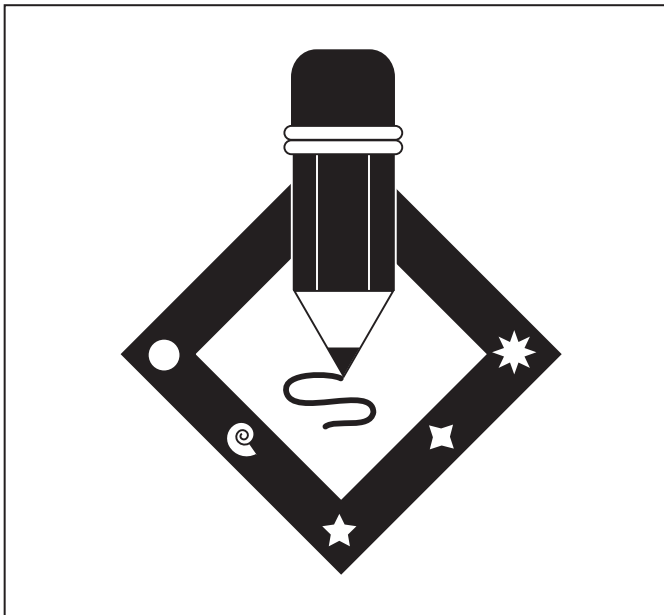


Creating Basic Shapes



Many objects in the Adobe Illustrator® program can be created by starting with basic shapes and then editing them to create new shapes. In this lesson, you will use some basic shapes to create a logo.

In this lesson, you'll learn how to do the following:

- Use tools and commands to create basic shapes
- Copy and combine objects to create new shapes
- Use selection tools to select and change parts of objects
- Paint objects
- Scale objects using the bounding box

Getting Started


Before you begin you'll need to restore the default preferences for Adobe Illustrator and then you'll open the finished art file for this lesson to see what you'll be creating.

1 To ensure that the tools and palettes function exactly as described in this lesson, delete or deactivate (by renaming) the Adobe Illustrator 8.0 preferences file. (See “Restoring default preferences” in Appendix A, “Improving Performance,” of the *Adobe Illustrator 8.0 User Guide*.)

2 Start Adobe Illustrator.

3 Choose File > Open and open the finished art file, *01_b.ai*.

(The path to the file is: Adobe Illustrator 8.0 application folder > Training > Tutorial > AI_01 > 01_b.ai.)

4 If you like, choose View > Zoom Out to make the finished artwork smaller, adjust the window size, and leave it on your screen as you work. (Use the hand tool () to move the artwork where you want it in the window.) If you don't want to leave the image open, choose File > Close.

Now create the start file to begin the lesson.

5 Choose File > New to open a new untitled document.

6 Choose File > Save As, name the file **Logo.ai**, and click Save. In the Illustrator Format dialog box, select version 8.0 of Illustrator and click OK.

Setting up the document

You'll begin the lesson by setting up the ruler units in inches, displaying a grid to use as a guideline for drawing, and closing the palettes that you won't be using.

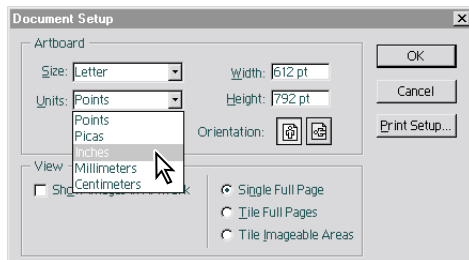
1 Close all of the palettes by clicking their close boxes or by choosing Window > Hide Navigator, Window > Hide Color, Window > Hide Swatches, Window > Hide Layers, and Window > Hide Transform. (You can also hide or show all of the palettes by pressing Shift+Tab.) For now, you won't need to use them.

2 Choose View > Show Grid to display a grid that's useful for measuring, drawing, and aligning shapes. This grid won't print with the artwork.

3 Choose View > Show Rulers to display rulers along the top and left side of the window. The ruler units by default are set to points.

You can change ruler units for all documents or for only the current document. The ruler unit of measure applies to measuring objects, moving and transforming objects, setting grid and guide spacing, and creating ellipses and rectangles. (It does not affect the units in the Character, Paragraph, and Stroke palettes. These are controlled by the options in the Units & Undo Preferences dialog box.)

4 Choose File > Document Setup to change the ruler units for only this document. In the Document Setup dialog box, choose Inches from the Units menu, leave the other settings the way they are, and click OK.

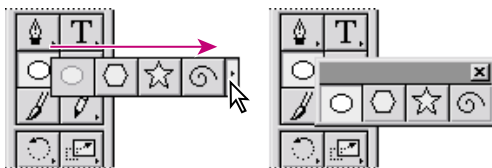


You can also set the default ruler units for all documents by choosing File > Preferences > Units & Undo.

Using the tools

In this lesson, you'll create a simple logo using the basic shape tools. The shape tools are organized in two groups in the toolbox, under the ellipse and rectangle tools. You can tear these groups off the toolbox to display in their own palettes.

1 Hold down the mouse button on the ellipse tool (○) until a group of tools appears, and then drag to the tear-off triangle at the end and release the mouse.



2 Move the ellipse tool group away from the toolbox and then repeat step 1 to tear off the rectangle tool (□) group.

Drawing the pencil shape

In Adobe Illustrator, you control the thickness and color of lines that you draw by setting *stroke attributes*. A *stroke* is the paint characteristics of a line or the outline of an object. A *fill* is the paint characteristics of the inside of an object. The default settings will let you see the objects you draw in white with a black outline.

First you'll draw a series of rectangles and triangles that make up the pencil.

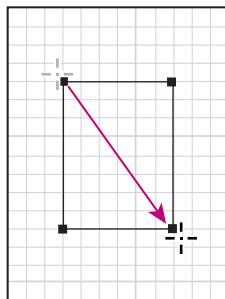
- 1 Select the zoom tool (🔍) in the toolbox and click in the middle of the window to zoom in to 150%. (Notice 150% is displayed in the bottom left corner of the window.)
- 2 Select the rectangle tool (□) and drag it to draw a rectangle that's **3/4 inches** wide and **1 inch** tall. (Use the rulers and the grid as guides.) This will be the body of the pencil.

When you release the mouse, the rectangle is automatically selected and its center point appears. All objects created with one of the shape tools have a center point that you can use to drag the object and align it with other elements in your artwork. You can make the center point visible or invisible (using the Attributes palette), but you cannot delete it.

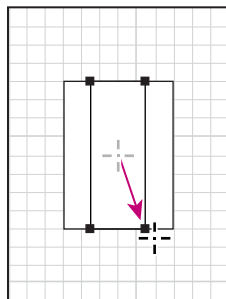
You'll draw another rectangle centered inside the first one to represent the two vertical lines on the pencil.

- 3 With the rectangle tool still selected, position the pointer over the center point of the rectangle, hold down Alt (Windows®) or Option (Mac® OS), and drag out from the center point to draw a rectangle that's centered inside it—release the mouse when the rectangle is the same height as the first rectangle (1 inch).

Holding down Alt or Option as you drag the rectangle tool draws the rectangle from its center point rather than from its top left corner. You can use the arrow keys to adjust the position of the selected object in small increments.



Drag to draw first rectangle.



Alt/Option-drag to draw second rectangle.

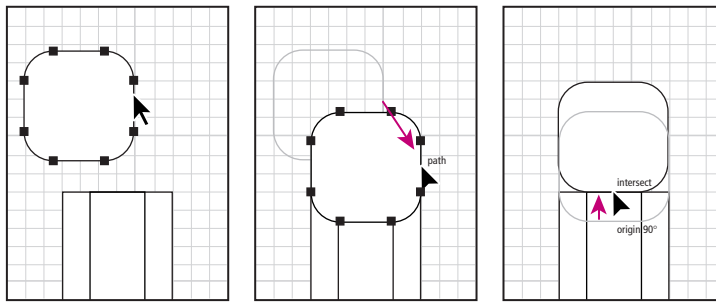
Besides dragging a tool to draw a shape, you can also click with it to open a dialog box of options. Now you'll create a rounded rectangle for the eraser by setting options in a dialog box.

- 4 Select the rounded rectangle tool (◻) and click once in the artwork to open the Rounded Rectangle dialog box. Type **.75** in the Width text box, press Tab and type **.75** in the Height text box, press Tab again and type **.20** in the Corner Radius text box (the radius is the amount of the curve on the corners). Click OK.

You'll use Smart Guides to help you align the eraser to the top of the pencil body.

- 5 Choose View > Smart Guides to turn them on. Smart Guides automatically snap the edges of objects to nearby objects or their intersect points as you move them.

6 With the rounded rectangle tool still selected, hold down Ctrl (Windows) or Command (Mac OS) to temporarily select the selection tool (⌘). Grab the right edge of the eraser (don't release the mouse) and drag it over to the right side of the pencil body (Smart Guides indicate the path of the right side). Release the mouse to drop the eraser on top of the pencil body. Then hold down Ctrl (Windows) or Command (Mac OS) and grab the bottom edge of the eraser and drag it up to the intersect point at the top of the pencil body. Release the mouse.



Select right edge of eraser shape.

Drag eraser to path on pencil body.

Drag bottom of eraser to top of pencil body.

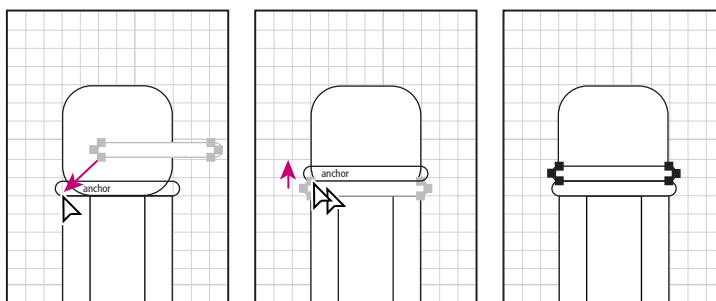
To learn more about how Smart Guides work, see “Using Smart Guides” in Chapter 5, “Working with Objects,” in the *Adobe Illustrator 8.0 User Guide*.

Next you'll create two shapes to represent the metal bands connecting the eraser to the pencil.

7 To create the first band, click once in the artwork to open the Rounded Rectangle dialog box again. Type **.85** in the Width text box, **.10** in the Height text box, and **.05** in the Corner Radius text box. Click OK.

8 Click the selection tool to select the band, grab the bottom left anchor point, and move the band to the top of the pencil body. Release the mouse. (Smart Guides snap the anchor point to the top corner of the pencil body.)

9 With the band still selected, hold down Alt (Windows) or Option (Mac OS), grab the anchor point again, and drag straight up to make a copy and move it above the original band. Release the mouse. (Smart Guides snap the anchor point of the new copy to the top of the original band.)



Move first metal band between eraser and pencil body.

Alt/Option-drag a copy above first metal band.


Smart Guides snap objects into position.

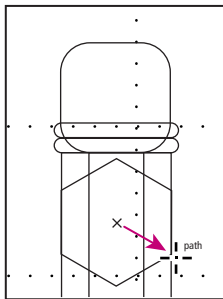
You've been working in Preview view, the default view of a document, which lets you see how objects are painted (in this case, with a white fill and black stroke). Sometimes paint attributes can be distracting, however, and you may want to work with just the wireframe view of an object.

Now you'll draw two triangles to represent the pencil tip and lead point using Artwork view.

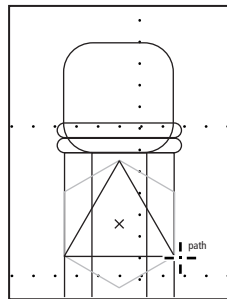
10 Choose View > Artwork to switch from Preview view to Artwork view.

Illustrator lets you control the shape of polygons, stars, and ellipses by pressing certain keys as you draw. You'll draw a polygon and change it to a 3-sided triangle.

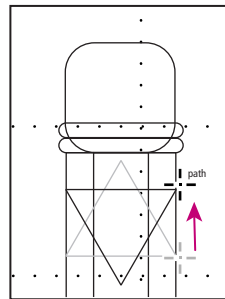
11 Select the polygon tool () and position the pointer over the center point of the two rectangles. Drag to begin drawing a polygon, but don't release the mouse button. Press the Down Arrow key three times to reduce the number of sides on the polygon to a 3-sided triangle, and move the mouse in an arc to rotate one side of the triangle to the top. Before you release the mouse, hold down the spacebar and drag the triangle down to position it below the pencil body.



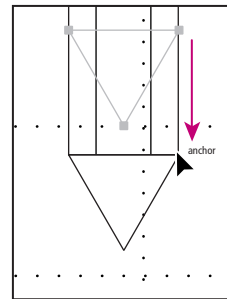
Drag to draw polygon, but don't release the mouse.



Press Down Arrow key three times.




Drag to rotate triangle.



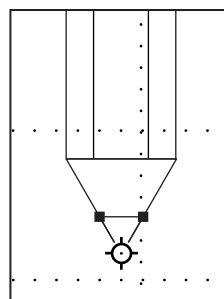
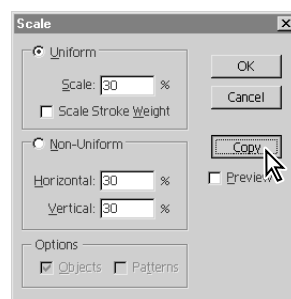
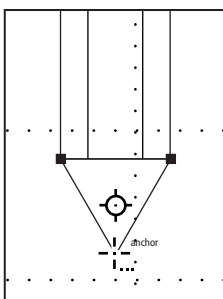
Press spacebar and move triangle.

Now you'll create the second triangle for the pencil's lead tip by using the scale tool and making a scaled copy of the first triangle.

12 With the triangle still selected, select the scale tool () in the toolbox and then Alt-click (Windows) or Option-click (Mac OS) on the bottom corner point of the triangle.

Clicking the corner point of the triangle sets the reference point from which the new triangle will scale. Holding down Alt/Option as you click displays the Scale dialog box.


13 In the Scale dialog box, type **30%** in the Scale text box and click Copy. (Don't click OK.)



14 Choose File > Save to save your work.

Drawing the piece of stationery

There are a couple of ways that you can draw the diamond-shaped piece of stationery for the logo. One way is to draw 4-sided polygons (using the same methods you used to draw the triangles for the pencil tip). You'll draw it another way, using the rectangle tool, the rotate tool, and the Transform palette.

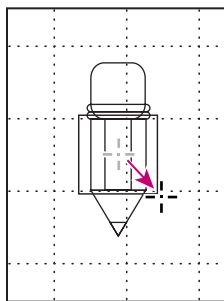
1 Select the rectangle tool () in the toolbox and position the pointer over the center point of the pencil body. Hold down Shift+Alt (Windows) or Shift+Option (Mac OS) and drag the tool to draw a rectangle from the center of the pencil. (It can be any size.)

Holding down Shift as you drag the rectangle tool constrains the rectangle to a square. Holding down Alt or Option causes the rectangle to be drawn from its center point rather than from the top left corner.

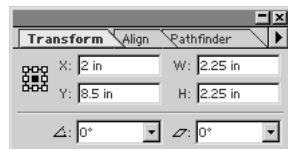
Now you'll use the Transform palette to enter precise dimensions for the square.

2 Choose Window > Show Transform to open the Transform palette.

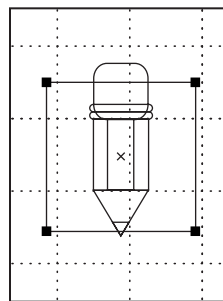
3 Type 2.25 in the W (width) text box and 2.25 in the H (height) text box, and press Enter or Return to apply the changes.



Draw a rectangle any size from pencil's center.



Set dimensions with Transform palette.



Result


Next, you'll create a smaller square that's centered inside the first one.

4 With the square still selected, choose Edit > Copy to copy the square to the Clipboard and then choose Edit > Paste in Front to paste the copy of the square directly on top of the first one.

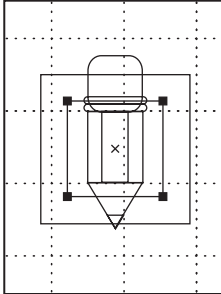
5 In the Transform palette, type 1.5 in the W (width) text box and 1.5 in the H (height) text box, and press Enter or Return to apply the changes.

For information about using the transform tools and Transform palette in Illustrator, see Chapter 6, "Modifying Shapes," in the *Adobe Illustrator 8.0 User Guide*.

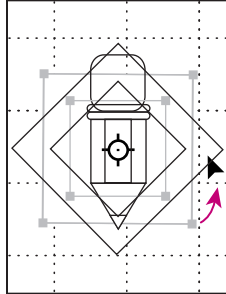
Now you'll rotate the squares to create the diamond shape.

6 Select the selection tool () to automatically select the new square and Shift-click to select the larger square.

7 Select the rotate tool (⌘) in the toolbox and position the pointer over the bottom right corner of the larger square. Drag the corner to the left or right until a corner is at the top. (Smart Guides help to constrain the rotation to 45 degrees.)



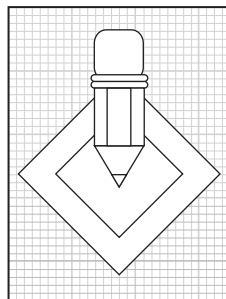
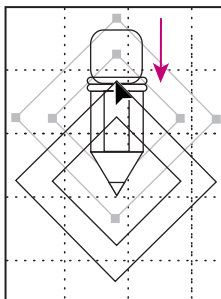
Use Transform palette to set dimensions of pasted copy.



Use rotate tool to turn selected objects 45 degrees.

8 With the two squares still selected, hold down Ctrl (Windows) or Command (Mac OS), grab the top corner point of the larger square, and drag to move the squares down to just below the metal eraser bands on the pencil.

9 Choose View > Preview and then choose Object > Arrange > Send to Back to move the squares behind the pencil.



10 Choose Edit > Deselect All to deselect the artwork and then choose File > Save to save your work.

Decorating the stationery border

You'll decorate the border of the piece of stationery with a circle, a spiral, and some star shapes, using different methods to create the shapes.

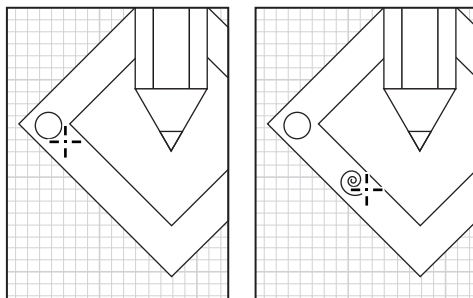
1 Click 150% in the bottom left corner of the window and type **200**, and press Enter or Return to zoom in to a 200% view of the artwork.



2 Select the ellipse tool (○) and position the pointer in the left corner of the stationery border. Hold down Shift+Alt (Windows) or Shift+Option (Mac OS) and drag the tool to draw a small circle. Holding down Shift as you drag the ellipse tool constrains the shape to a circle; holding down Alt/Option draws it from its center point.

3 Now select the spiral tool (⦿) and position it in the bottom left side of the stationery about midway between the two corners. Drag the tool to draw a small spiral, and then use the arrow keys to adjust its position.

You can drag the spiral tool to draw spirals or click once to open the Spiral dialog box and specify the characteristics before drawing the spiral. Illustrator lets you specify the radius, number of segments, and percent of decay (amount that the spiral uncoils). (See Chapter 4, “Drawing,” in the *Adobe Illustrator 8.0 User Guide*.)

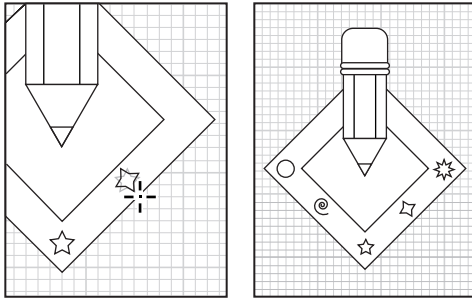


Now you'll draw some stars using different methods.

4 Select the star tool (☆) and position the pointer in the bottom corner of the stationery. Drag the tool to draw the first star shape. By default, the star tool draws a 5-pointed star.

5 With the star tool still selected, click in the bottom right side of the stationery (midway between the two corners) to create a second star. By default, the Star dialog box displays the dimensions of the last star you drew. In the Star dialog box, type **4** in the Points text box, and click OK.

6 To draw the last star, start dragging the star tool in the right corner of the stationery, but don't release the mouse button. As you drag, press the Up Arrow key to increase the number of points on the star (we created an 8-sided star), and then before releasing the mouse, hold down the spacebar and move the star into position in the corner of the border.



7 Ctrl-click (Windows) or Command-click (Mac OS) away from the artwork to deselect the star, and choose File > Save.

Tips for drawing polygons, spirals, and stars


You can control the shapes of polygons, spirals, and stars by pressing certain keys as you draw the shapes. As you drag the polygon, spiral, or star tool, choose any of the following options to control the shape:

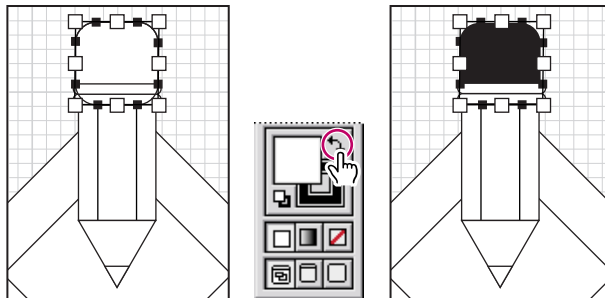
- To add or subtract sides on a polygon, points on a star, or number of segments on a spiral, press the Up Arrow key or the Down Arrow key before releasing the mouse button. The tool remains set to the last value you specified, until you reset the number.
- To rotate the shape, move the mouse in an arc.
- To keep a side or point at the top, hold down Shift.
- To keep the inner radius constant, hold down Ctrl (Windows) or Command (Mac OS).
- To move a shape as you draw it, hold down the spacebar. (This also works for rectangles and ellipses.)

Now you're ready to add a fresh coat of paint.

Painting the logo

In Adobe Illustrator, you can paint both the fill and the stroke of shapes with colors, patterns, or gradients. You can even apply various brushes to the path (or stroke) of the shapes. For this logo, you'll use a simple method to reverse the default fill and stroke of your shapes, painting the fill with black and the stroke with white.

- 1 Select the selection tool () in the toolbox and then click the eraser shape to select it.
- 2 Click the Swap Fill and Stroke button in the toolbox.



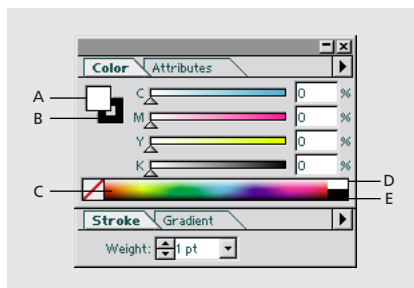
The black stroke of the rounded rectangle is transposed with the rectangle's white fill.

- 3 Click one of the two rectangles that make up the pencil body to select it and then Shift-click to select the other rectangle. Click the Swap Fill and Stroke button in the toolbox to swap the white fills of the pencil body with the black strokes.

- 4 Click the outer rectangle (not the inner rectangle) of the stationery border to select it, and then click the Swap Fill and Stroke button.

Now you'll paint the pencil's lead tip with both a black fill and a black stroke.

- 5 Click the small triangle that represents the lead tip to select it, and choose Window > Show Color to open the Color palette.
- 6 In the Color palette, make sure the Fill box is selected (in front of the Stroke box) and click the black color box to the right of the color bar to paint the triangle's fill with black.

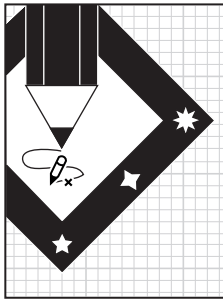


A. Fill box B. Stroke box C. Color bar
D. White color box E. Black color box

To complete the design, you'll draw a curvy line using the pencil tool.

- 7 Click away from the artwork to deselect it and, with the Fill box selected, click the None button in the toolbox to indicate no fill setting. Then click the Stroke box to make it active.

- 8 Select the pencil tool (P) in the toolbox and draw a curvy line below the pencil's tip in the logo.



The curvy line remains selected after you draw it.

- 9 To adjust the path of the curvy line, drag the pencil tool along part of the selected line and then continue dragging to draw the new path.

- 10 If the Stroke palette isn't visible, choose Window > Show Stroke to display it, and then increase the stroke weight of the selected line to 3 points in the Weight text box.

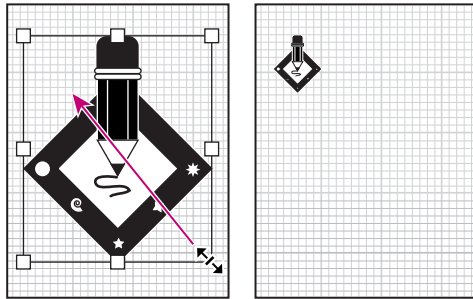
For information about drawing and editing shapes with the pencil tool, see Chapter 4, "Drawing," in the *Adobe Illustrator 8.0 User Guide*.

Copying and scaling shapes

A final step for creating logos is to scale the artwork to a one-inch square and make sure that the resized logo still presents a clear image. You'll use the bounding box feature in Illustrator to make a scaled copy of the logo.

- 1 Double-click the zoom tool (Q) to zoom out to 100%.
- 2 Choose File > Preferences > General and select the Scale Stroke Weight option. Make sure the Use Bounding Box option is selected, leave the other settings as they are, and click OK.
- 3 Choose Edit > Select All to select all the objects in the logo and then click the selection tool (A) in the toolbox to select their bounding box.
- 4 Hold down Alt (Windows) or Option (Mac OS) and drag the pointer from the center of the objects to the outside of the bounding box to make a copy of the logo.
- 5 Position the copy of the logo below the original and line up the left corner point on the logo with a grid line to make it easier to measure as you scale the copy.
- 6 Using the selection tool (A), grab the bottom right corner point of the bounding box, hold down Shift and drag the corner up and to the left to scale down the logo—release the mouse when the logo is about an inch wide.

Holding down Shift as you drag the corner of the bounding box scales the objects proportionally.

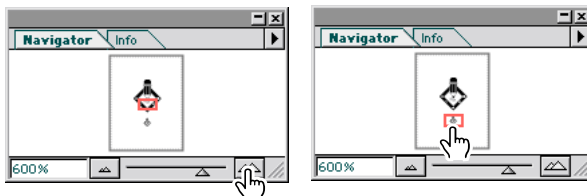


You can use various zoom options to zoom in on the smaller logo and check its clarity. Illustrator's Navigator palette is useful for moving around in the artwork at a higher magnification.

7 Choose Window > Show Navigator to open the Navigator palette, and then click the Zoom In button at the bottom of the palette several times to zoom to 600%. As you click, the artwork in the window disappears and the red box in the Navigator palette becomes smaller.

The red square shows you where objects are located in relation to the artwork in the window. You can drag the red square to move the focus or you can click where you want it to go.


8 In the Navigator palette, position the pointer so the hand is pointing to the smaller logo and click to move the red square over it.



Click to zoom in.

Click to move red view box.

9 Choose View > Hide Grid to hide the grid and clear the background of the artwork.

10 Double-click the hand tool () to fit the artwork in the window.

11 Choose File > Save to save your artwork.

You've completed the basic shapes lesson and created the logo artwork.

For information about different ways you can add color to the logo, see the "Painting" lesson; or see Chapter 7, "Working with Color" in the *Adobe Illustrator 8.0 User Guide*.

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