Practical #4: Illustrator based Exercise

Objective

The goal of this lab is to help you to perform Illustrator based exercise -

Drawing a Pierce pierced by an arrow

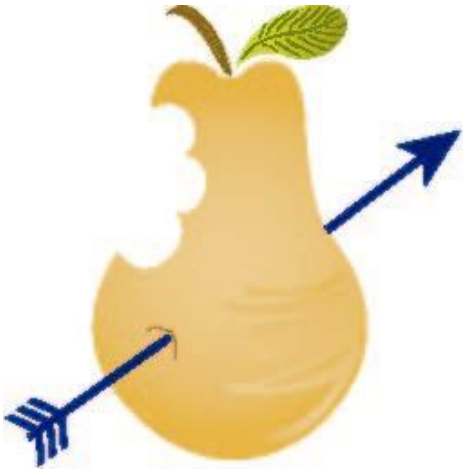
Instructions

1. To perform the exercise, follow the instructions given in the tutorial carefully.

Instructions for Performing Lab Exercise

Getting started

In this Exercise, you'll create an illustration of a pear pierced by an arrow.

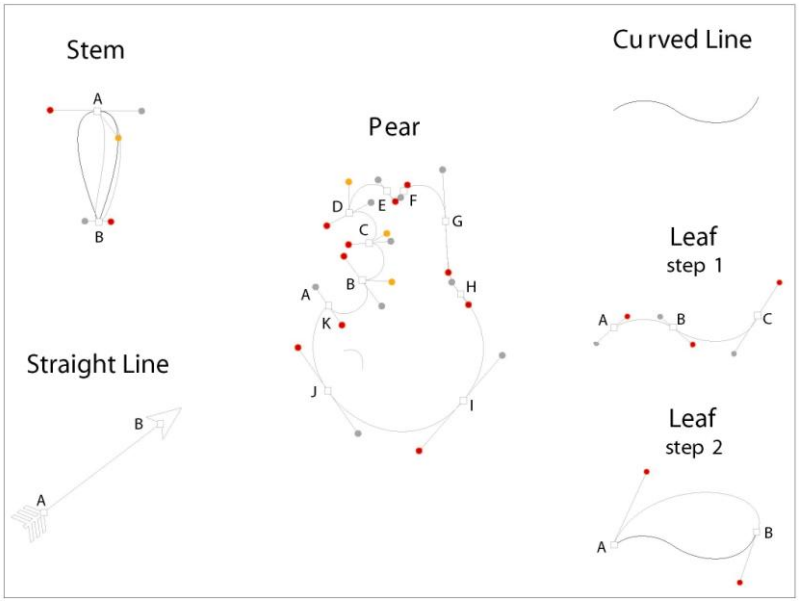


1 Start Adobe Illustrator.

2 Choose File > Open, and open the Tutsart.ai file in the folder.

3 Choose View > Zoom Out to make the finished artwork smaller and leave it on your screen as you work. (Use the hand tool ( ) to move the artwork where you want it in the window.)

4 Choose File > Open, and open the Tut1start.ai file in the folder.



5 Choose File > Save As, name the file **Tut1.ai**, In the Illustrator Native Format Options dialog box, select Illustrator 9 Compatibility and click OK.

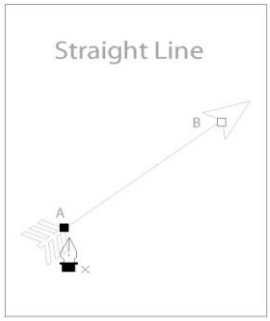
(Notes: Hold down Shift and press Tab once to hide all of the palettes. (Pressing Shift+Tab toggles between hiding and displaying the palettes. Pressing Tab alone hides or shows the toolbox as well.)

Drawing straight lines

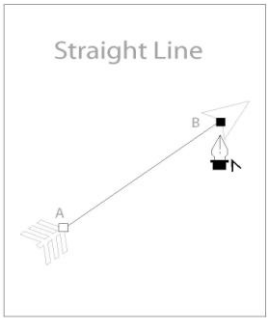
1. Choose View > Hide Bounding Box to hide the bounding boxes of selected objects. Select the pen tool ( ) in the toolbox, and move the pointer to the dashed line of the arrow in the artwork.

2 Click point A at the left end of the line to create the starting anchor point—a small solid square. (Notice that the pen tool pointer has a small x next to it. This indicates that clicking will begin a new path.)

3 Click point B at the right end of the line to create the ending anchor point.



Click once to begin a straight line.



Click again to end it.

(When you click a second time, a caret (^) appears next to the pen tool. The caret indicates that you can split the anchor point to create a direction line for a curve by dragging the pen tool from this anchor point. The caret disappears when you move the pen tool away from the anchor point.)

You must end the path before you can draw other lines that aren't connected to the path.

Now you'll make the straight line thicker by changing its stroke weight.

4 Select the selection tool ( ) in the toolbox, and click the straight line to select it.

5 Choose Window > Stroke to display the Stroke palette.

6 In the Stroke palette, type **3** points in the Weight text box and press Enter or Return to apply the change.

Splitting a path

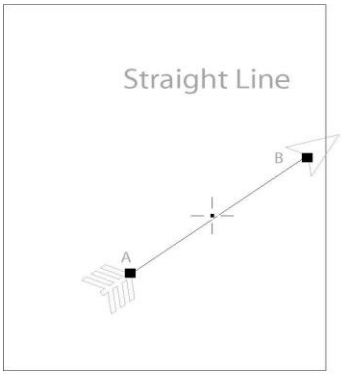
To continue creating the arrow for this illustration, you'll split the path of the straight line using the scissors tool and adjust the segments.

1 With the straight line still selected, select the scissors tool ( ) in the toolbox and click in the middle of the line to make a cut.

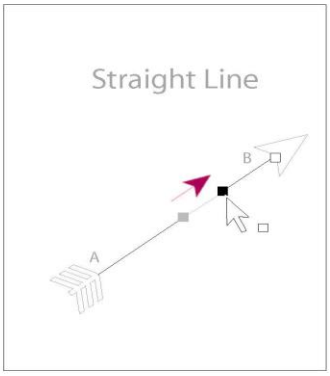
Cuts made with the scissors tool must be on a line or a curve rather than on an endpoint.

Where you click, you see a new selected anchor point. The scissors tool actually creates two anchor points each time you click, but because they are on top of each other, you can see only one.

2 Select the direct-selection tool ( ) in the toolbox, and position it over the cut. The small hollow square on the pointer indicates that it's over the anchor point. Select the new anchor point, and drag it up to widen the gap between the two split segments.



Click with the scissors tool to cut the line.



Drag to separate the new line segments

Adding arrowheads

Adobe Illustrator lets you add pre made arrowheads and tails to open paths by applying a Stylize filter. Now you'll add an arrowhead to the ending point of one line segment and a tail to the starting point of the other line segment.

1 With the top line segment selected, choose Filter > Stylize > Add Arrowheads.

Note: Choose the top Filter > Stylize command. The second Filter > Stylize command applies painted or impressionistic effects to bitmap images.

2 In the Add Arrowheads dialog box, leave the Start section set to None. For the end, click an arrow button to select the number 2 style of arrowhead (a thumbnail preview appears in the dialog box), and click OK.
Illustrator adds the arrowhead to the end of the line (the last anchor point created on the uncut line).

3 Using the direct-selection tool, select the bottom line segment, and choose Filter > Add Arrowheads to open the dialog box again. Select the number 18 style of arrowhead from the Start section, select None for the End section, and click OK to add a tail to the starting point of the line.

starting point ofthe line.

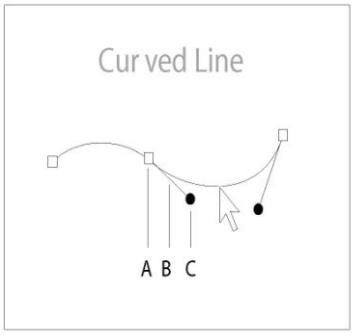
You can reapply the same arrowhead style to other selected objects by choosing Filter >Apply Add Arrowhead.
4 Choose Select > Deselect to deselect the artwork, and then choose File > Save.

Drawing curves

In this part of the tutorial, you'll learn how to draw smooth curved lines with the pen tool. In vector drawing programs such as Adobe Illustrator, you draw a curve, called a Bézier curve, by setting anchor points and dragging to define the shape of the curve. Although drawing curves this way takes some getting used to, it gives you the most control and flexibility in computer graphics.
You'll draw the pear, its stem, and a leaf. You'll examine a single curve and then draw a series of curves together, using the template guidelines to help you.

Selecting a curve

1 Using the direct-selection tool ( ), click one of the segments of the curved line to view its anchor points and its direction lines, which extend from the points. The direct selection tool lets you select and edit individual segments in the curved line.



A. Anchor point B. Direction line
C. Direction point (or handle)

As their names imply, the anchor points anchor the curved segments, and the direction lines control the direction of the curves. You can drag the direction lines or their endpoints, called *direction points* or *handle*s, to adjust the shape of the curve.

Anchor points, direction points, and direction lines are aids to help you draw. They always appear in the current layer color—in this case, red. Anchor points are square, and, when selected, appear filled; unselected, they appear unfilled, like hollow squares. Direction points are round. These lines and points do not print with the artwork.

By selecting the curve, you also select the paint attributes of the curve so that the next line you draw will have the same attributes.

Drawing the leaf

Now you'll draw the first curve of the leaf.

1 Scroll down to see the guides for Leaf step 1.

Instead of dragging the pen tool to draw a curve, you drag it to set the starting point and the *direction* of the line's curve. When you release the mouse button, the starting point is created and two direction lines are formed. Then you drag the pen tool to end the first curve and to set the starting point and direction of the next curve on the line.

2 Select the pen tool ( ) and position it over point A on the template. Press the mouse button and drag from point A to the red dot. Then release the mouse button. Next you'll set the second anchor point and its direction lines.

3 Press the mouse button and drag from point B to the next red dot. Then release the mouse button. Illustrator connects the two anchor points with a curve that follows the direction lines you have created. Notice that if you vary the angle of dragging, you change the amount of curve.

If you make a mistake as you draw, you can undo your work by choosing Edit > Undo. Adobe Illustrator by default lets you undo a series of actions—limited only by your computer's memory—by repeatedly choosing Edit > Undo. (To set the minimum number of undos, choose

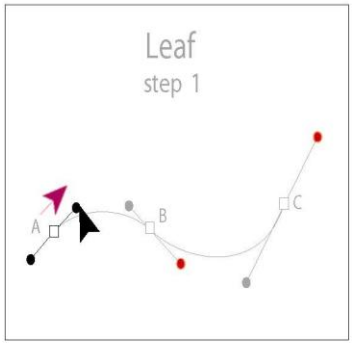
Edit > Preferences > Units & Undo (Windows and Mac OS 9) or Illustrator > Preferences > Units & Undo (Mac OS X).)

4 To complete the curved line, drag the pen tool from point C on the template to the last red dot and release the mouse button.

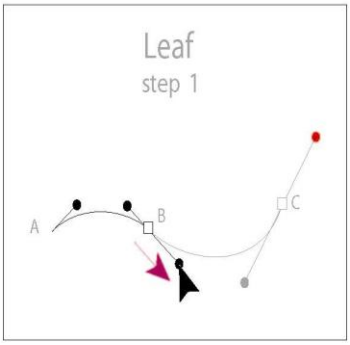
5 Ctrl-click (Windows) or Command-click (Mac OS) away from the line to indicate the end of the path. (You must indicate when you have finished drawing a path. You can also do this by clicking the pen tool in the toolbox, or by choosing Select > Deselect.)

Drawing different kinds of curves

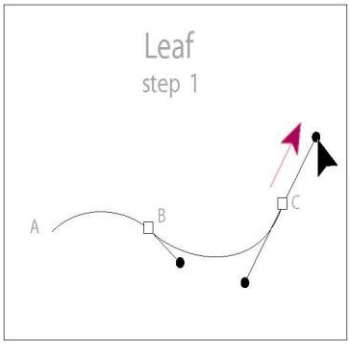
Now you'll finish drawing the leaf by adding to an existing curved segment. Even if you end a path, you can return to the curve and add to it later. The Alt key (Windows) or Option key (Mac OS) lets you control the type of curve you draw.



Drag to start the line and set direction of first curve.



Drag to end first curve and set direction of second curve.

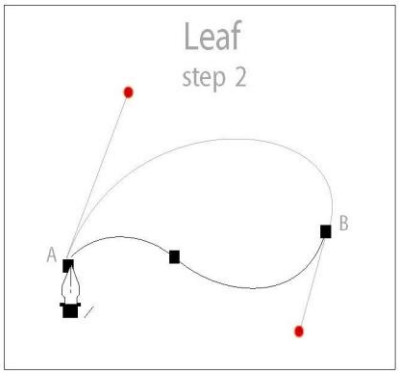


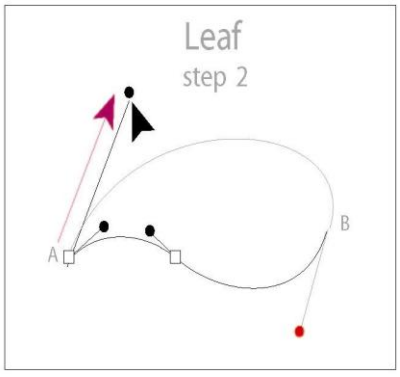
Drag to end second curve and adjust its direction.

1 Scroll down to the instructions on the template for Leaf step 2.
You will add a *corner point* to the path. A corner point lets you change the direction of the curve. A *smooth point* lets you draw a continuous curve.

2 Position the pen tool over the end of the line at point A. The slash next to the pen tool indicates that you'll continue the path of the line rather than start a new line.

3 Hold down Alt (Windows) or Option (Mac OS) and notice that the status bar in the lower left corner of the window displays "Pen: Make Corner." Now Alt/Option-drag the pen tool from anchor point A to the red dot. Then release the mouse button.



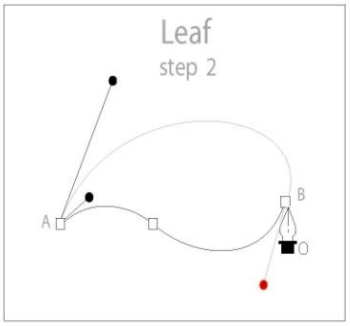


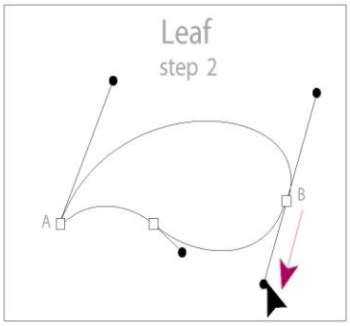
A slash indicates pen tool is aligned with anchor.

Alt/Option-dragging creates corner point.

So far, all of the curves you have drawn have been open paths. Now you'll draw a closed path, in which the final anchor point is drawn on the first anchor point of the path. (Examples of closed paths include ovals and rectangles.) You'll close the path using a smooth point.

4 Position the pointer over anchor point B on the template. A small open circle appears next to the pen tool indicating that clicking will close the path. Press the mouse button and drag from this point to the second red dot.
Notice the direction lines where you close the path. The direction lines on both sides of a smooth point are aligned along the same angle.





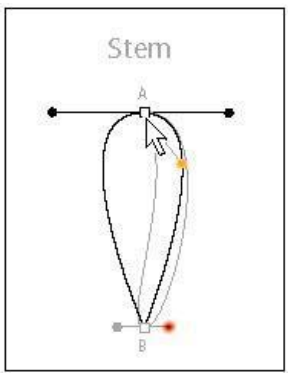
A small circle indicates clicking with pen tool closes the path.

Drag to red dot to lengthen curved line.

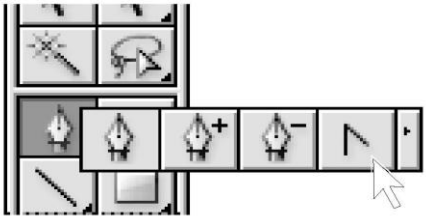
5 Ctrl-click (Windows) or Command-click (Mac OS) away from the line, and choose File > Save.

Changing a smooth curve to a corner and vice versa

Now you'll create the stem by adjusting a curved path. You'll convert a smooth point on the curve to a corner point and a corner point to a smooth point.
1 Select the direct-selection tool ( ) in the toolbox, position the pointer over point A at the top of the curve to display a hollow square on the pointer, and then click the anchor point to select it and display its red direction lines for the smooth point.

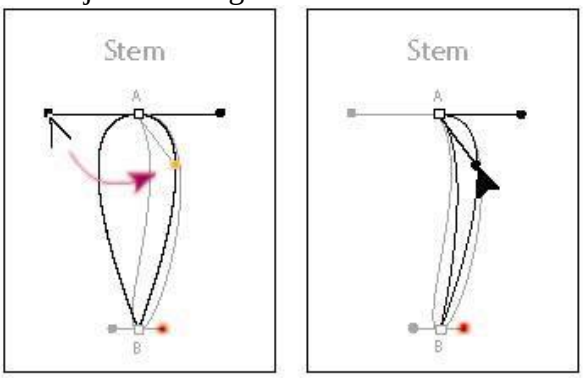


2 Select the convert-anchor-point tool ( ) from the same group as the pen tool in the toolbox.



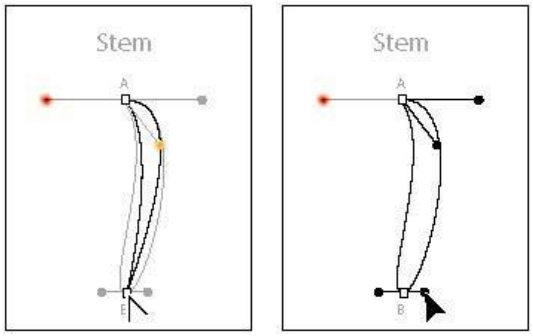
(When the pen tool is the current tool, a shortcut to get the convert-anchor-point tool is to press Alt (Windows) or Option (Mac OS).)

3 Using the convert-anchor-point tool, select the left direction point (on top of the red dot) on the direction line and drag it to the gold dot on the template, and then release the mouse button. Dragging with the convert-anchor-point tool converts the smooth anchor point to a corner point and adjusts the angle of the left direction line.



Use convert-anchor-point tool to convert curves to corners.

4 Using the convert-anchor-point tool, select the bottom anchor point and drag from point B to the red dot to convert the corner point to a smooth point, rounding out the curve, and then release the mouse button.



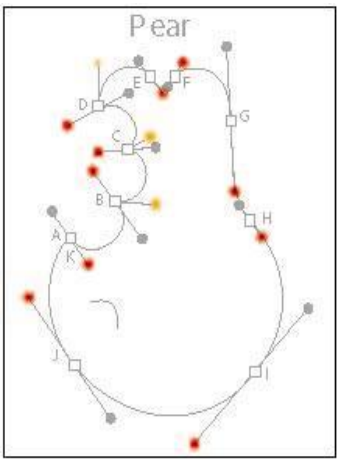
Use convert-anchor-point tool to convert corners to curves.

Two direction lines emerge from the anchor point, indicating that it is now a smooth point. When using the convert-anchor-point tool, keep these guidelines in mind:

• Drag from the curve's anchor point for a smooth point and continuous curve
• Click the curve's anchor point or drag a handle (direction point) of the curve for a corner point on a discontinuous curve.
6 Choose File > Save.

Drawing the pear shape

Now you'll draw a single, continuous object that contains smooth points and corner points. Each time you want to change the direction of a curve at a point, you'll hold down Alt (Windows) or Option (Mac OS) to create a corner point.

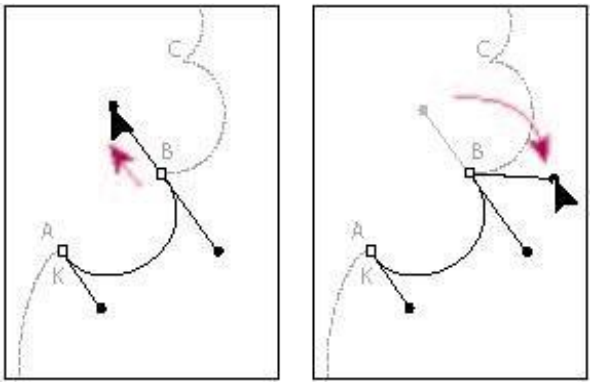


First you'll draw the bite marks on the pear by creating corner points and changing the direction of the curve segments.

1 Select the pen tool ( ) from the same group as the convert-anchor-point tool ( ).
Drag the pen tool from point A on the template to the red dot to set the starting anchor point and direction of the first curve. Release the mouse button.

2 Drag the pen tool from point B to the red dot—but don't release the mouse button— and hold down Alt (Windows) or Option (Mac OS) and drag the direction handle from the red dot to the gold dot. Release the mouse button.

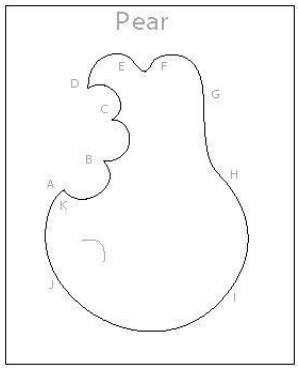
3 Continue drawing to points C and D by first dragging from the anchor point to the red dot and then Alt/Option-dragging the direction handle from the red dot to the gold dot.
At the corner points B, C, and D, you first drag to continue the current segment, and then Alt/Option-drag to set the direction of the next curved segment.



Drag to adjust curve. *Alt/Option-drag direction point to set corner point.*

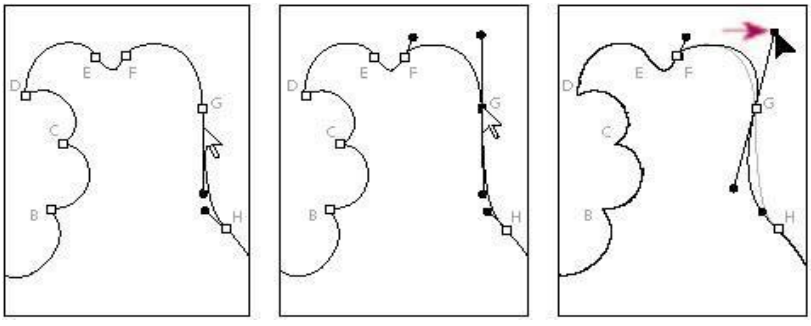
Next you'll complete drawing the pear by creating smooth points.
4 Drag from each of the points E through J to their red dots, and then click anchor point K to close the pear shape. Notice that when you hold the pointer over anchor point K, a small open circle appears next to the pen, indicating that the path will close when you click.

5 Hold down Ctrl (Windows) or Command (Mac OS) and click away from the path to deselect it, and choose File > Save.



Editing curves

To adjust the curves you've drawn, you can drag the curve's anchor points or its direction lines. You can also edit a curve by moving the line.
1 Select the direct-selection tool ( ), and click the outline of the pear.
Clicking with the direct-selection tool displays the curve's direction lines and lets you adjust the shape of individual curved segments. Clicking with the selection tool selects the entire path.
2 Click the anchor point G at the top right of the pear to select it, and adjust the segment by dragging the top direction handle as shown in the illustration.



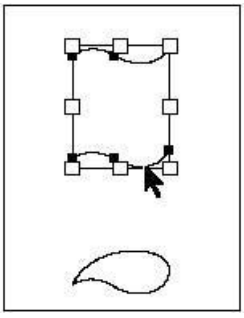
Use direct-selection tool to select individual segments. *Select anchor point.* *Adjust anchor point.*

Fill to None.

4 Now select the pen tool ( ) and drag to draw the small curve on the pear where the arrow will pierce it. (Use the dashed line on the template as a guide.)
Note: *If you can't see the dashed, curved line on the template, make sure that the Fill in the toolbox is set to None and that the Stroke is set to black.*

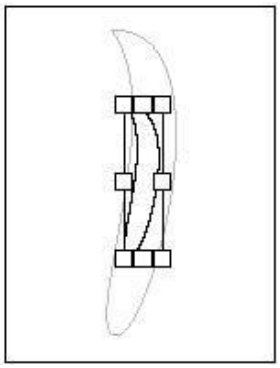
5 Choose File > Save.
Finishing the pear illustration
To complete the illustration, you'll assemble the objects together; paint them, and position parts of the arrow to create the illusion of the pear being pierced.

Assembling the parts
1 Double-click the zoom tool ( ) to zoom to 100%.
2 Choose Window > Layers to display the palette.
3 In the Layers palette, click the template icon ( ) that's next to the Template layer name to hide the template.
4 Choose View > Show Bounding Box so that you can see the bounding box of selected objects as you transform them.
5 Select the selection tool ( ) in the toolbox, and Shift-click to select the two single curved lines that you no longer need for the leaf. Press Backspace (Windows) or Delete (Mac OS) to delete them.

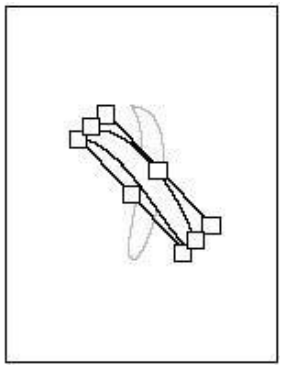


Select and delete extra lines.

Now you'll make the stem and leaf smaller and rotate them slightly using the Transform commands.
6 Select the stem and choose Object > Transform > Scale. Select Uniform and enter **5**0% in the Scale text box. Select the Scale Strokes & Effects option, and click OK.
The Scale Strokes & Effects option scales stroke weights and effects automatically. You can also set this option as a preference (choose Edit > General > Preferences).
7 Choose Object > Transform > Rotate. Enter **45** degrees in the Angle text box, and click OK.



Scale stem 50%.



Rotate stem 45°.

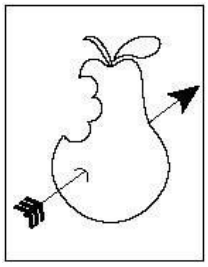
Now you'll repeat the scaling and rotation on the leaf.

8 Select the leaf and choose Object > Transform > Scale. Leave the settings as they are, and click OK to scale the leaf by 50%. Then choose Object > Transform > Rotate, and enter **15** degrees in the Angle text box, and click OK.
You can also scale and rotate objects using the scale and rotate tools or the free transform tool to do both. For information, see Lesson 6, "Transforming Objects."

9 Select the selection pointer, and move the stem and the leaf to the top of the pear.

10 Move the parts of the arrow over the pear to make it look as if the arrow is entering the front of the pear and exiting the back.
Objects are arranged in the order in which they are created, with the most recent in front.

11 Select the bottom part of the arrow, and Shift-click to select the curve where the arrow pierces the pear. Then choose Object > Arrange > Bring to Front to arrange them in front of the pear.



Now paint the objects as you like. We removed the stroke on the leaf, the stem, and the pear; and we painted the fills with custom-made gradients called Pear leaf, Pear stem, and Pear body, which are provided in the Swatches palette. We painted the arrow with a dark blue color, and then we added some detail lines to the leaf, the stem, and the round part of the pear using the paintbrush tool and the pen tool. We also stroked the curve where the arrow pierces the pear.

1 Choose Window > Swatches to display the Swatches palette.

2 Select an object, and then select a swatch in the Swatches palette to paint the object with a color, pattern, or gradient.

3 In the Color palette, drag the None icon up and drop it on the Stroke box to remove the stroke of a selected object.

4 Choose File > Save to save your work. Choose File > Close to close the file.

You've completed the Tutorial on drawing straight lines and curves. For additional practice with the pen tool, try tracing over images with it. As you practice more with the pen tool, you'll become more adept at drawing the kinds of curves and shapes you want.