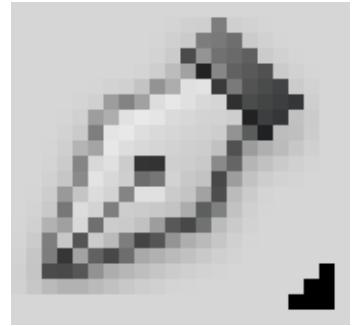


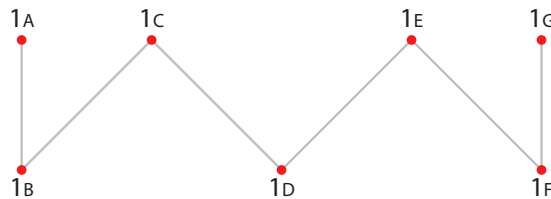
Pen Tool Basics

Hate the Pen Tool? You won't, after you see how one single key can make it much more manageable. Well, maybe you'll hate it *less*... At first, the Pen Tool is hardly intuitive; it's not at all like using a real-world pen on paper. But it's the best weapon for creating exacting shapes, and once you know a few basic tricks, it's much less intimidating.

First, you'll perform a few simple exercises to hone basic shape-making skills. You'll start by creating simple straight segments connected by corner points. Then you'll create curvy segments connected by curve points. Finally, you'll create a path around an object (the perennial “ducky” that ships with Photoshop).



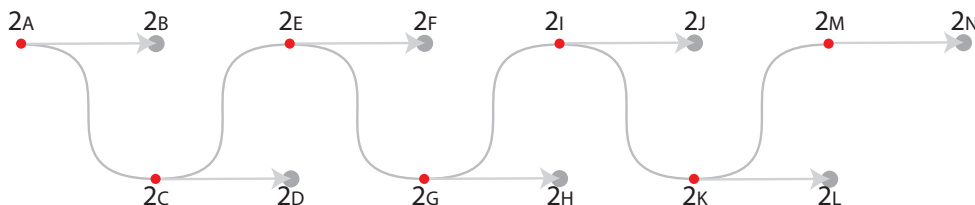
1. Open the file “**PenToolStart.psd**.” First, you'll concentrate on making straight segments with corner points. This technique involves carefully clicking without dragging the mouse: you must “peck” each point decisively with no hesitation or motion.



Click on the point marked 1A, being careful to click precisely, *without* dragging. Continue on through 1B, 1C, and so on. After you've finished by clicking on 1G, click on the Pen Tool in the Toolbox to end the path.

Now you will create a path with only curve points. Yes, the term “curve points” sounds like an oxymoron, similar to “jumbo shrimp,” but the way you create an anchor point determines whether the adjacent segments are straight or curved.

2. To create curved segments, *click and drag* at each point. The angle and distance you drag will govern the curvature of two segments — the last half of the segment coming into the anchor point, and the first half of the segment going out of the anchor point. Think of it like applying gas and brakes when driving: the more aggressively you drag, the more pronounced the outgoing curvature will be. In this exercise, click on the red dot, hold down the mouse button, drag to the gray dot, then release the mouse button. Don't re-click until you reach the next red dot. The steps below take you through the shape, dot by dot.



It's necessary (but not intuitive) that you drag in a direction that's a *tangent* to the desired curve. You probably haven't heard that term since—shudder—high school geometry. This is the most difficult aspect of creating curves with the Pen Tool. In real life, you won't have the helpful guide arrows and target dots that you find in this exercise file, but hopefully this exercise will give you a feel for the Pen Tool's behavior when creating curved shapes.

Click and hold down your mouse button on the red dot **2A**; **don't** release the mouse button. Drag to the guide circle **2B** (you can hold down the shift key to constrain your direction), then release the mouse button. *Don't re-click!*

Move to the dot **2C**, click and hold down your mouse button, drag to **2D**, and release the mouse button. Continue in this fashion until you're done. After you release the mouse button at the dot **2N**, click on the Pen Tool to finish the path.

TIP: To constrain your dragging to purely vertical or horizontal, hold down the Shift key when you're dragging. Release the mouse button, then release the Shift key.

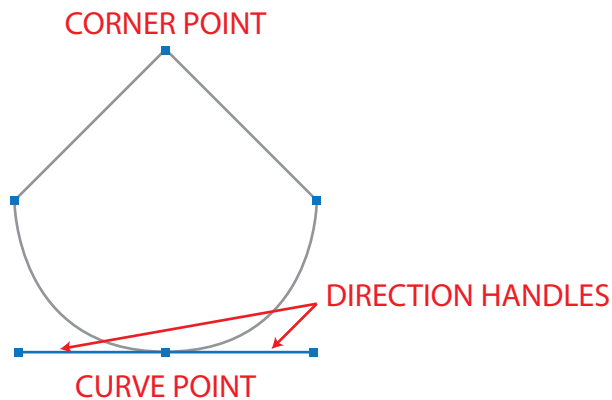
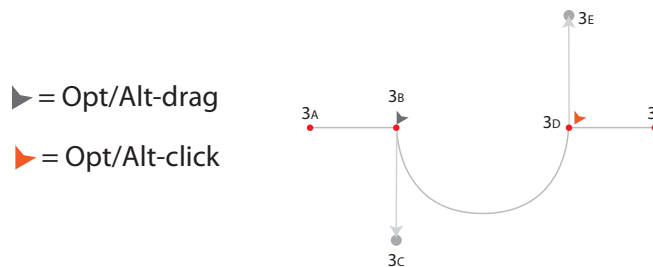


Figure 1: Each click with the Pen Tool creates an anchor point. When you click-and-drag to create a curved segment, direction handles appear. The length and angle of the direction handles govern the curvature coming into the anchor point and going out of the anchor point. To manipulate anchor points and direction handles, use the Direct Selection Tool (white arrow).

Now you will tackle one of the most challenging aspects of the Pen Tool—changing from curves to corners. But this becomes much easier once you learn to use the Option or Alt key as a helper. It's like hitting the brakes in a panic stop, but once you know the trick, it becomes painless.

3. Zoom on the shape shown below. The instructions for this little exercise sound a bit like aerobic steps, but hang in there...



3A: Click on the 3A dot; just peck — *don't* drag.

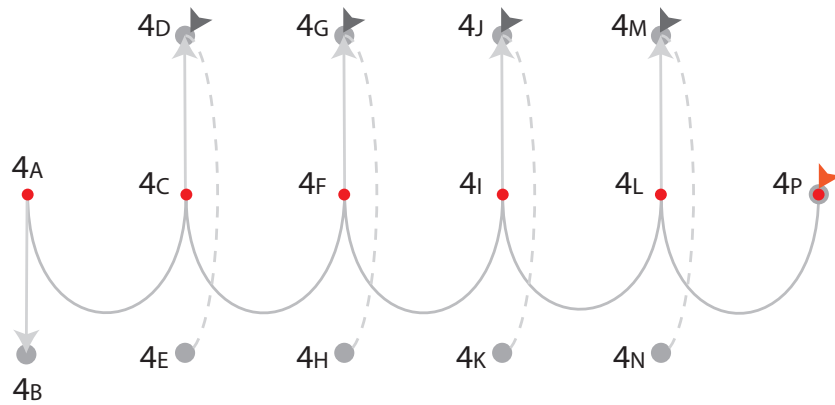
3B: Click on the 3B dot and release the mouse button. Then, holding down the Option/Alt key, *re-click* on the 3B dot, and drag straight down to the **3C** guide dot. Release the mouse button. The line you see extending down from the 3B dot is not a visible, printing line: it's a direction handle that establishes curvature for the outgoing segment. This doesn't become apparent, though, until you create the next anchor point.

3D: Click and hold down the mouse button on the 3D dot, and drag up to the **3E** dot, then release the mouse button. Then, Option/Alt-click *back on anchor point you created on the 3D dot* to retract the outgoing curvature handle; in effect, you're hitting the brakes.

3F: Click on the 3F dot, then click on the Pen Tool to end the path.

Now, to practice a rapid change of direction, you'll draw a series of scallops that will train your brain (and hands) to remember how useful and important the Option/Alt key can be.

4. Zoom in on the section shown below. You will create each scallop, and change direction for the beginning of the next scallop by "breaking" the direction handle in half to set you up for the sudden change of direction. The dashed guide shapes look like dance moves, don't they?



4A-B: Click on 4A, hold down the mouse button, and drag straight down to 4B. Release the mouse button.

4C-D-E: Click on 4C, hold down the mouse button, and drag straight up to 4D. *Don't* release the mouse button! Press and hold down Option/Alt, and swing the end of the direction handle down to 4E. Release the mouse button, then release the Option/Alt key, and heave a sigh of relief.

4F-G-H: Click on 4F, hold down the mouse button, and drag straight up to 4G. Don't release the mouse button! Press and hold down Option/Alt, and swing the end of the direction handle down to 4H. Release the mouse button, then release the Option/Alt key.

4I-P: Continue the Option/Alt swing dance until you finish the shape. You should be much more comfortable with the Option/Alt key function when you're done. Remember to click the Pen Tool to finish the path.

NEXT: Put your new skills to use by drawing around an object.

Drawing Around an Object

When you need to create a smooth-edged mask around an object, the Pen Tool is far more controllable than the Lasso tool or Magnetic Lasso tool. You'll find that the smoothest curves are achieved with the fewest points, but that's a foreign concept when you're just learning the Pen Tool. As you launch yourself across what seems like a long curve, you may be timid and chisel your way around the curve in short segments. But as you become more comfortable with the tool, you'll get braver. Soon, it will become sort of a game to see how few points you can use to create a shape (Fig. 2).

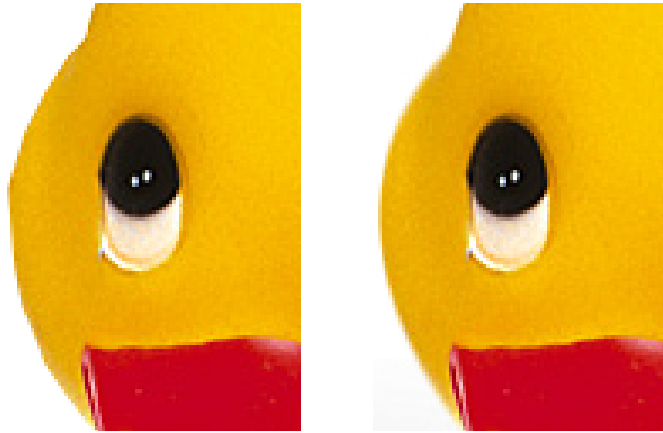


Figure 2: *Small segments may seem easier to draw (left), but they result in choppy shapes. When you become more comfortable with the Pen Tool, you'll be braver, and you'll learn to create smoother curves with fewer points (right).*

To practice creating smooth curves, you'll use the time-honored “ducky” photo that ships as a sample image with Photoshop. For the first part of this exercise, you'll use a version of the ducky that contains guides to help you know where to click, how far to drag, and when to use the Alt/Option key to change directions. After you're comfortable following the guides, you should open the original ducky photo, and try it without guides.

1. Open the file “DuckyPenGuide.psd.” Select the Pen Tool (img alt="Pen Tool icon"). Before you begin clicking and dragging, you should check the Pen Tool options. The Pen Tool operates in two different modes:



Shape Layer Mode: Creates a layer of color with a vector mask. The vector shape can be modified with the Pen Tool and Path Selection tools. Think of Shape Layers as sheets of color, masked by a vector shape.



Paths Mode: Creates a non-printing vector shape that can then be converted into a mask, a shape layer, a guidance system for a painting tool, or an active selection. Paths can be edited with the Pen Tool as well as the Path Selection tools.

For this exercise, make sure the Pen Tool is in **Paths Mode** (second icon from the left).

2. There's another important option to check — make sure the Add to Path Area option is selected (Fig. 3).

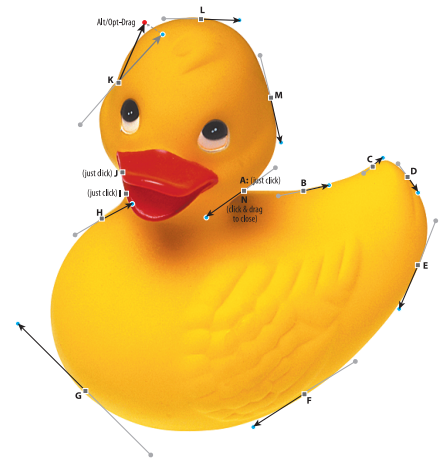


Figure 3: *For this exercise, make sure the Pen Tool is in Paths Mode (circled icon on left). And ensure that the Add To Path Area option is selected (circled icon on right).*

To find the original duck, look here:

Windows: C:\Program Files\Adobe\Adobe Photoshop CS5\Samples\Ducky.tif

Macintosh: Applications/Adobe/Photoshop/CS5/Samples/Ducky.tif



3. To make it a little easier to see the path you're creating, turn on the Rubber Band option. It's tucked away, available via a pull-down at the end of the Shape Tools section of the Options Bar (Fig. 4). You may eventually decide to turn off the Rubber Band option, but it can be helpful as you're learning the Pen Tool.

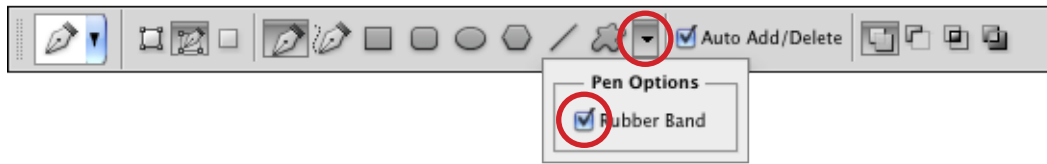
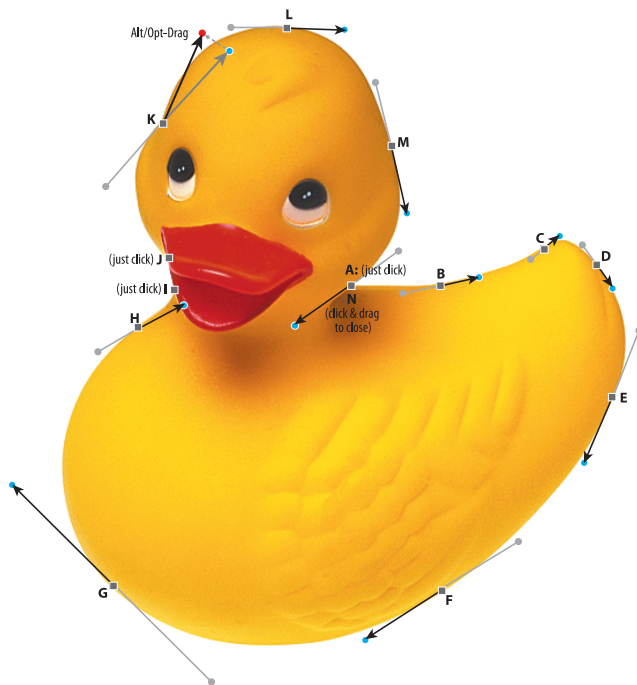


Figure 4: The Rubber Band option is hidden next to the Custom Shape Tool control. Click the pull-down and select the Rubber Band checkbox.

4. Now it's time to start creating a path around the Ducky. Take a peek at the Layers panel — the “labels” layer contains guides to show you where to click, where to click-and-drag, and when to use the Alt/Opt key to change directions. Paths are not layer-specific, so it doesn't matter which layer is selected when you start to draw.

Just follow the alphabet, starting with the gray square by the letter A. Some points will require you to just crisply click on the square, with no dragging. Most of the points will be created by clicking on the gray square, then dragging to the neighboring blue dot. Then release the mouse button and move your cursor (without clicking again) to the next letter of the alphabet. Follow the letter-by-letter instructions below.



A: Just click on the gray square — no dragging. Be precise. Basically, peck like a chicken :-)

B: Click on the gray square by “B,” hold down the mouse button, drag to the blue dot, then release the mouse button.

C–H: Click on the gray square, hold down the mouse button, drag to the blue dot, then release the mouse button.

I: Just click on the gray square — no dragging.

J: Just click on the gray square.

K: Click on the gray square, hold down the mouse button, drag to the blue dot, but **don't** release the mouse button. Hold down Alt/Opt and drag over to the red dot. Release the mouse button, *then* release the Alt/Opt key.

L–M: Click on the gray square, hold down the mouse button, drag to the blue dot, then release the mouse button.

N: As you hover near the first point (A), notice the small circle next to the Pen Tool icon (⌘+P). This indicates that you're about to close the path. To complete the last curve and close the path, click on your first point at A, hold down the mouse button, drag to the blue dot (down and to the left of the A/N point), then release the mouse button. You're done!

TIPS:

- As you click and drag to create a curve anchor point, don't re-click at the end of your drag (it's a common tendency). Instead, complete the drag, then release the mouse button. Don't press the mouse button again until you're ready to make the next anchor point.
- To select an anchor point, use the Direct Selection Tool (white arrow), which is hidden under the Path Selection Tool (black arrow). Click on the path to wake it up; then you'll see the anchor points. Click on an anchor point to select it; if it's a curve anchor, a direction handle will appear. Click on the anchor point again, and you'll see both direction handles for that point.
- When you're finished creating a path, it's a good idea to save it. In the Paths panel (Window > Paths), double-click the Work Path to open the Save Path dialog. To hide the path, click in an empty part of the Paths panel.