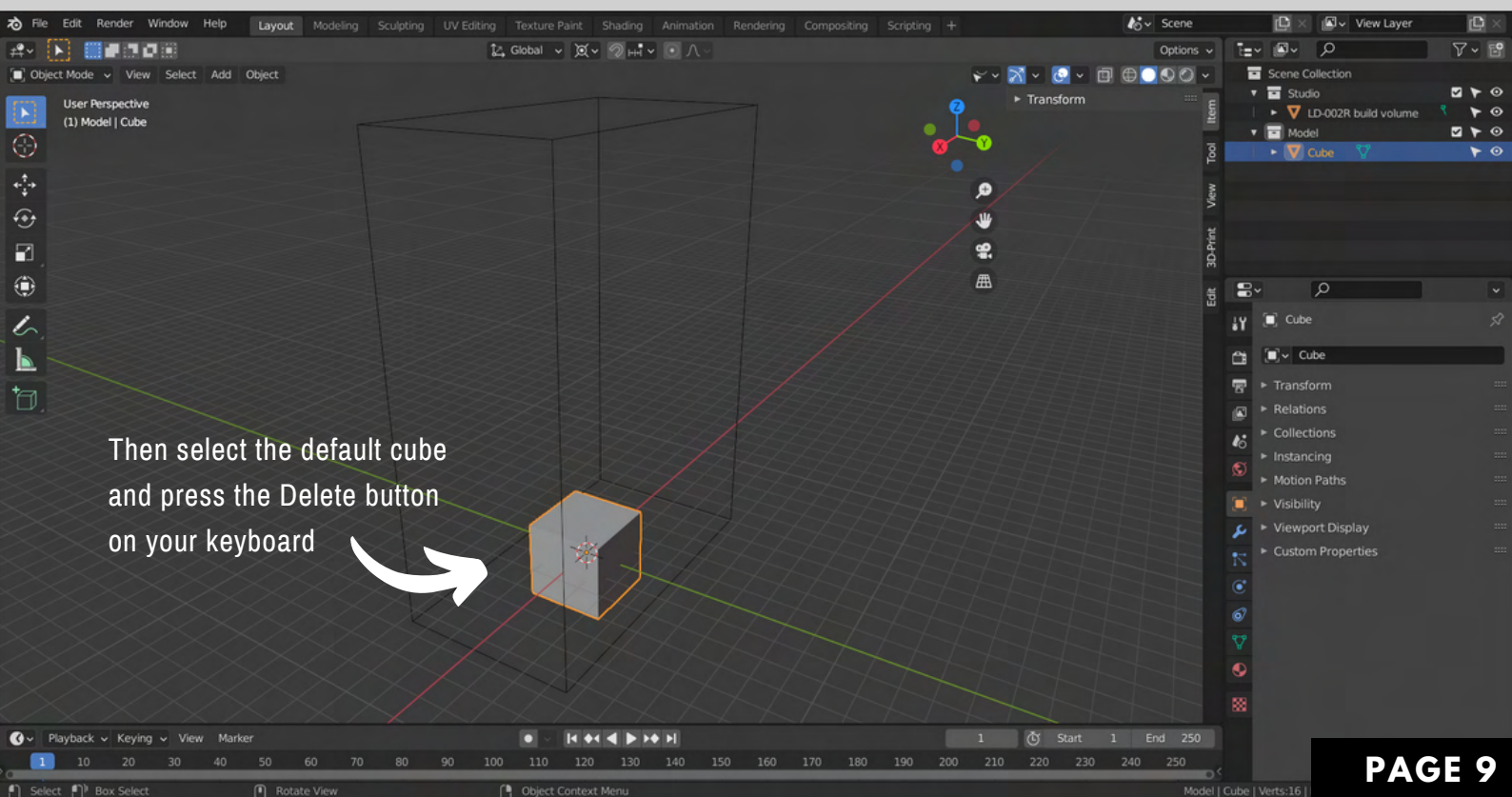
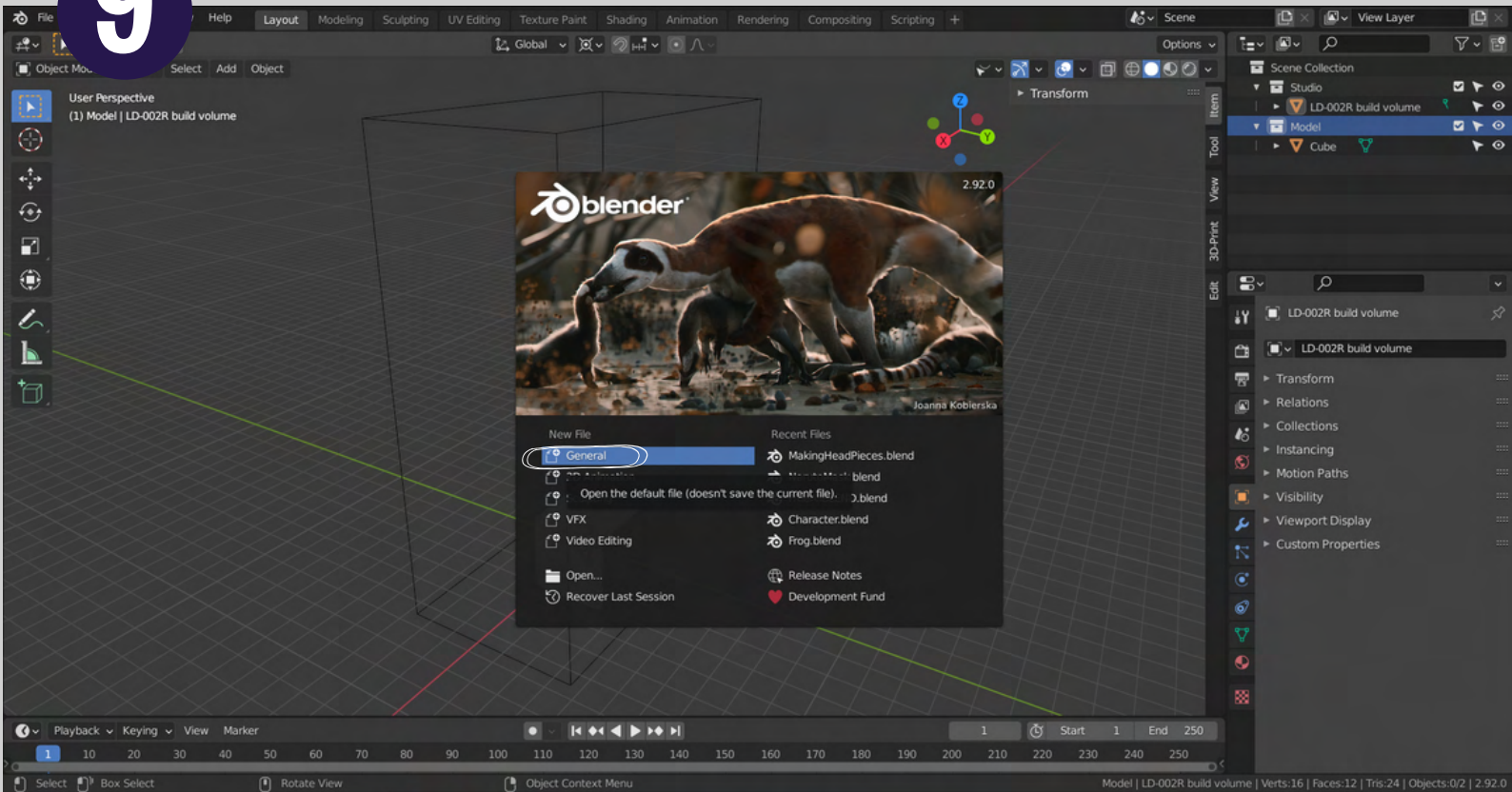
Once you're happy with the model it's time to export it! Click on the file icon and select **3D Print**



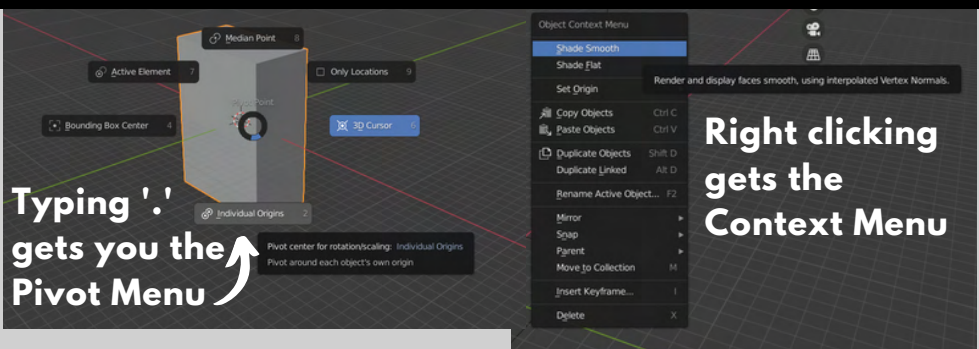
PAGE 9

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Start by opening up Blender and creating a new general file



INTERFACE OVERVIEW



Navigation Pointers

To navigate in Blender you can use the Navigation Gizmo, hot keys or your mouse.

Mouse shortcuts:

- Zoom** - mouse wheel
- Pan** - hold shift and middle mouse button
- Orbit** - hold the middle mouse button

Modes will modify the panels, controls, shortcuts and tools available while working. Certain workspaces will automatically put you in certain modes.

File Edit Render Window Help Layout Modeling

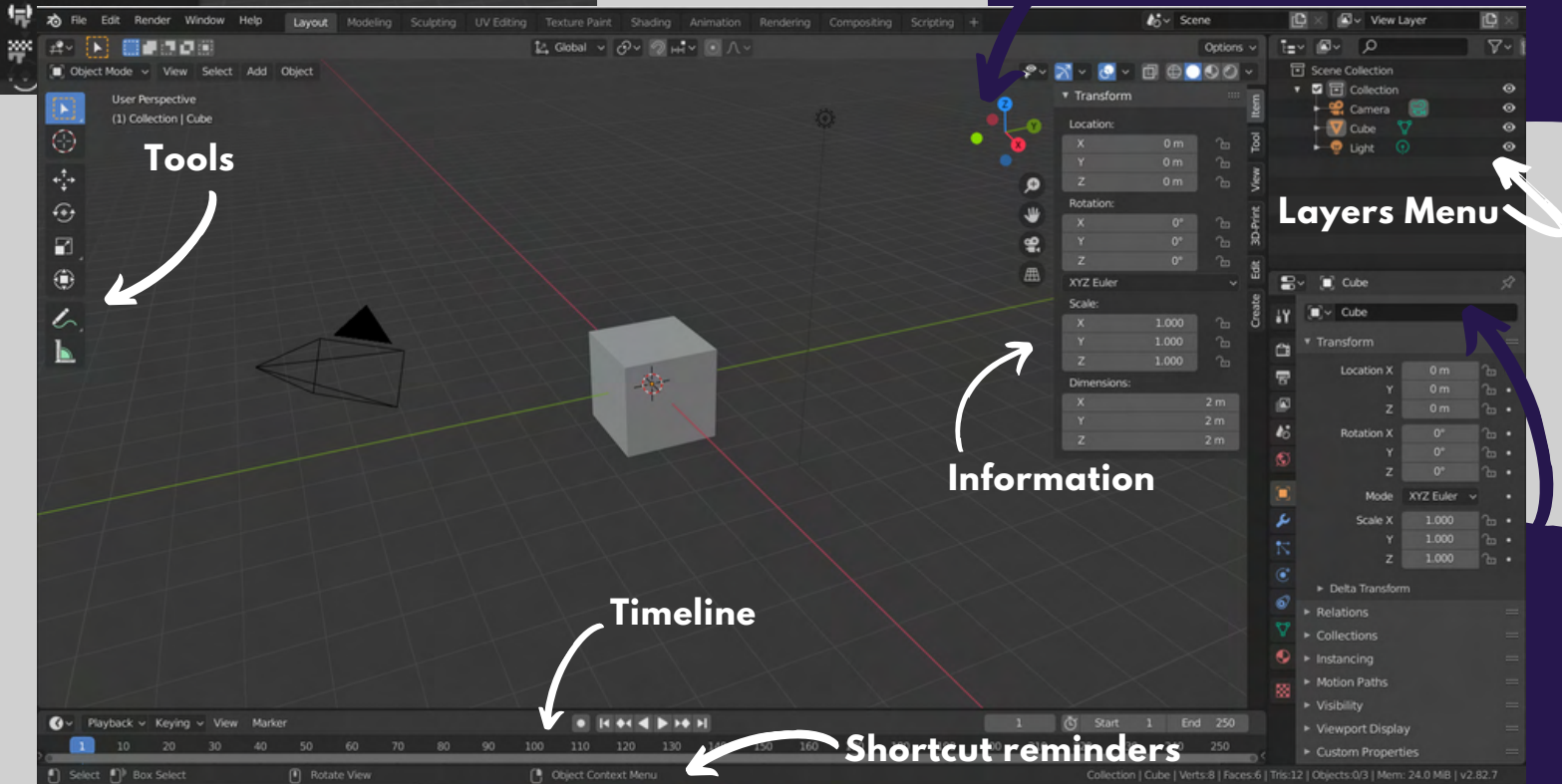
Object Mode View Select Add Object

Object Mode active

Edit Mode

Sculpt Mod Sets the object interaction mode: Object Mode

Vertex Paint



Key Shortcuts

- G** - Grab/move
- R** - Rotate
- S** - Scale
- X** - Delete selection
- T** - Tools
- N** - Information
- Shift + A** - Add
- Tab** - change modes
- Right-click** - Context menu
- Left-click** - Select

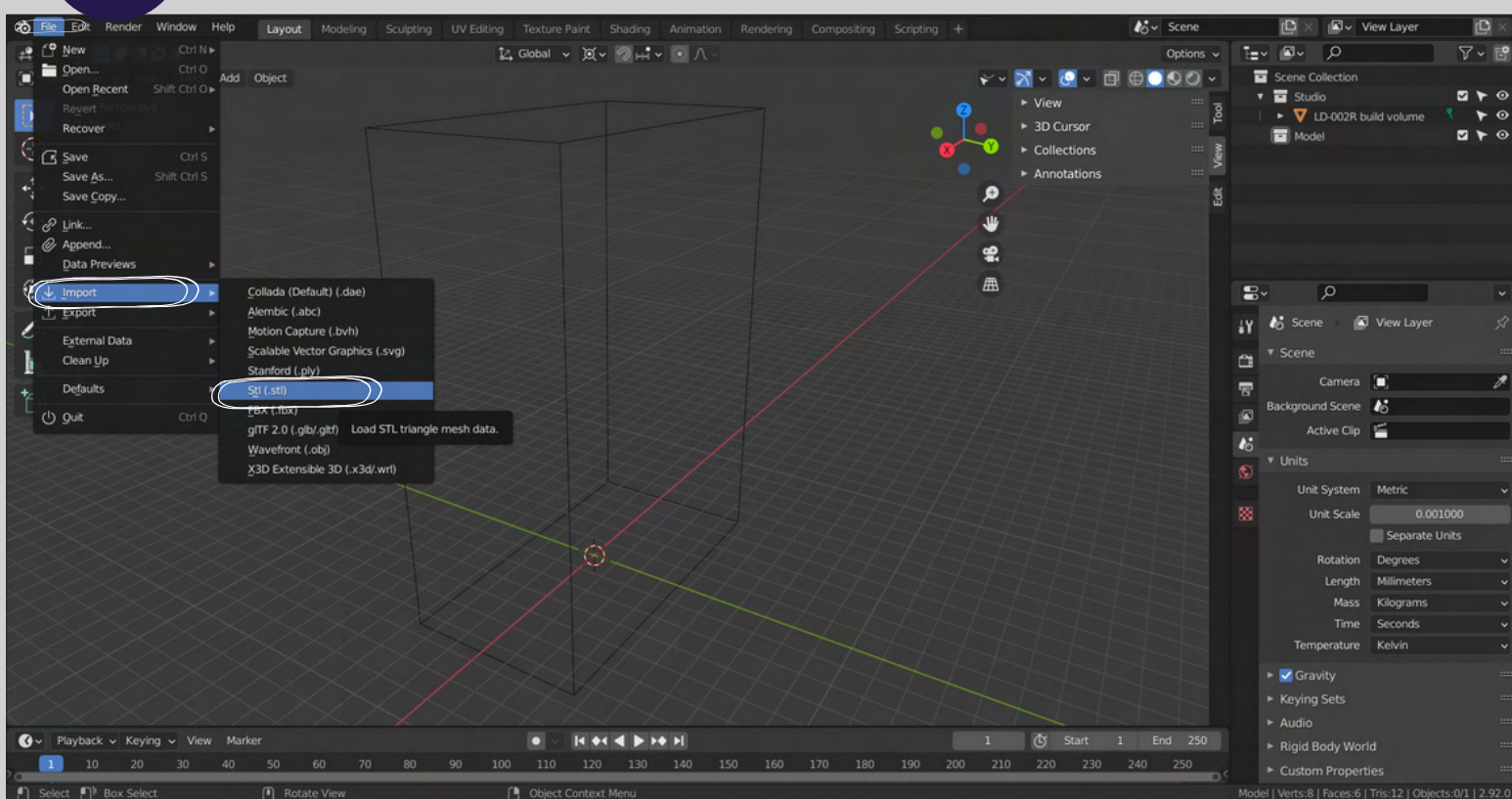
Properties panel

This panel is object dependent and shows render and dimension information.

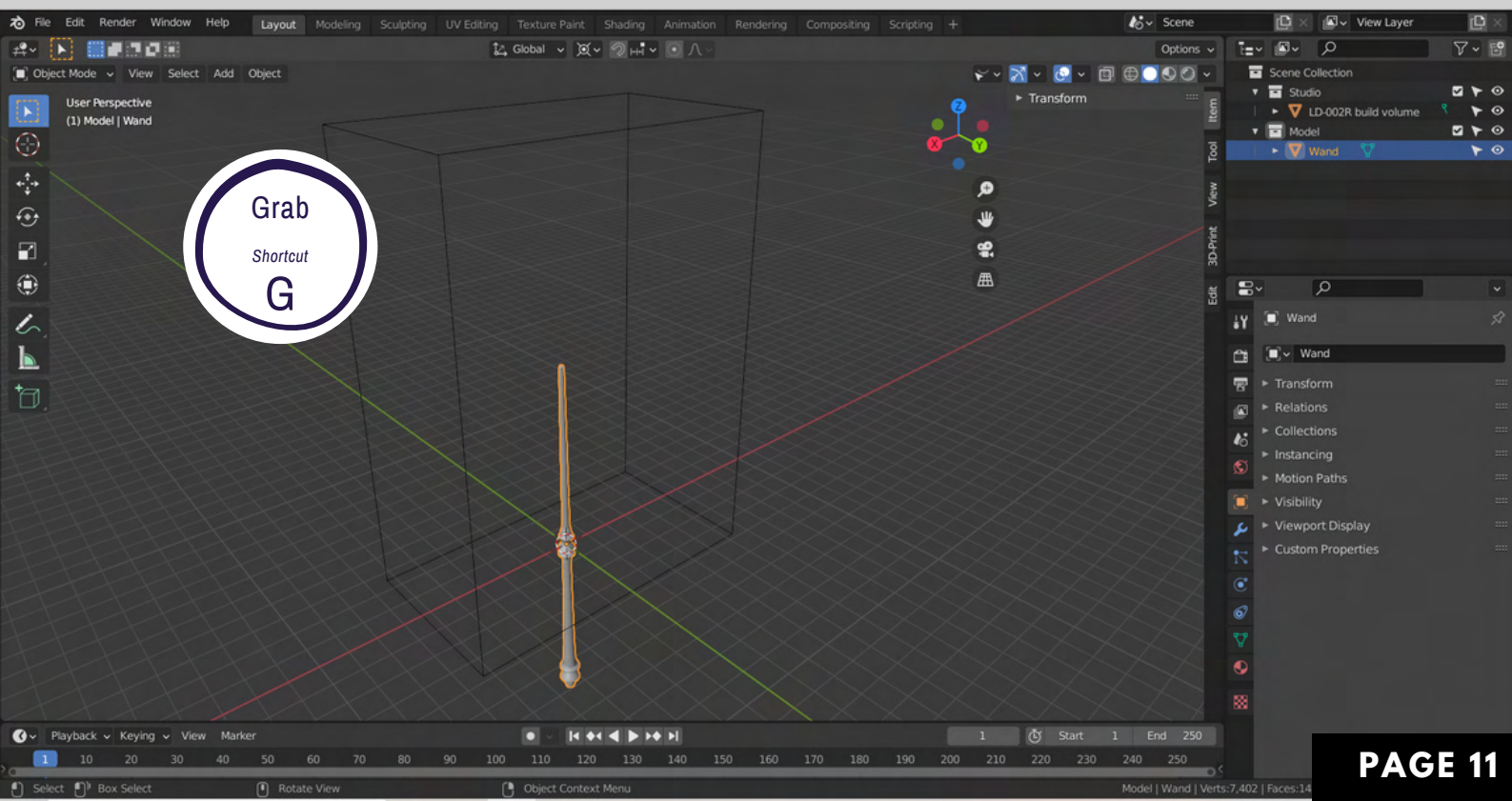
PAGE 11

10

Now let's bring in our wand for editing. Start by going File > Import > Stl. Then find where you saved your wand and open it.



If you want to move your wand, use the Grab tool (press G to get it).

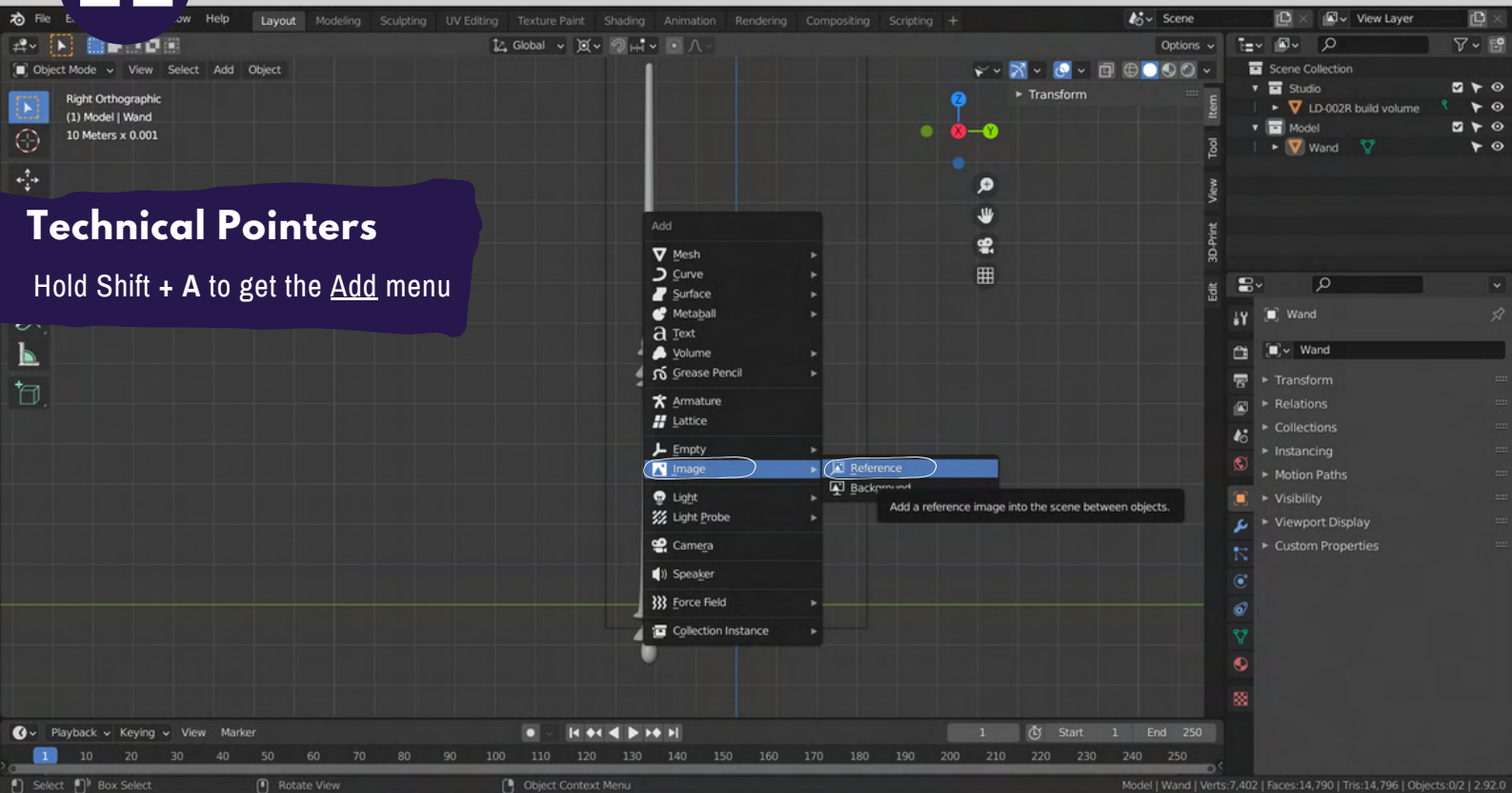


11

Next let's add in our reference images.
Use the Add menu and go to Image > Reference

Technical Pointers

Hold Shift + A to get the Add menu



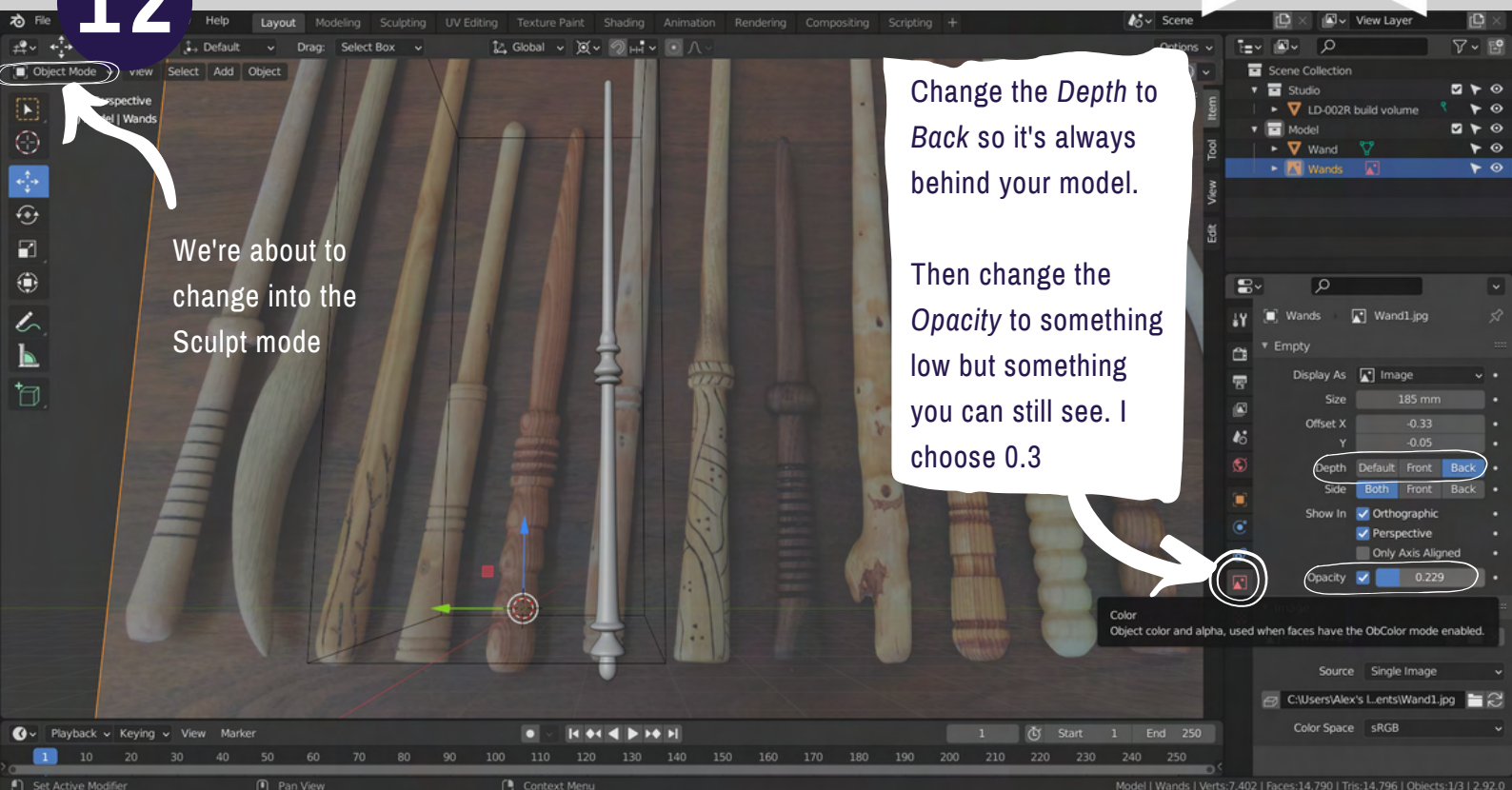
Then just use the **Grab** tool to reposition the wands



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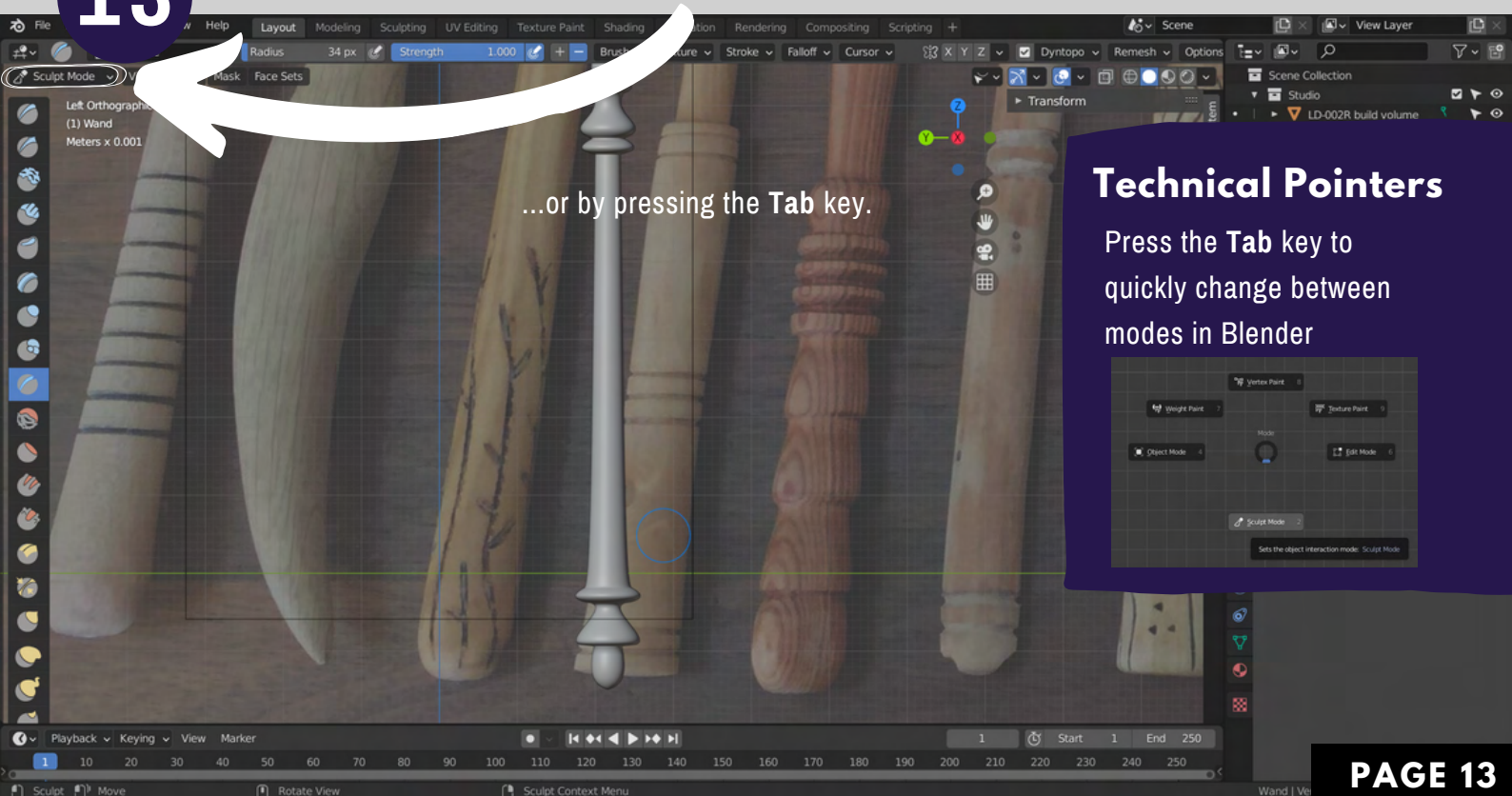
12

Now use the Object Data Properties menu to adjust the picture



13

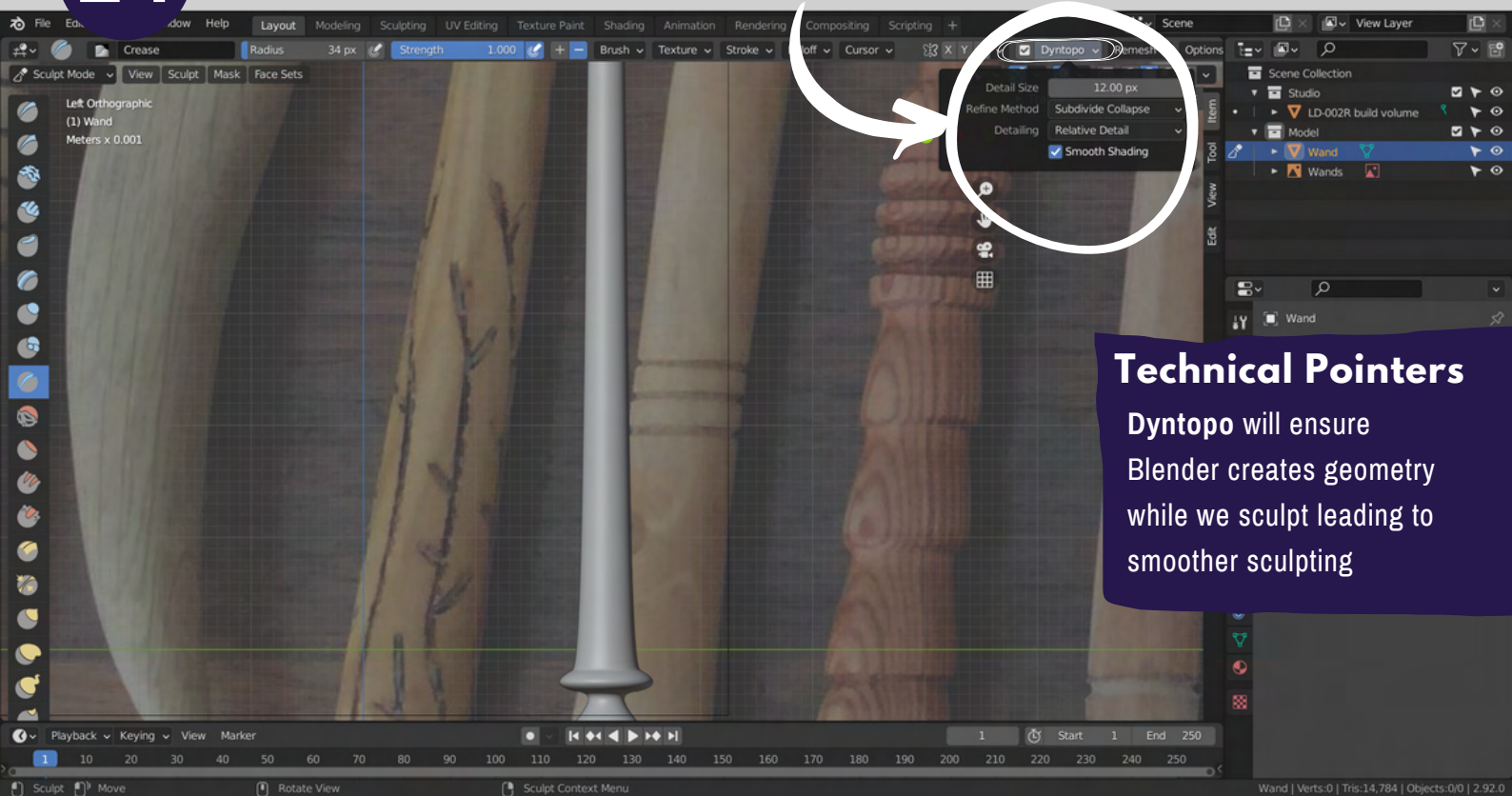
Now head over to Sculpt mode either by using the drop down menu...



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Next let's set up our sculpting tools. First turn **Dyntopo** on by ticking the box next to **Dyntopo** at the top of the screen and adjust the settings like so...

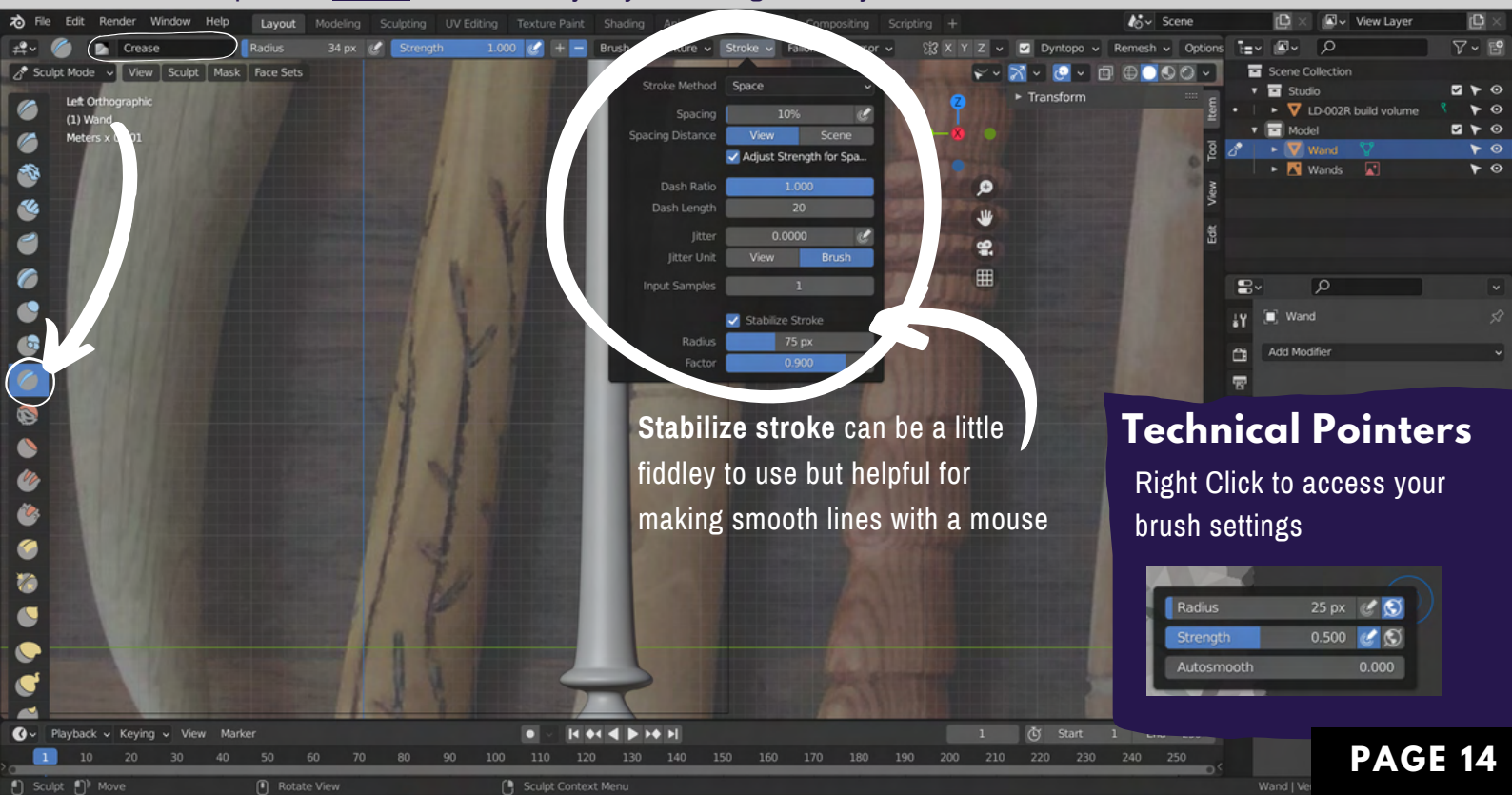


Technical Pointers

Dyntopo will ensure Blender creates geometry while we sculpt leading to smoother sculpting

Next select the **Crease** brush (the brush with the big arrow pointing to it).

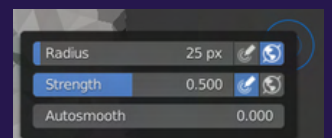
Then open the **Stroke** menu and adjust your settings so they look like this.



Stabilize stroke can be a little fiddly to use but helpful for making smooth lines with a mouse

Technical Pointers

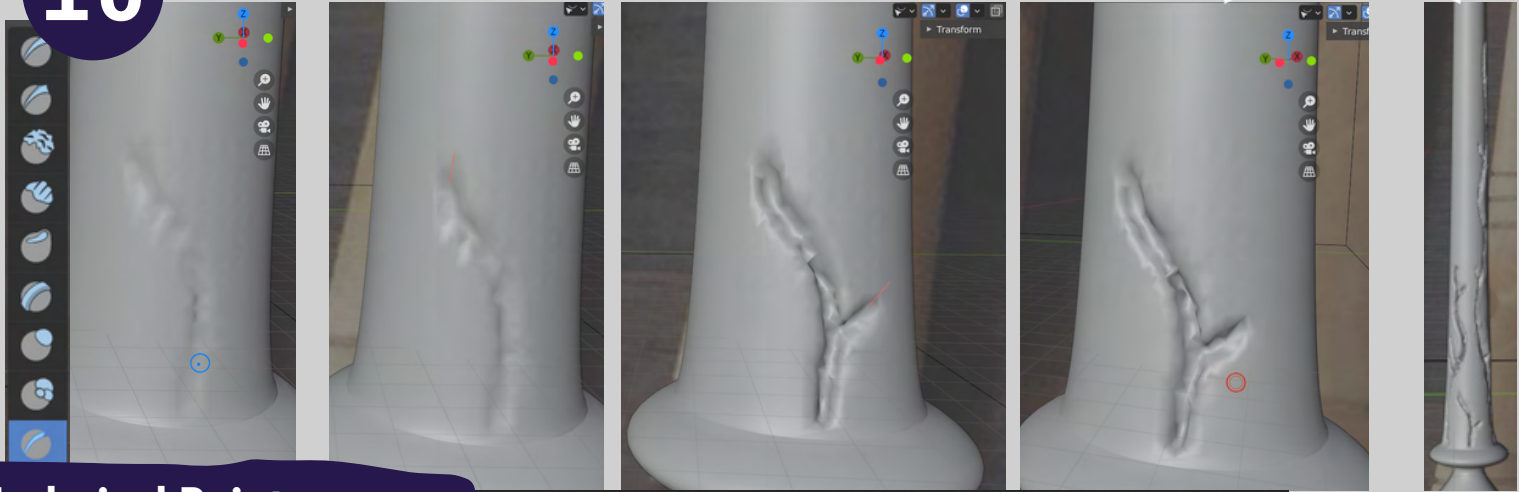
Right Click to access your brush settings



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Next start to draw whatever design you want on your wand. I chose a vine-like pattern. You'll notice a red line following your mouse - that is stroke stabilization.



Technical Pointers

The best thing to do when sculpting is to start with big shapes and slowly whittle down to a more detailed and defined version

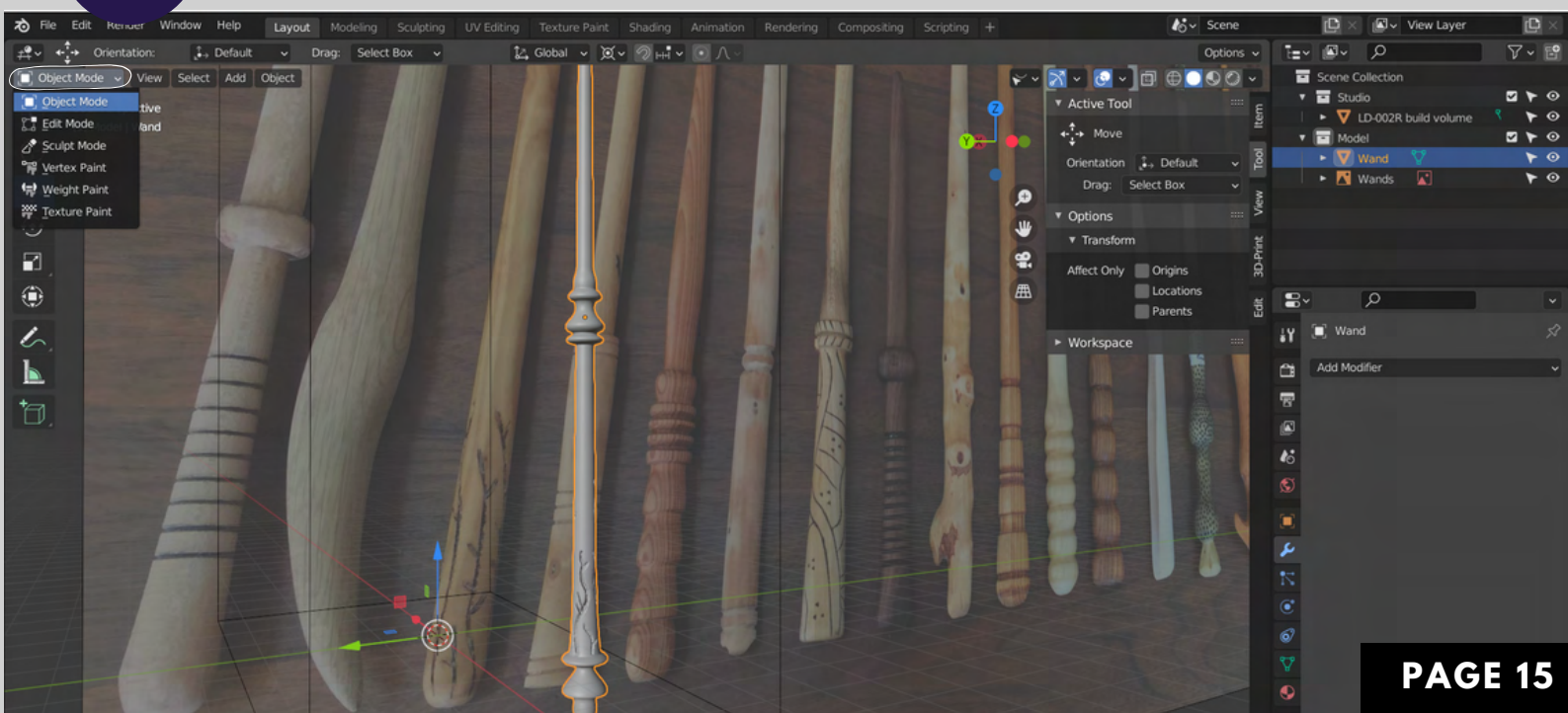
Stroke stabilization helps you get relatively smooth curves and lines, if you don't like it you can turn it off in the Stroke menu.

Technical Pointers

Hold **Shift** to switch to the **Smooth** tool

16

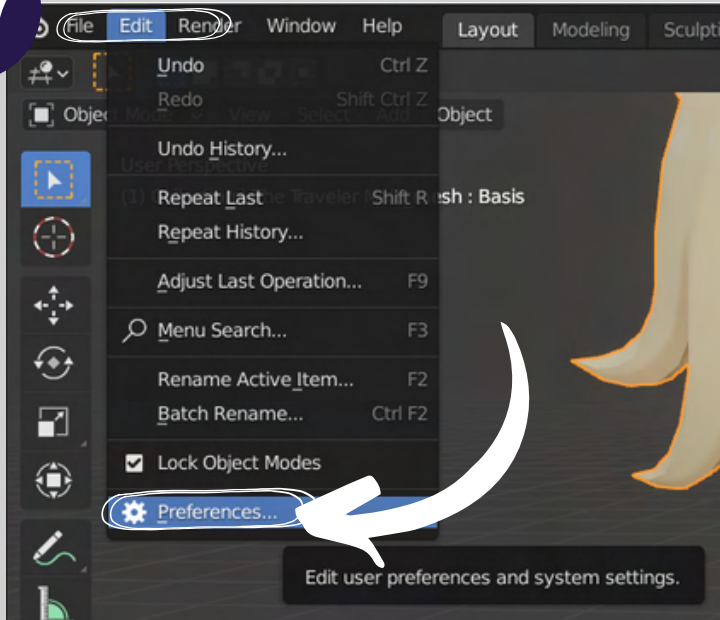
Looking good! Once you're happy with your wand design head back to Object mode.



ADDONS

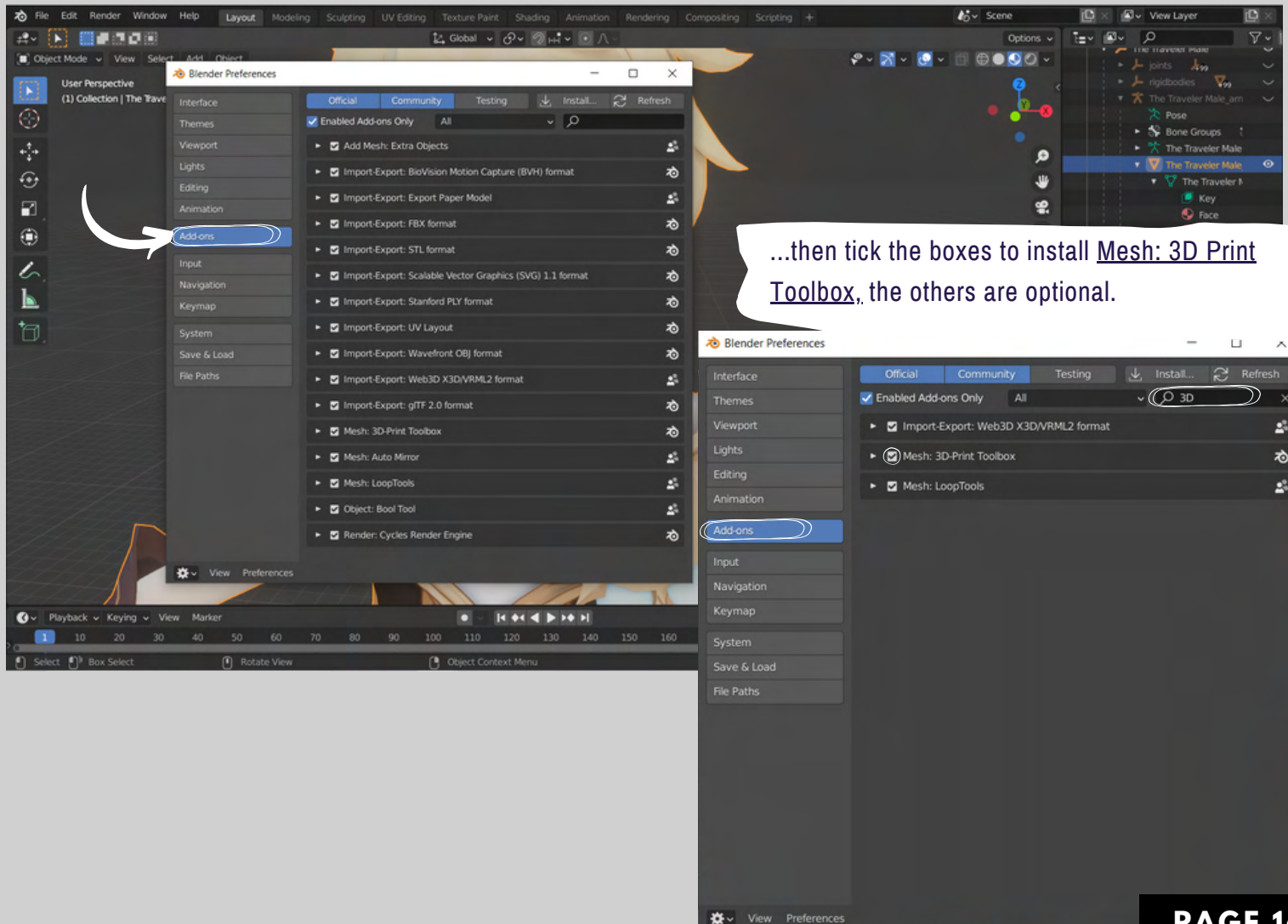
17

Next we need to install the **Addon** that will let us export a model to 3D print



First head to Edit > Preferences...

Then go to Add-ons and search 3D...

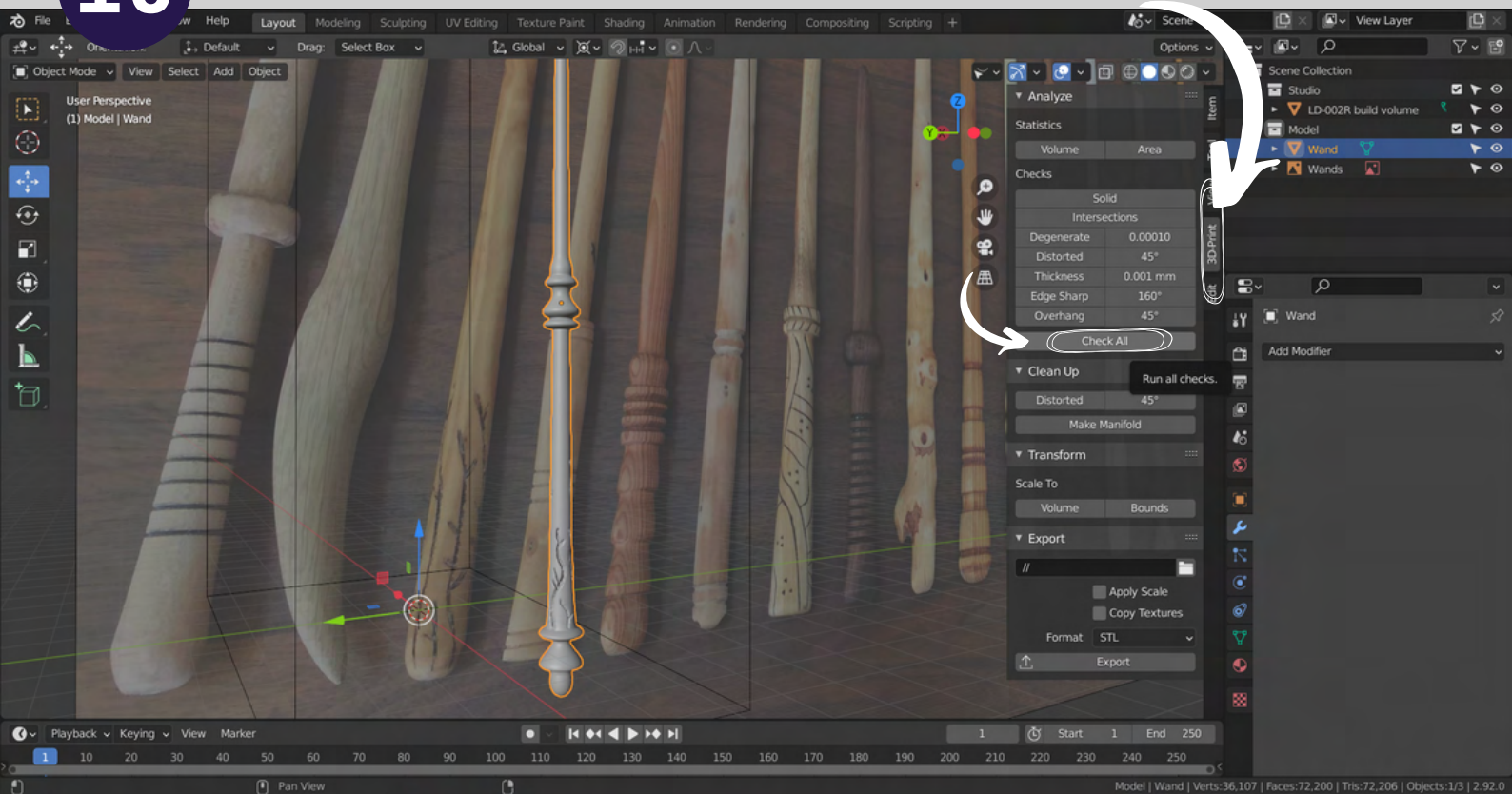


...then tick the boxes to install Mesh: 3D Print Toolbox, the others are optional.

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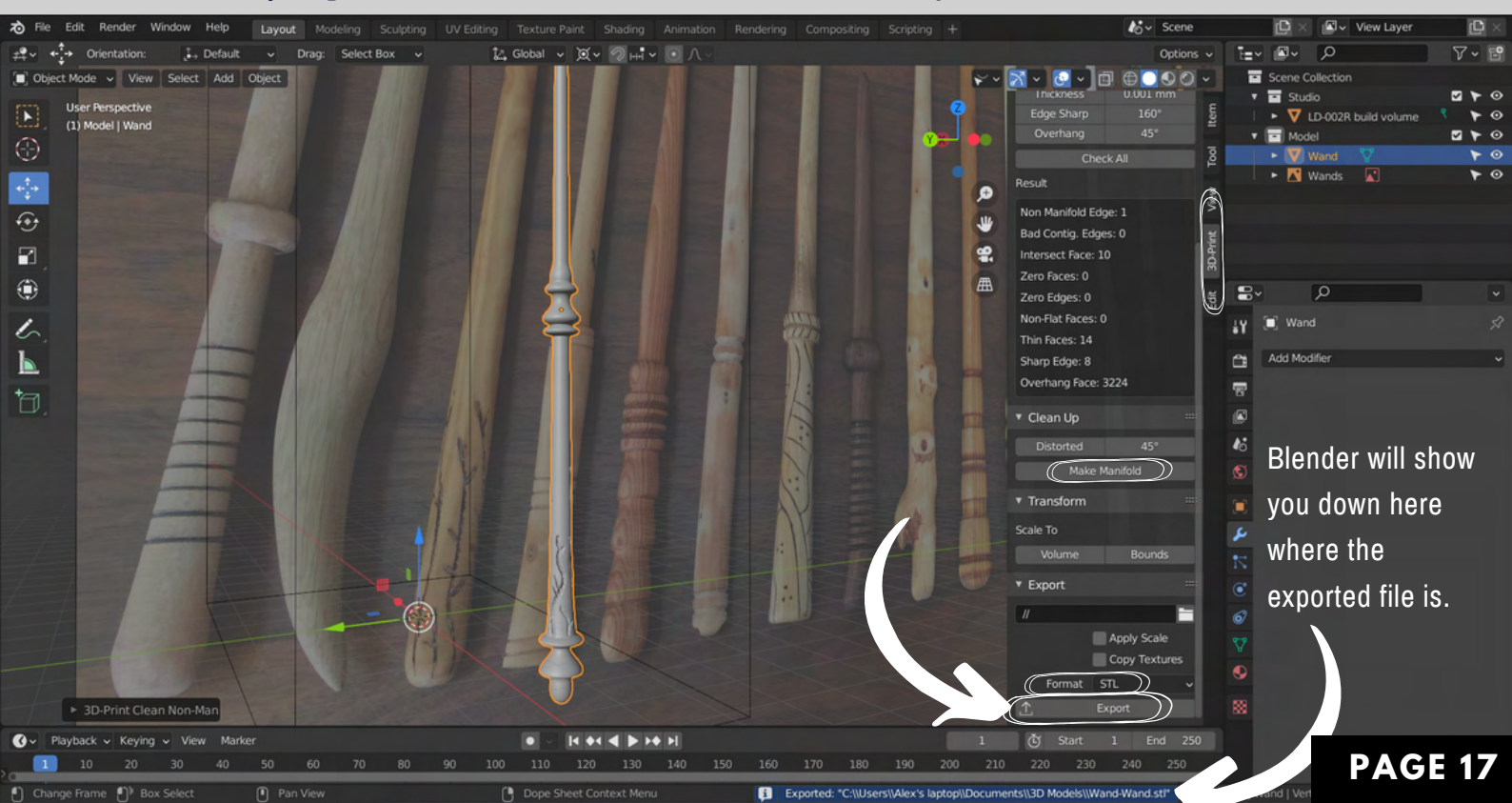
18

Finally it's export time! Open up the sidebar we just installed and click the **Check All** button under the Analyze menu.



If Blender finds an error click the **Make Manifold** button under the Clean Up menu.

If everything is ok, choose STL as the Format and click the **Export** button



Blender will show you down here where the exported file is.