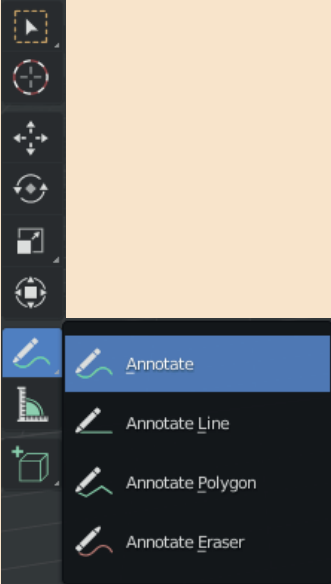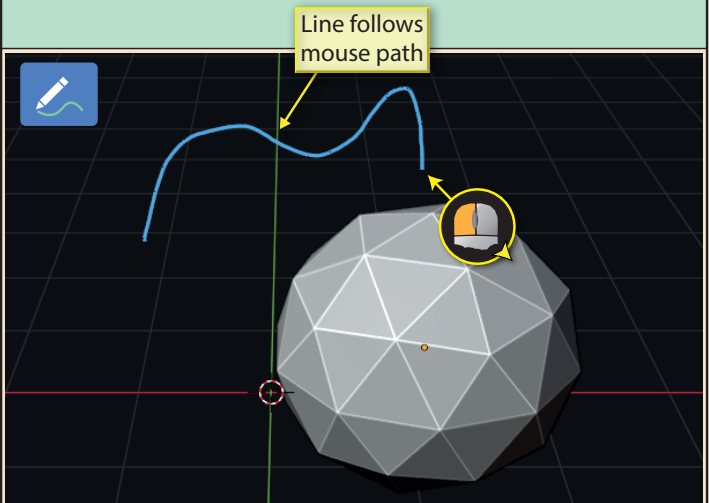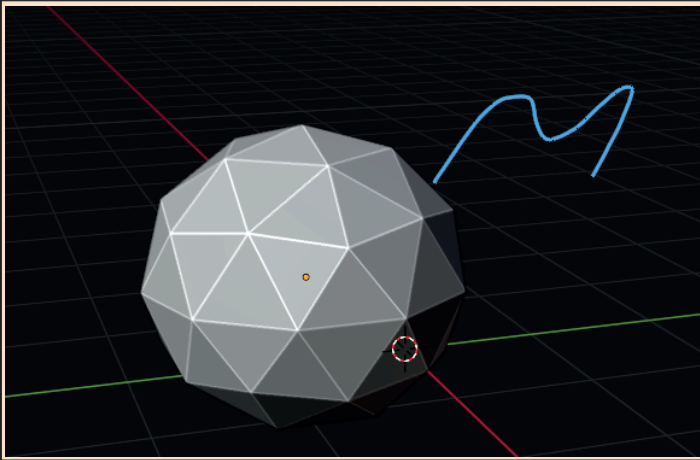The **Annotate Tool** allows us to draw freehand in the *3D Viewport*. These results are not part of the scene but are sometimes used as notes and reminders for tasks still to be performed. The tool has several options.
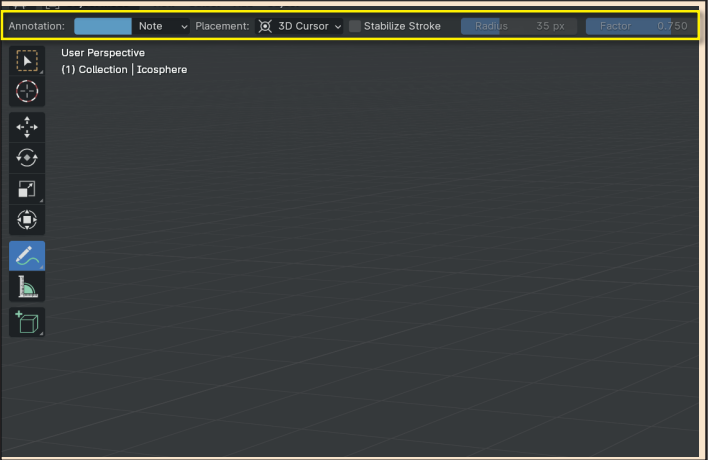
Annotate
Annotate Line
Annotate Polygon
Annotate Eraser

The first option, labelled **Annotate**, allows for freehand drawing by dragging the mouse.

Line follows mouse path

The line is drawn on a plane in 3D space which is perpendicular to our current viewpoint, so as we shift viewpoint, we see the line from a different perspective.
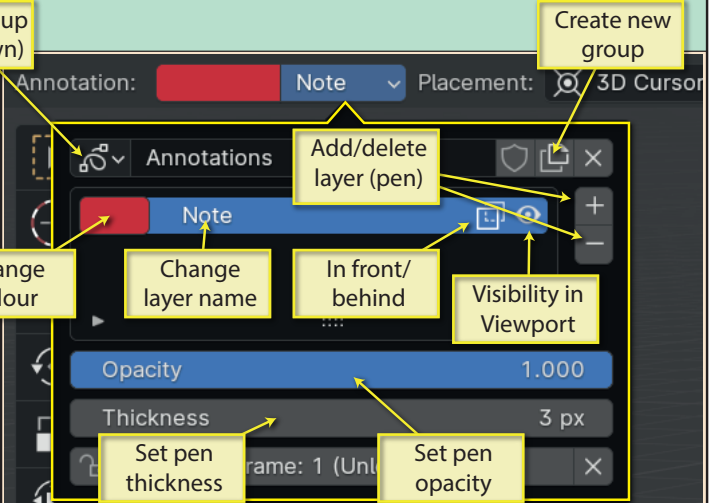
At the top left of the *3D Viewport*, we have attributes that we can use to control the annotation style. Note that these appear after the first line is drawn.
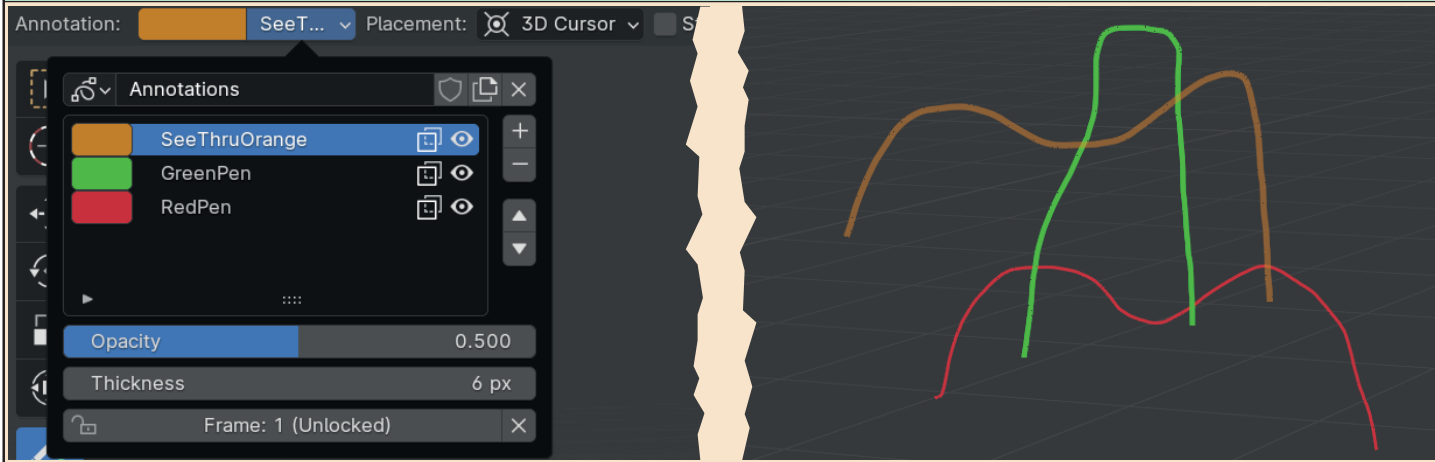
Annotation: | Note | Placement: 3D Cursor | Stabilize Stroke | Radius 35 px | Factor 0.750

User Perspective
(1) Collection | Icosphere

Clicking on the blue block, allows us to select a new colour for current and future drawings using this "pen". Blender calls each "pen" a "Layer".
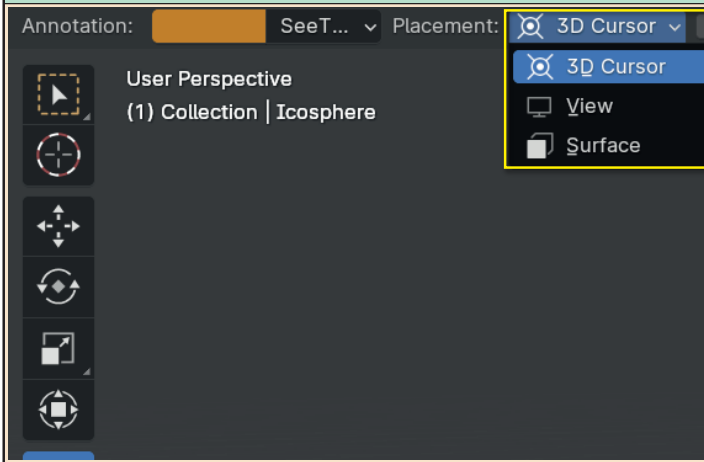
Annotation: | Note | Placement: 3D Cursor | Stabilize Stroke

RGB  HSV  Hex

Hue 0.988
Saturation 0.830
Value 0.780

Press the dropdown button to get more detail on each pen in the current group.

Select group (dropdown)

Create new group

Annotation: | Note | Placement: 3D Cursor

Annotations

Note

Add/delete layer (pen)

Change colour

Change layer name

In front/ behind

Visibility in Viewport

Opacity 1.000

Thickness 3 px
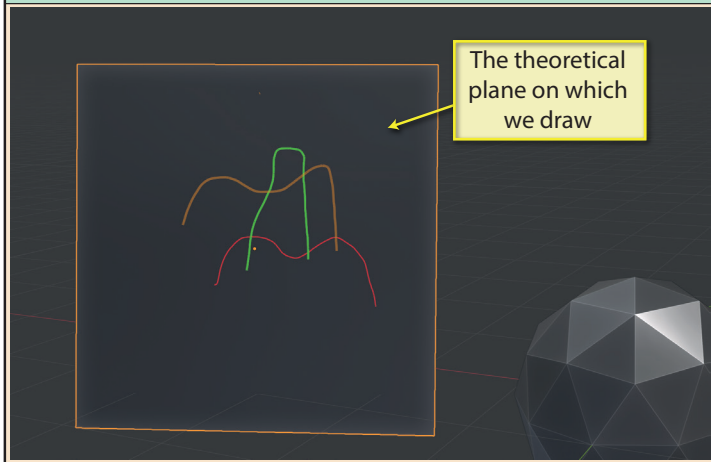
Set pen thickness

Set pen opacity

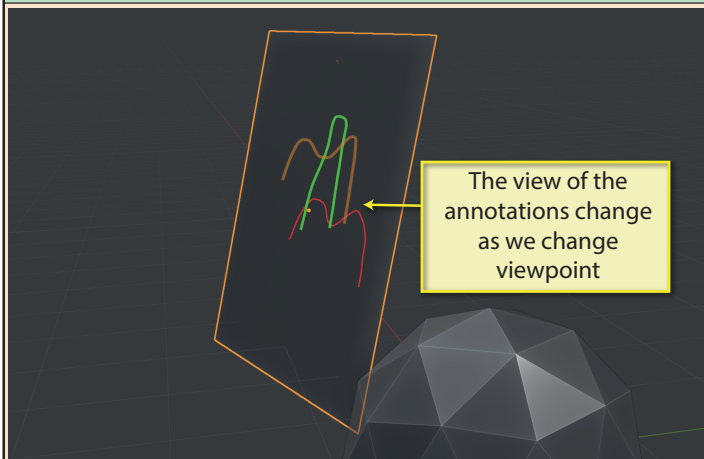Below we can see the entries in the panel when three layers (pens) have been added to the group.



Moving along the line of parameters at the top of the *3D Viewport*, we come to **Placement**. This is a dropdown list offering three options that determine where in 3D space or annotations are drawn.



**3D Cursor** is the default setting and this draws onto a invisible plane which is placed at the same distance as the 3D cursor from our current viewpoint. The pane is set at an angle perpendicular to our viewpoint.
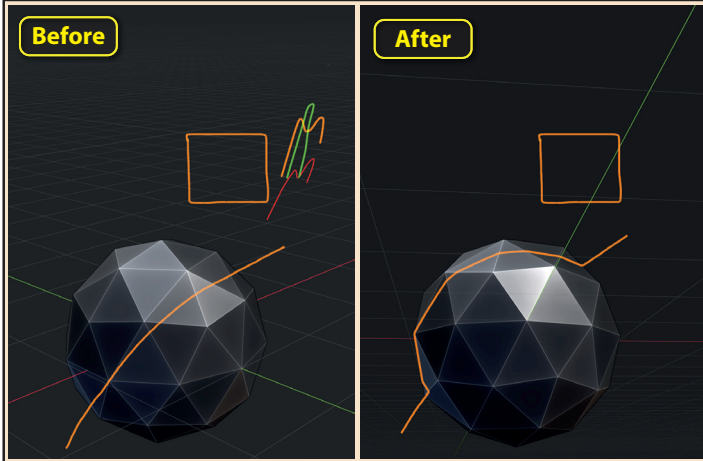


The theoretical plane on which we draw

This means that if we change viewpoint, the angle at which we see our previous drawings changes.



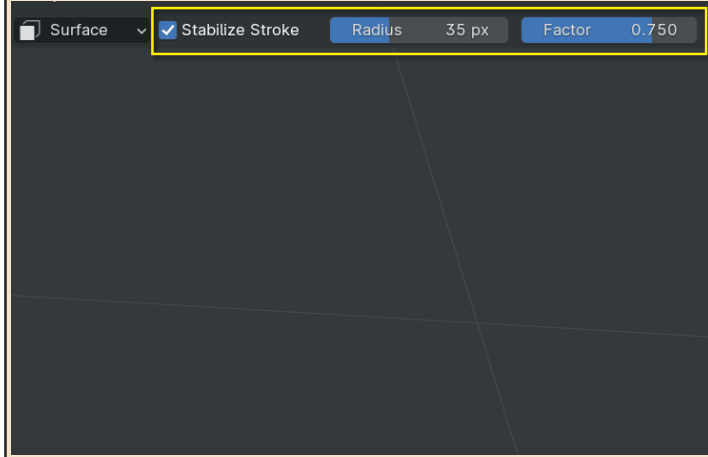The view of the annotations change as we change viewpoint

**View** is the second *Placement* option. This operates as if it were drawing onto computer screen. This means a change of viewpoint has no effect on the view of the drawings.
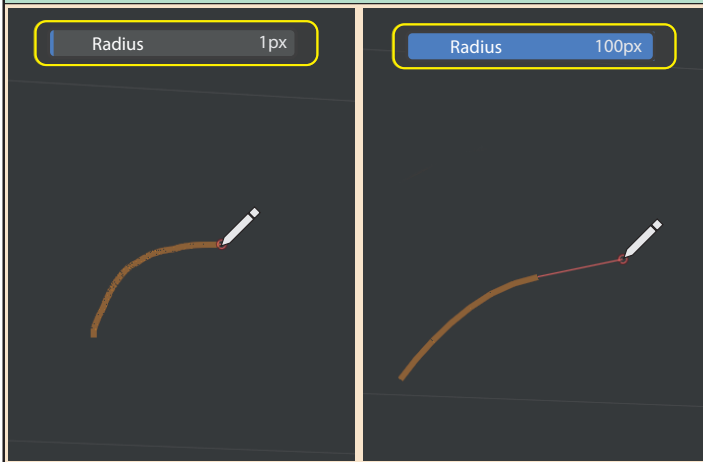
Before viewpoint change

After viewpoint change

**Surface** is the final *Placement* option, and there is no obvious difference until we change viewpoint. If the drawn line passes over an object, the line snaps onto the surface of the object.
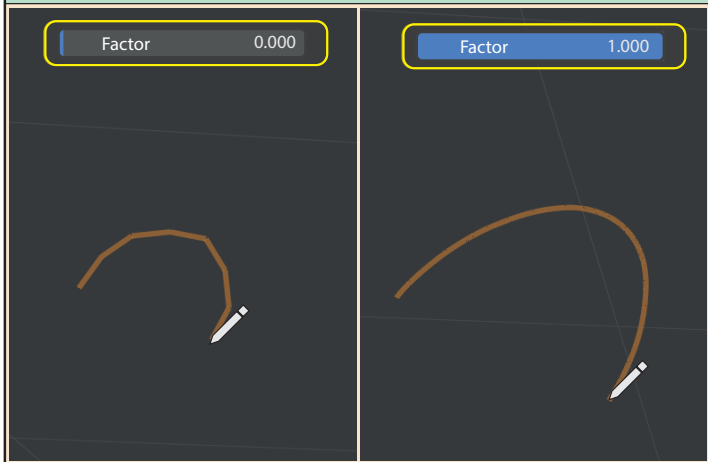
Before

After

Returning to our upper line of parameters, we come to **Stabilize Stroke** which is a checkbox. Selecting this enables two more parameters: **Radius** and **Factor** both of which affect the smoothness of the pen strokes.
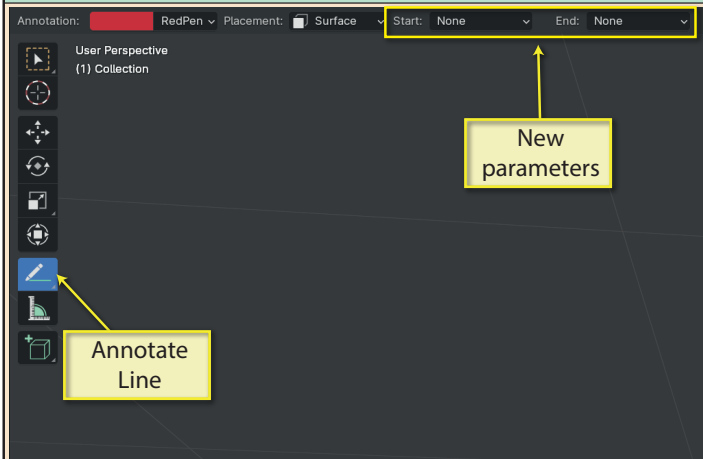
Surface  ✓ Stabilize Stroke    Radius    35 px    Factor    0.750

**Radius** sets a minimum distance between the end of the line currently being drawn and the pen mouse pointer. A larger distance allows more movement of the pointer before a new part of the line is drawn.
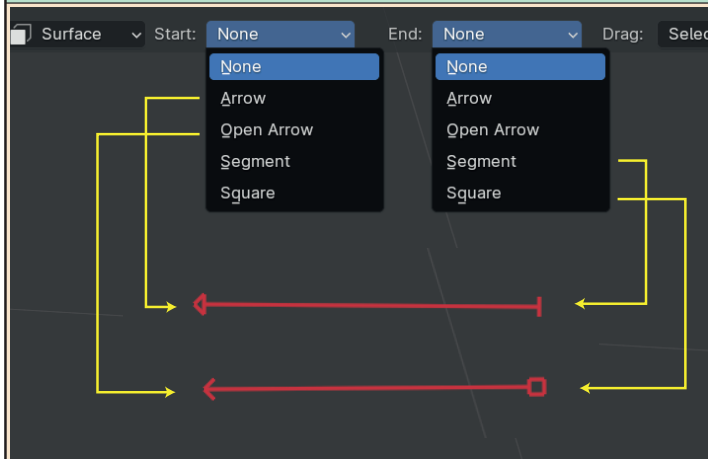
Radius    1px

Radius    100px

**Factor** adjusts the smoothness of any curves.
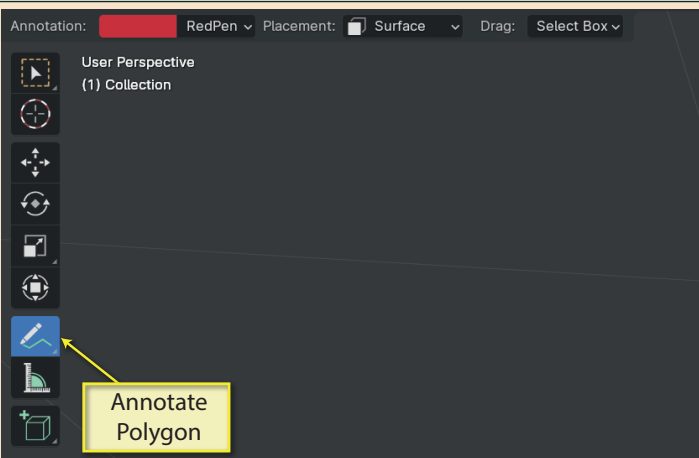
Factor    0.000

Factor    1.000

Returning to the *Annotate* options in the *Toolbar*, the next one is **Annotate Line** which draws straight lines. The parameters for this option differ somewhat from those we looked at for the freehand Annotate tool.

Annotation:    RedPen ∨  Placement: 📄 Surface ∨  Start:  None    ∨    End:  None    ∨    D

User Perspective
(1) Collection
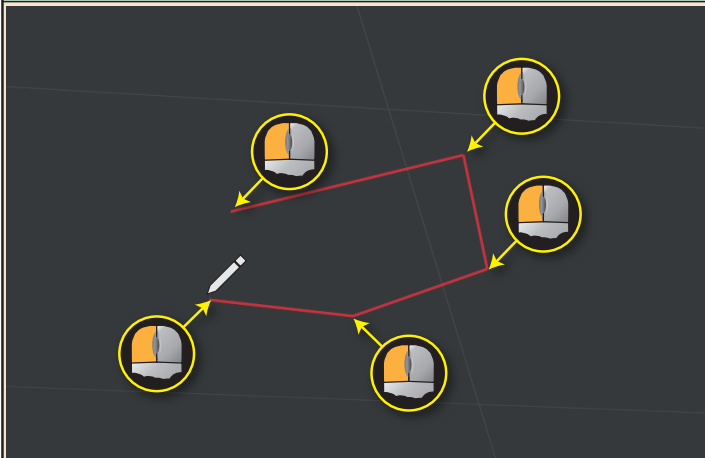
New parameters

Annotate Line

The **Start** and **End** parameters contain the same dropdown options. These allow us to start and end the lines we draw with various symbols called *terminators*.
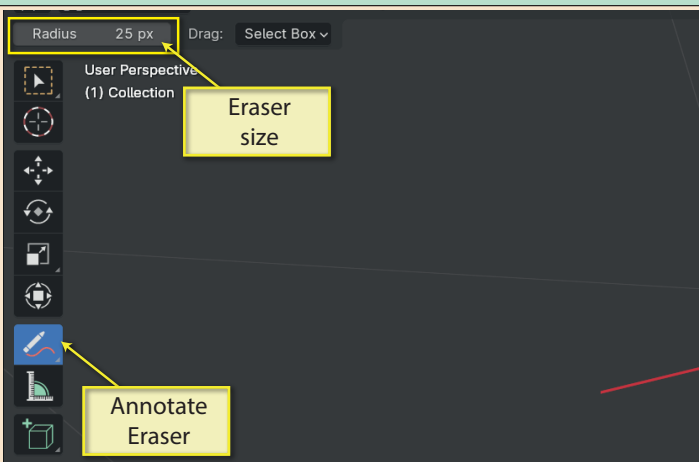
Surface ∨  Start:  None    ∨    End:  None    ∨    Drag:  Selec

| None | None |
| Arrow | Arrow |
| Open Arrow | Open Arrow |
| Segment | Segment |
| Square | Square |

The next *Annotate* tool is **Annotate Polygon**. This allows us to create a sequence of lines, the end of one being start of the next. Note that there are no special parameters for this tool.
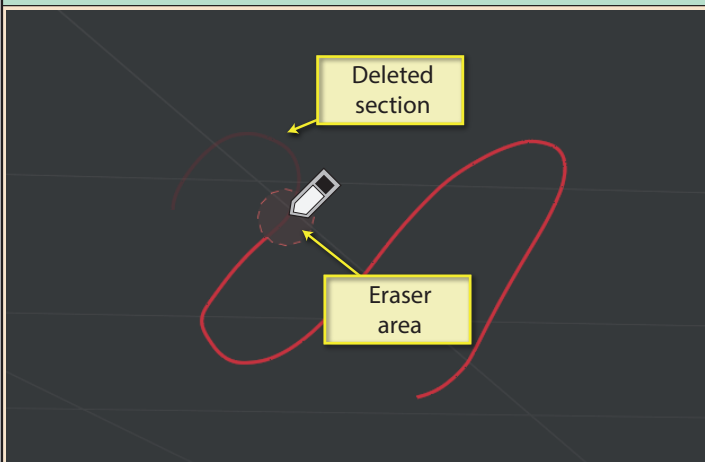


The first click of the left mouse button marks the starting place of the first line. Each subsequent click marks the end of one line and the start of the next. Press **Esc** or **Enter** to end the sequence of lines.
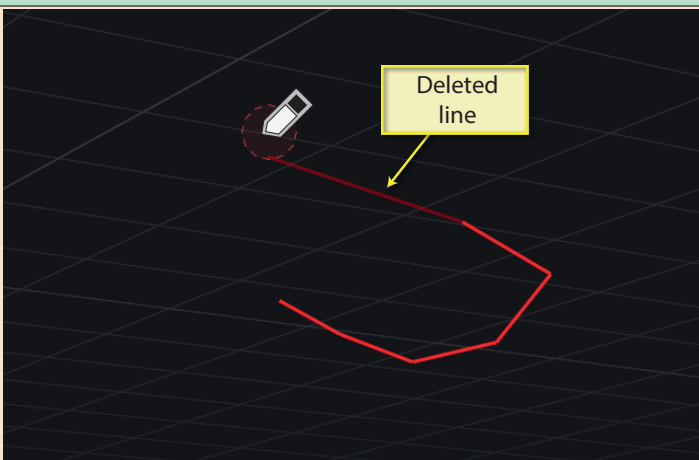


The last annotate tool is **Annotate Eraser**. This can erase any elements drawn with the currently selected layer (pen) only. It has a single parameter, **Radius**, which sets the size of the area to be erased.
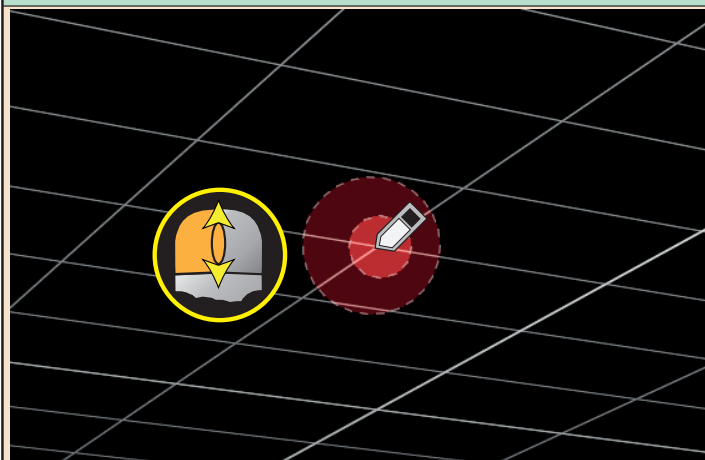


Eraser size

Annotate Eraser

How the eraser tool handles freehand deletion differently from the staright lines create by the *Line* and *Polygon* tools. For freehand, only the part that has passed under the eraser's area is deleted...
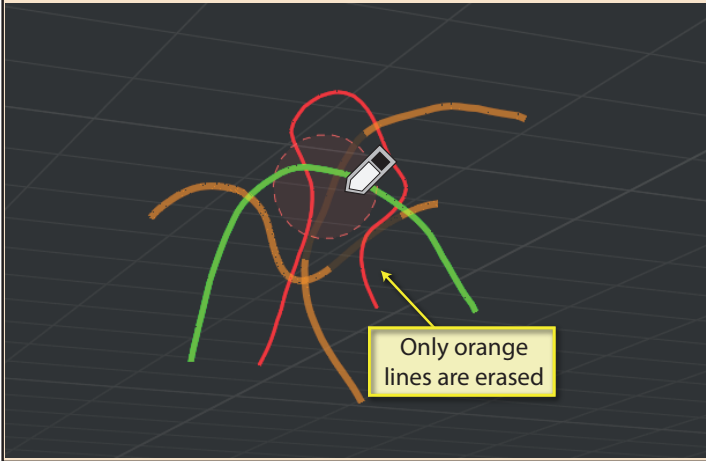


Deleted section

Eraser area

...but for the other two options, a complete line is deleted when the eraser passes over the start or end of the line.
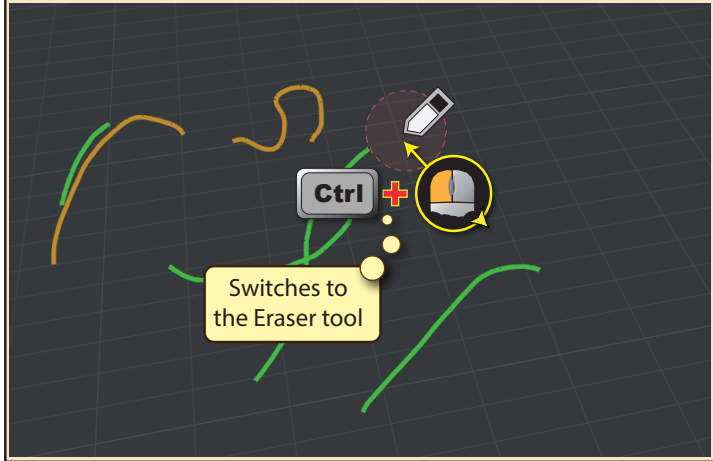


Deleted line

An alternative way of adjusting the area of the eraser is to roll the mouse wheel - but we need to continue to hod down the left mouse button at the same time, making the operation quite awkward.

Blender Basics:  Meshes in Object Mode

Another point to remember is that the eraser only works on the currently selected layer (pen). For example, if we are working with the orange pen, then only it can be erased. Moving the eraser over other pens will have no effect.

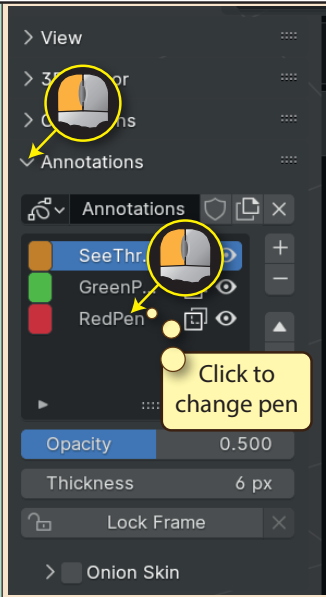Only orange lines are erased

When working with one of Annotate's drawing tools, we can instantly switch to the Eraser by holding down the **Ctrl** key while dragging with the left mouse button.
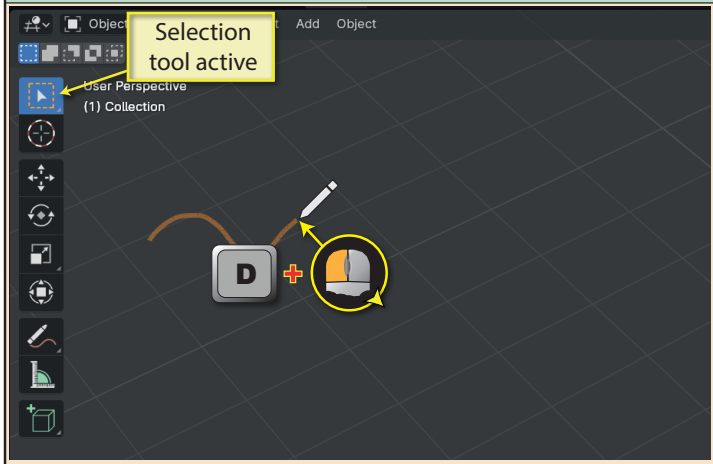
Ctrl

Switches to the Eraser tool

Many (but not all) of the pen settings can be found at the bottom of the *View* page of the *Sidebar* (press **N**).

This offers a quick way to switch pens if you want to erase a different one.

By the way, the *Lock Frame* and *Onion Skin* options that also appear here relate to annotations created on the frames of an animation and are not discussed here.

> View
> 3D ...or
> O ...ns
∨ Annotations

Annotations

SeeThr.
GreenP.
RedPen

Click to change pen

Opacity          0.500
Thickness        6 px
        Lock Frame
> Onion Skin

If we are working with another tool and want to quickly add an annotation to our project, holding down the **D** key while dragging with the left mouse button, will create a freehand drawing using the last selected pen.

Object        Add   Object

Selection tool active

User Perspective
(1) Collection

D

To activate the eraser, hold down the **D** key and drag with the right mouse button.

Object Mode ∨    View   Select   Add   Object          Local

User Perspective
(1) Collection | Cube

D