

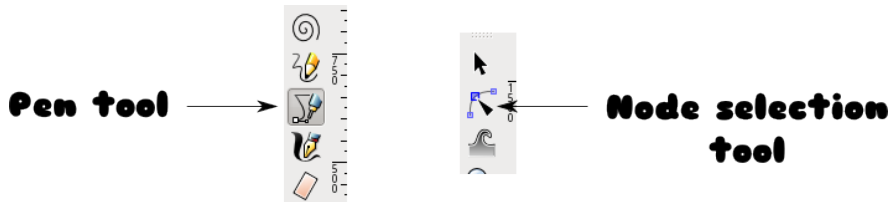
INTRODUCTION TO INKSCAPE

LESSON 3: MORE PATHS + TYPE

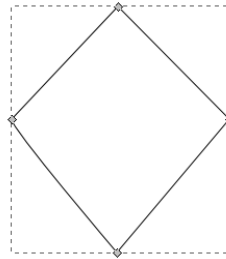
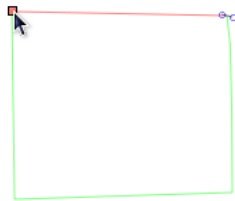


Learn more complex path techniques including curves, node manipulation, and path tweaking. Also learn about how you can use Inkscape to work with type!

QUICK REVIEW

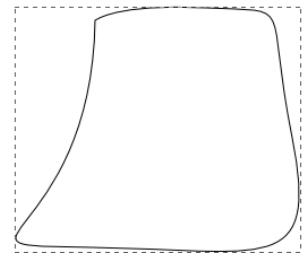


Let's do a quick review of what you learned about paths first! Draw a quick, sloppy rectangle using the pen tool, then use the node selection tool to turn it into the diamond shape shown below only by moving the nodes. Remember, you can move the nodes using click & drag with the mouse, or by selecting them and moving them with the keyboard. Do you remember how to select more than one node at a time?



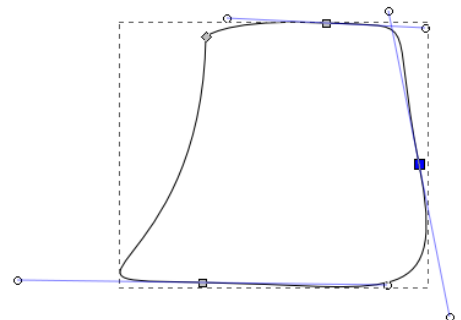
DRAWING CURVES WITH THE PEN

So the pen tool so far has been a nice tool to create paths with straight lines, but how about curves? Actually, the pen tool is great for making curved paths. Start to draw a rectangle using the pen tool again, but this time, don't let go of your mouse button right away when drawing each node. Hold down the mouse button and drag as you draw each point. You may come up with something that looks like a very strange rectangle indeed!



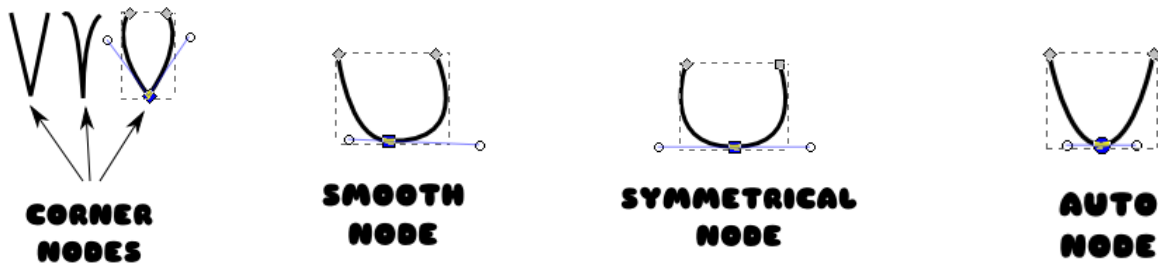
What's going on here? Well, there are different types of nodes in paths. With the pen tool, we've been working with corner nodes, which connect straight lines. There are other types of nodes, though, and they allow you to create and control curves. When a node controls a curve, it gains a special property – it gets one or two handles that allow you to adjust the curve based on the type of node you're working with and the position of the handle.

Click your strange rectangle using the node selector tool – now you can see its node handles. Click and drag the node handles – how does dragging the handles out longer or shorter affect the shape of the curve? Now try rotating the handles around the node!



TYPES OF NODES

Node handles affect curves differently depending on which type of node they are. Here are the three basic types of nodes:



Corner nodes are sometimes called cusp nodes. They are the only 'pointy' type of node – if you want a sharp point, use this type of node. Smooth nodes are smooth but can be uneven as in the example above. Symmetrical nodes are also smooth, but their node handles are always exactly the same length and are always straight. Notice in the corner node example above, the node handles are not straight and are at completely different angles.

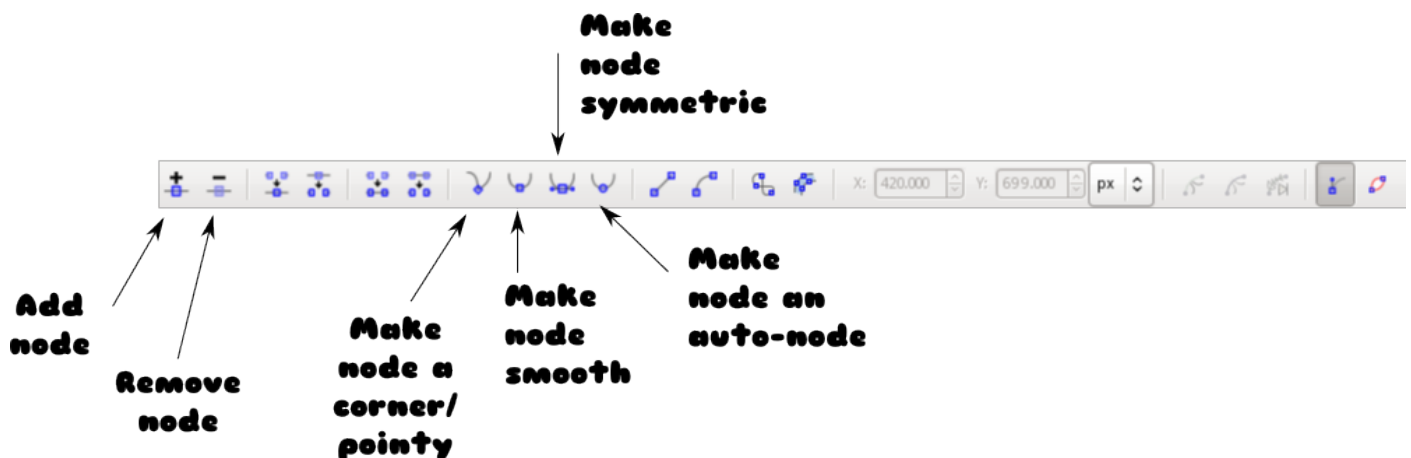
Auto-nodes are a special type of node – their handles automatically adjust to make the lines it controls as smooth as possible. If you try to adjust the handles of an auto-node, it will convert to a smooth node. You can move an auto-node as much as you like, just don't touch the handles if you want to keep it an auto-node!

You can tell quickly if a node is a corner node or one of the smooth kinds of nodes (smooth or symmetrical) by looking at the shape of the node. If the node is a blue or grey square, it's a smooth type of node. If it's a blue or grey diamond, it's a corner node. Auto-nodes are a blue or grey circle.

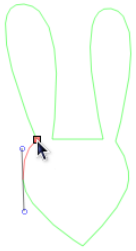
There are a few different ways to convert a node from one type to another. The quickest is to hold down the Ctrl button on your keyboard while clicking the node with the node selector. Keep clicking until the node turns into the type you want. Another way involves using the node toolbar.

THE NODE TOOLBAR

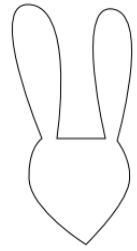
Just as the toolbar changed to accommodate the different shape tools we made last week, it also changes to accommodate working with paths and nodes if you're using the node selection tool. Take a look:



Pay particular attention to the 7th, 8th, 9th, and 10th buttons on the node toolbar. As labeled, they will enable you to convert a node between the different types we just discussed. You can convert multiple nodes at a time to a particular type by selecting them all with the node selector tool at the same time (using Shift + click or lassoing them) and then clicking the type of node you'd like to convert them to on the node toolbar.

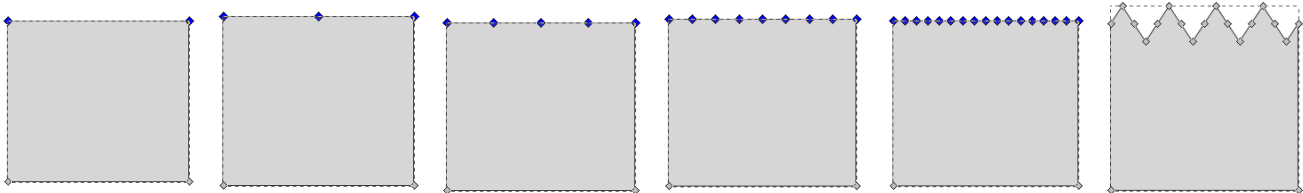


QUICK EXERCISE: Make this bunny using the pen tricks you learn above. Convert nodes between corner, smooth, symmetrical, and auto types as needed to give the bunny nice round ears, round cheeks, and a pointy chin!



Notice the 'Add node' and 'remove node' buttons labeled on the node toolbar on the last page. You can select any nodes you'd like to remove with the node selection tool, and either hit the 'Delete' key on your keyboard or click the 'Remove node' button shown above to remove them.

To add a node to a path, you need to select two nodes that are next to each other and click the 'Add node' button. The new node will appear exactly in the middle between the two nodes you selected. If you click the 'Add node' button again, two more new nodes will appear, at equal distances between the three nodes you started with. Keep clicking 'add node' and the nodes will keep getting added, equally divided along your selected area of the path!



First, select two consecutive nodes.

Click the 'add nodes' button once and you'll get one new node.

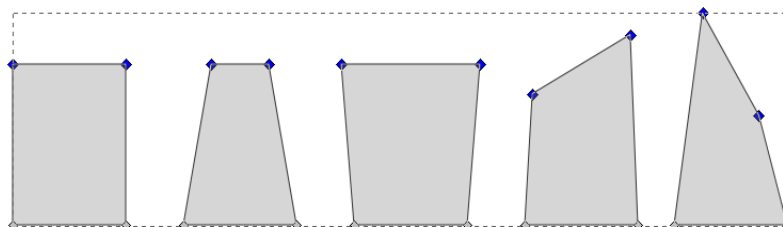
Click the 'add nodes' button twice and you'll get three new nodes!

Click the 'add nodes' button three times and things are starting to get interesting.

Four clicks of the 'add nodes' button and things are getting a little crazy!

Having equidistant nodes means you can make interesting regular shapes with a little bit of precise node movement using the keyboard arrows.

There are other cool ways you can work two selected and consecutive nodes besides adding nodes between them. If you select two consecutive nodes and hit the '<' and '>' keys, you can 'shrink' or 'grow' the space between the two nodes. If you select two consecutive nodes and hit the '[' and ']' keys, you can rotate the line between the two nodes as if you were moving a seesaw! See below for some examples:



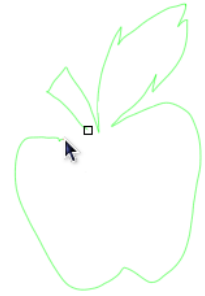
So we've learned more about how to create paths with the pen and manipulate nodes using different techniques. Let's learn more ways to create paths.

THE PENCIL TOOL & SIMPLIFY



Pencil tool

The pencil tool is a pretty straightforward way to create a path, and it's a good tool to use with your tablet. You simply draw using a tablet, or hold down the mouse button and drag using the mouse. A small empty square will appear at the very beginning of where you started drawing – make sure you hit that empty square when you finish to close the path.

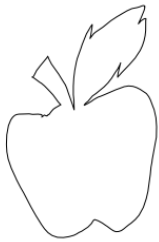


Like other tools, the pencil tool has a special toolbar that appears when you have it selected. If your hand is a little shaky when using your tablet or mouse, turn up the smoothing control and Inkscape will automatically make your lines nice and smooth.

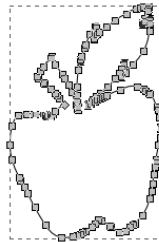


Smoothing control

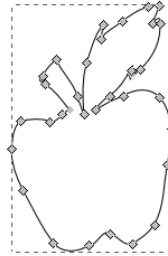
Once you've drawn a path using the pencil tool, you might notice that it has a lot of nodes. Simple shapes don't require that you have a lot of nodes – so try simplifying your path by selecting it and using Ctrl + L or the 'Simplify' menu item under the 'Path' menu. You simplify as many times as you like, but if you simplify too much it can change the shape of your path drastically:



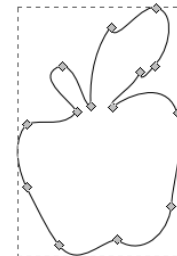
Original path drawing using the pencil tool.



Path after one simplify.



Path after seven simplifies – a little too much, perhaps?



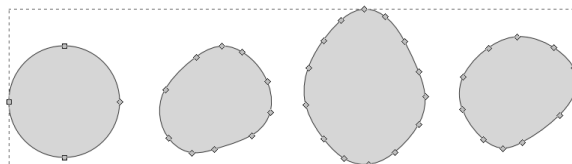
THE TWEAK TOOL



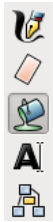
Tweak tool

Using the tweak tool on existing paths is a really fun way to create new and interesting paths. Start out with any path at all – I've taken a circle shape below and converted it to a path – then use the tweak tool to drag, pinch, and pull the circle into any kind of shape you like! Of course, as always, you can manipulate the paths you come up with using all of the techniques we've gone over, converting smooth nodes to corner nodes, or simplifying, or adding and removing nodes!

Like many of the tools we've explored, the tweak tool has its own special toolbar that activates when you select it. We won't go into detail on all the ways you can configure the tweak tool using its toolbar, but please feel free to explore it on your own and see what cool kinds of paths you can come up with using it!



THE FILL TOOL



**Fill
tool**

The fill tool fills in any area in between lines or paths or shapes on the Inkscape canvas and turns it into its own path. It's a great tool to use if you want to draw cartoons using the calligraphy pen and want to fill them in easily. See how in the dinosaur head below, the fills have been dragged out of the line artwork and are paths themselves?

Like many other tools, the fill tool has its own toolbar. Explore it on your own!



THE TYPE TOOL



**Type
tool**

One more way to create a path that we'll talk about today is the type tool. You can use the type tool to create paths, the same way you use the shape tool to create paths – you select some type and select 'Object to Path' in the 'Path' menu. More on that later.

For now let's focus on some basic type creation. The first thing you want to do after clicking the type tool icon in the toolbar is to make sure that the 'lock' icon is locked on the type toolbar. If the lock icon is not locked, your type can get can squished or out of proportion when you try to scale it, which will make it look weird and possibly hard to read. So make sure your lock is always lock when creating type!

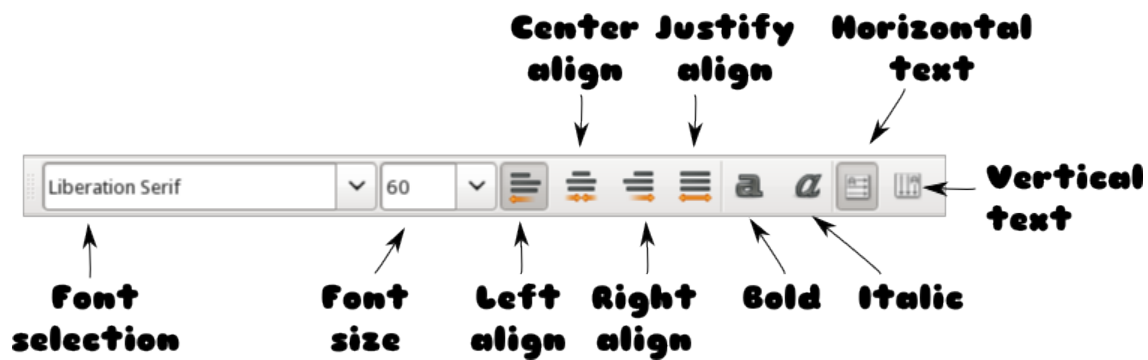


Now, click the type tool on the canvas and start typing away!

Hello, world!

Change your mind about what you want to write? Double-click on the text using the type tool, and you can type new text or use backspace, delete, and the keyboard arrow keys to edit the text the same way you are used to in other programs.

Let's take a closer look at the type toolbar and see what else this tool will allow us to do:



The type toolbar will let you change the font you're using, the size of the font, the alignment of text, whether or not the font is bold or italic (or both!), and whether or not your text runs horizontally (which it will most of the time) or vertically.

The controls on the type toolbar are the controls you'll use the most when working with type. However, some additional control is available under the 'Text and Font' item in the 'Text' menu of Inkscape. Some type controls are not available from any of the menus! You need to know keyboard shortcuts to use them. We'll go over some of these next week.

For now, know that whenever you have a type object on your Inkscape canvas, you can go back and edit it anytime. Once you convert your type object to a path, you can no longer edit it using the type tool. So if you decide to name your band 'The Stony Brooks' and decide to rename it 'The Blanchards' (because that's a much cooler name), you can easily edit the text if it's a type object. If your text is a path, though, you'll have to create it from scratch using the type tool and converting it to paths.

QUICK EXERCISE: Type out a name you think you might like to use for your band and convert it to paths. Use all the techniques we've learned so far to manipulate the letters into a new design. Here's an example of the kinds of things you can do:

