

4 TRANSFORMING OBJECTS

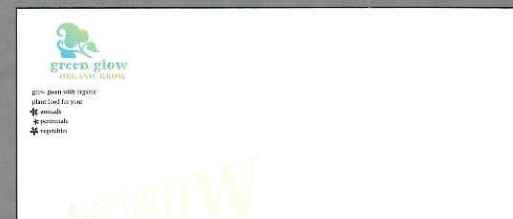
Lesson overview

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

- Add and edit artboards in an existing document.
- Select individual objects, objects in a group, and parts of an object.
- Move, scale, and rotate objects using a variety of methods.
- Work with smart guides.
- Reflect, shear, and distort objects.
- Adjust the perspective of an object.
- Apply a distortion filter.
- Position objects precisely.
- Repeat transformations quickly and easily.



This lesson will take approximately an hour to complete. If needed, remove the previous lesson folder from your hard disk and copy the Lesson04 folder onto it.



You can modify objects in many ways as you create artwork, including quickly and precisely controlling their size, shape, and orientation. In this lesson, you'll explore creating and editing artboards, the various Transform commands, and specialized tools as you create several pieces of artwork.

Getting started

In this lesson, you'll create a logo and use it in three pieces of artwork to create a letterhead design, an envelope, and a business card. Before you begin, you'll restore the default preferences for Adobe Illustrator, and then open a file containing a composite of the finished artwork to see what you'll create.

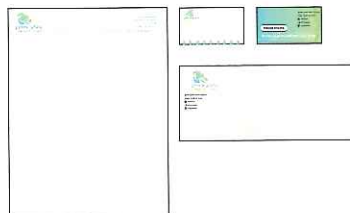
- 1 To ensure that the tools and panels function as described in this lesson, delete or deactivate (by renaming) the Adobe Illustrator CS4 preferences file. See "Restoring default preferences" on page 3.

- 2 Start Adobe Illustrator CS4.

Note: If you have not already copied the resource files for this lesson onto your hard disk from the Lesson04 folder on the Adobe Illustrator CS4 Classroom in a Book CD, do so now. See "Copying the Classroom in a Book files" on page 2.

- 3 Choose File > Open, and open the L4end.ai file in the Lesson04 folder, located in the Lessons folder on your hard disk.

This file contains the three pieces of finished artwork: a letterhead, a business card (front and back), and an envelope. The Green Glow logo in the upper left corner of the letterhead has been resized differently for the letterhead, envelope, and business card.



- 4 Choose View > Zoom Out to reduce the view of the finished artwork. Then adjust the Document window size, and leave the artwork on-screen as you work. Select the Hand tool (H) to move the artwork where you want it in the window. If you don't want to leave the file open, choose File > Close.

To begin working, you'll open an existing art file set up for the letterhead artwork.

- 5 Choose File > Open to open the L4start.ai file in the Lesson04 folder, located in the Lessons folder on your hard disk. This file has been saved with the rulers showing, custom swatches added to the Swatches panel, and blue guidelines for scaling objects used to create the logo.



- 6 Choose File > Save As. In the Save As dialog box, name the file green_glow.ai and navigate to the Lesson04 folder. Leave the Save As Type option set to Adobe Illustrator (*.AI) (Windows) or the Format option set to Adobe Illustrator (ai) (Mac OS), and click Save. In the Illustrator Options dialog box, leave the Illustrator options at their default settings, and click OK.

- 7 Choose Window > Workspace > Essentials.

Working with artboards

Artboards represent the regions that can contain printable artwork, similar to pages in Adobe InDesign. You can use artboards to crop areas for printing or for placement purposes—they work the same way as crop areas work in Illustrator CS3. Multiple artboards are useful for creating a variety of things, such as multiple page PDF files, printed pages with different sizes or different elements, independent elements for websites, video storyboards, or individual items for animation.

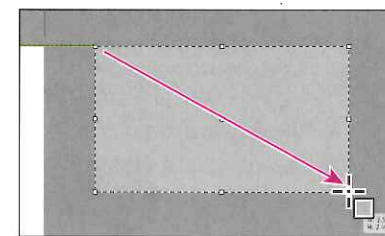
Adding artboards to the document

You can add and remove artboards at any time while working in a document. You can create artboards in different sizes, resize them with the Artboard tool, and position them anywhere in the Document window. All artboards are numbered. The number appears in the upper left corner of the artboard when the Artboard tool is selected.

To begin, this document has one artboard for the letterhead. You will add more artboards to create the business card and envelope.

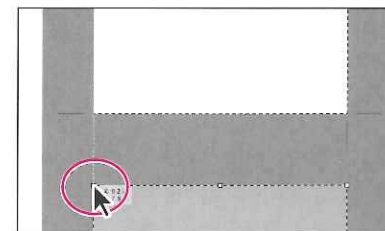
- 1 Choose View > Fit Artboard In Window. This is artboard number 1.
- 2 Press Ctrl++ (Windows) or Cmd++ (Mac OS) twice to zoom in.
- 3 Pressing the spacebar, click and drag the artboard to the left and down until you see the canvas off the upper right corner of the artboard.

- 4 Select the Artboard tool (A), and to the right of the existing artboard, bring the pointer in line with the top edge of the existing artboard until a green alignment guide appears. Drag down and to the right to create an artboard that is 3.5 inches (width) by 2 inches (height). A measurement label indicates when the artboard is the correct size. This is artboard number 2.



Tip: If you zoom in on an artboard, the measurement labels have smaller increments.

- 5 Click the New Artboard button (A) in the Control panel. This creates a duplicate of the last selected artboard. This is artboard number 3.




- 6 Drag the pointer below the new artboard and line it up with the left edge of the artboard until a vertical green alignment guide appears. Click to create a copy of the artboard.

Note: If you haven't scrolled over far enough, you may not be able to see the artboard and measurement label that appears.

Editing artboards

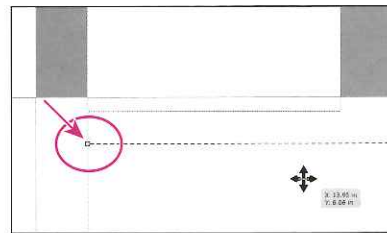
You can create multiple artboards for your document, but only one can be active at a time. When multiple artboards are defined, you can view them all by selecting the Artboard tool. Each artboard is numbered for easy reference. You can edit or delete an artboard at any time, and you can specify different artboards each time you print or export.

- Using the Artboard tool () , select the bottom artboard on the right, and change the width to 9.5 in and the height to 4 in in the Control panel.



When resizing artboards using the Artboard Options dialog box, the artboard is resized from its center.

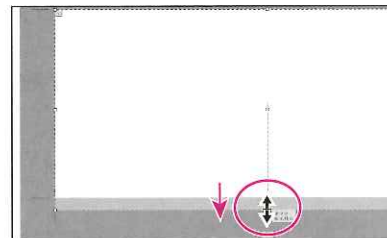
- Choose View > Fit All In Window.
- With the Artboard tool, click and drag from the center of the resized artboard so that the left edge of the third artboard lines up with the left edge of the second artboard above it (a green alignment guide appears on the left). Leave about an inch of room between the third artboard and the artboard above it.



Move the resized artboard.


Tip: To duplicate an existing artboard, using the Artboard tool, Alt-drag or Option-drag the artboard that you want to duplicate.


- With the Artboard tool, click the center of the bottom right artboard to select it. Drag the bottom bounding point of the artboard until the height is 4.25 in in the measurement label.

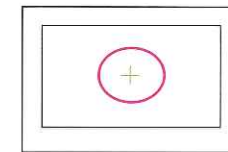
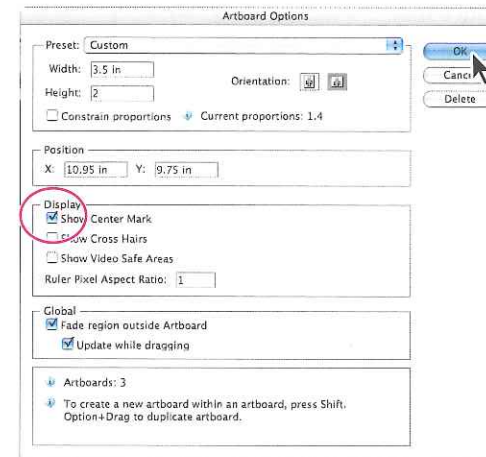


Resize the third artboard.


Tip: To delete an artboard, click the artboard and press Delete, click Delete in the Control panel, or click the Delete icon in an artboard's upper right corner. You can delete all but the last remaining artboard.

- With the top artboard on the right selected (artboard 02), click the Artboard Options button () in the Control panel to open the Artboard Options dialog box. In the Display Options, select Show Center Mark. Click OK.

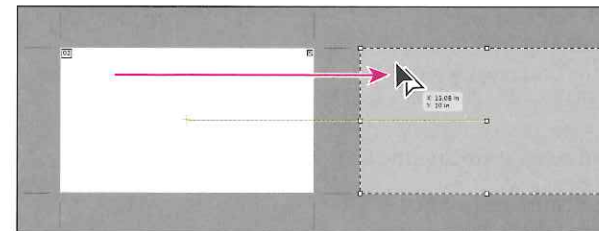
- Select the Selection tool () in the Tools panel to see the center mark. Also, notice the black outline around the artboard, which indicates the currently active artboard.



Next you will make a copy of the smaller artboard for the front and back side of a business card.


Note: When you drag an artboard with content on it, the art moves with the artboard by default. If you want to move an artboard, but not the art on it, select the Artboard tool, and then click to deselect Move/Copy Artwork With Artboard () .

- With the Artboard tool, Alt-drag (Windows) or Option-drag (Mac OS) artboard 02 to the right. Drag until the copied artboard clears the original. When creating new artboards, you can place them anywhere, including overlapping them. You just need to leave room between them to account for a bleed, if necessary.



- Choose View > Fit All In Window to see all the artboards.

- With the Artboard tool, click to select artboard 01.

Tip: Clicking the delete icon () in the upper right corner of every artboard deletes that artboard.

- 10 Choose Legal from the Presets menu in the Control panel.

The Presets menu lets you change a selected artboard to a set size. Notice that the sizes in the Presets menu include web sizes (800x600, for instance) and video sizes (NTSC DV, for instance). You can also fit the artboard to the artwork bounds or the selected art, which is a great way to fit an artboard to a logo, for instance.

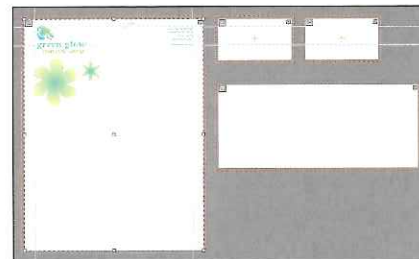
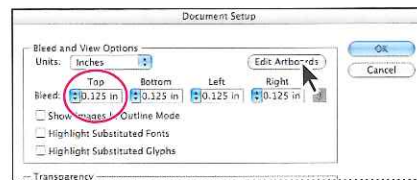


Change the artboard preset to Legal

- 11 Choose Letter from the Presets menu in the Control panel to return the artboard to standard letter size.
- 12 Select the Selection tool in the Tools panel. Click the Document Setup button in the Control panel.

► **Tip:** You can also access the Document Setup dialog box by choosing File > Document Setup.

- 13 In the Document Setup dialog box, change the Top Bleed option to .125 in by clicking the up arrow to the left of the field. Notice that all the values change together, because Make All Settings The Same (☑) is selected. Click Edit Artboards to commit to the changes and return to the Artboard tool.



● **Note:** All changes made in the Document Setup dialog box are set for the entire document (all artboards).

- 14 Select the Selection tool to stop editing the artboards.

- 15 Choose Window > Workspace > Essentials.

Now that the artboards are set up, you will concentrate on transforming artwork to create the content for the artboards.

Transforming content

Transforming content allows you to move, rotate, reflect, scale, and shear objects. Objects can be transformed using the Transform panel, selection tools, specialized tools, Transform commands, guides, and smart guides. In this part of the lesson, you will transform content using a variety of methods.

Working with rulers and guides

Rulers help you accurately place and measure objects. The point where 0 appears on each ruler is called the ruler origin, which some refer to it as the zero, zero point. The ruler origin can be reset depending on which artboard is active. There are also two types of rulers available: document rulers and artboard rulers. Guides are nonprinting lines that help you align objects. You can create horizontal and vertical ruler guides by dragging them from the rulers.

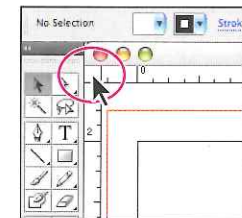
● **Note:** By default, the ruler origin appears in the lower left corner of the Document window, but you can change the location.

Next you will make the rulers visible, reset the origin point, and create a guide.

- 1 With the Selection tool (☞), click the top right artboard, which is the back of the business card, to make it the active artboard. Choose View > Fit Artboard In Window.

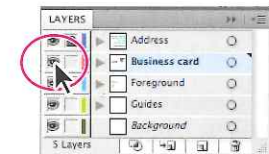
► **Tip:** Instead of clicking an artboard to make it active, you can use the First, Next, Previous, or Last buttons in the status bar to make an artboard active.

- 2 Double-click the upper left corner of the Document window where the rulers intersect. This resets the ruler origin so that the ruler origin appears in the lower left corner of the active artboard.



► **Tip:** You can also drag the pointer from the upper left corner where the rulers intersect onto the artboard to set the ruler origin.

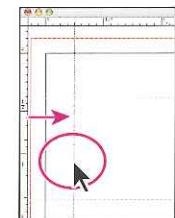
- 3 Click the Layers panel icon (☰) on the right side of the workspace. Click to select the Visibility column to the left of the Business card layer name. Click the Business card layer name to select it. Any new content, including guides, is placed on the selected layer.



- 4 Shift-drag from the vertical ruler to the right to create a vertical guide at 1/4 inch on the horizontal ruler. The Shift key snaps the guide to the ruler units as you drag.

- 5 Choose View > Guides > Lock Guides to prevent them from being accidentally moved.

- 6 Choose File > Save.




► **Tip:** Choose File > Document Setup or with nothing selected, click the Document Setup button in the Control panel to change the units for a document. You can also right-click or Option-click either ruler to change the units.

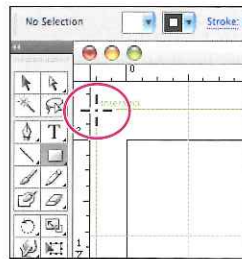
Scaling objects

Objects are scaled by enlarging or reducing them horizontally (along the x axis) and vertically (along the y axis) relative to a fixed reference point that you designate. If you don't designate an origin, objects are scaled from their center points. You'll use three methods to scale the objects that make up parts of the business card.

First you'll set the preference to scale strokes and effects. Then you'll scale the logo background by dragging its bounding box and aligning it to the guides provided.

- 1 Choose Edit > Preferences > General (Windows) or Illustrator > Preferences > General (Mac OS), and select Scale Strokes & Effects. This scales the stroke width of any object scaled in this lesson. Click OK.


- 2 Select the Rectangle tool () in the Tools panel. Position the pointer in the upper left corner of the red bleed guides and click when the word intersect and the green alignment guides appear.

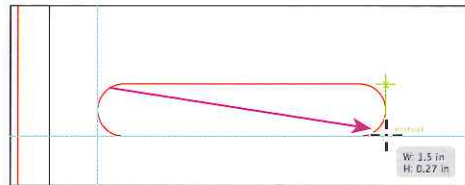


- 3 In the Rectangle dialog box, change the width to 3.75 in and the height to 2.25 in. Click OK.


- 4 Click the Fill color in the Control panel and select the business card swatch.

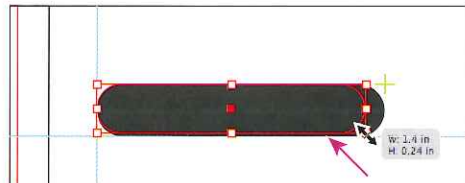
- 5 With the rectangle still selected, choose Object > Hide > Selection. This makes it easier to edit content.

- 6 Select the Rounded Rectangle tool () from the Rectangle group, and then position the pointer at the vertical guide and in line with the center mark (green cross hairs) until a horizontal alignment guide appears. Click and drag down and to the right to the bottom horizontal guide until the right edge of the shape is aligned with the center mark. The width in the measurement label is 1.5 in.



- 7 Select black for the fill color in the Control panel.

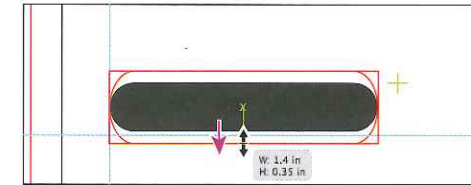
- 8 With the Selection tool (), Shift-drag the lower right corner of the object's bounding box up and to the left until the width is about 1.4 in in the measurement label.



- **Note:** If you do not see the bounding box, choose View > Show Bounding Box.

Next you'll resize the rectangle from the side.

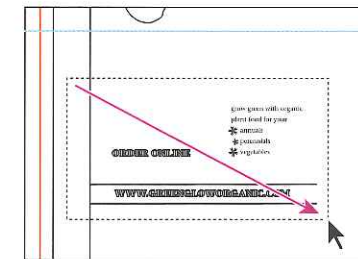
- 9 With the object still selected, Alt-drag (Windows) or Option-drag (Mac OS) the bottom, middle bounding point down. Drag to just below the lower horizontal guide. This doesn't have to be exact.



- 10 Choose 1 from the Artboard Navigation menu in the status bar.

- 11 Choose View > Outline.

- 12 With the Selection tool, drag a marquee across the text below the large flower to select it all. Choose Edit > Cut.



- 13 Choose 4 from the Artboard Navigation menu in the status bar to return to the business card artboard.



- 14 Choose Edit > Paste. Choose Select > Deselect.

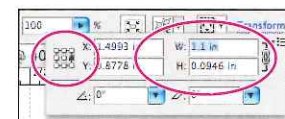
- 15 Shift-drag a vertical guide from the vertical ruler to 1½ in on the horizontal ruler.

- 16 With the Selection tool, select the text "Order Online" and drag it so that the right edge aligns with the new guide as best as you can. Vertically align the text to the center of the rounded rectangle.



- 17 Choose View > Preview.

- 18 In the Control panel, click the word Transform. In the Transform panel that appears, click the middle right reference point of the Reference Point Locator () to set the reference point from which the objects scale. Click to select the Constrain Width And Height Proportions icon () between the W and H fields in the Transform panel. Change the width to 1.1 in, and then press Enter or Return to decrease the size of the text.



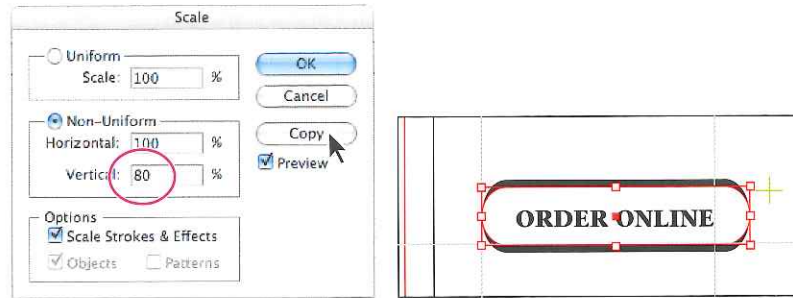
- **Note:** If it is difficult to see the text, use outline mode, and then return to preview mode.

- **Note:** Depending on your screen resolution, the Transform options may appear in the Control panel. If they do appear you can set the options directly in the Control panel. The figure at left shows clicking the word Transform to reveal the Transform panel.

- **Note:** Pressing Shift as you drag constrains the object proportionally.

Next you'll position a copy of the rounded rectangle and then use the Scale tool to resize and copy it.

- 19 With the Selection tool, select the rounded rectangle.
- 20 Double-click the Scale tool (⌘) in the Tools panel.
- 21 In the Scale dialog box, select the Preview option. Change Vertical to 80% and click Copy to make a smaller copy on top of the other rounded rectangle.
- 22 Change the Fill color in the Control panel to white.

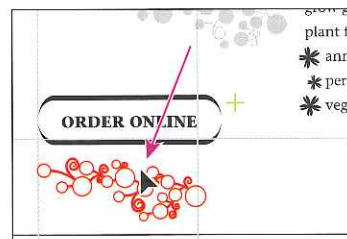


Reflecting objects

When you reflect an object, Illustrator creates a reflection of the object across an invisible vertical or horizontal axis. Copying objects while reflecting allows you to create a mirror image of the object based on a point. Similar to scaling and rotating, when reflecting an object, you either designate the reference point or use the object's center point by default. You can also alter the orientation of a reflection by changing its angle.

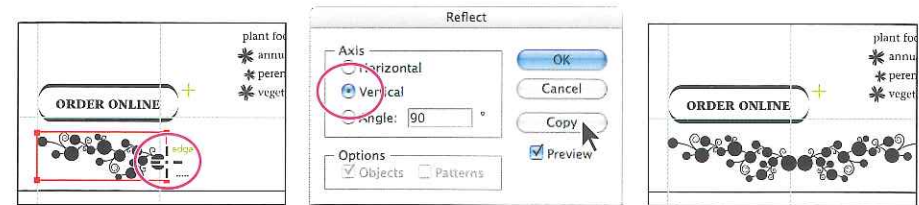
Next you'll place a symbol on the artboard, and use the Reflect tool to flip and copy it 90° across the vertical axis and then scale and rotate the copy into position.

- 1 Click the Symbols panel icon (☛) on the right side of the workspace. Drag the Floral symbol onto the business card artboard.
- 2 With the symbol selected, double-click the Scale tool (⌘) in the Tools panel.
- 3 In the Scale dialog box, change Uniform Scale to 30%, and click OK.
- 4 Select the Selection tool (⌘) and drag the symbol down below "Order Online," lining the left edge of the symbol with the guide at 1/4". It doesn't have to be exact.
- 5 Select the Reflect tool (⇧) nested within the Rotate tool (⌘) in the Tools panel, and then Alt-click (Windows) or Option-click (Mac OS) the right edge of the symbol (the word edge may appear).



Note: Pressing Alt or Option is not necessary, but it sets the reflection point to the right edge of the symbol.

- 6 In the Reflect dialog box select Preview. Select Vertical, and then click Copy.



Alt-click or Option-click with the Reflect tool. Select Vertical in the Reflect dialog box, and then click Copy.

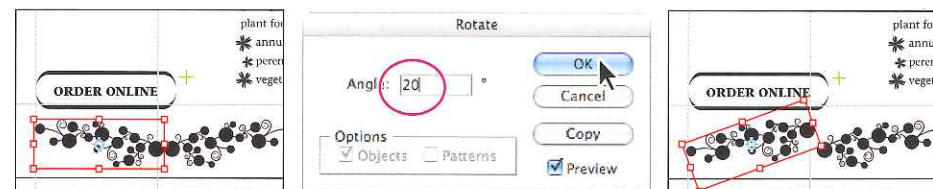
Note: You can also drag the selected object with the Reflect tool to reflect it.

Rotating objects

Objects are rotated by turning them around a designated reference point. You can rotate objects by displaying their bounding boxes and moving the pointer to an outside corner. When the rotate pointer appears, click to rotate the object around its center point. You can also rotate objects using the Transform panel to set a reference point and a rotation angle.

You'll rotate both symbols using the Rotate tool.

- 1 With the Selection tool (⌘), select the leftmost symbol. Select the Rotate tool (⌘) nested within the Reflect tool (⇧) in the Tools panel. Double-click the Rotate tool (⌘) in the Tools panel. Notice that the symbol's reference point (⊖) is its center.
- 2 In the Rotate dialog box, make sure that Preview is selected. Change the angle to 20, and then click OK to rotate the symbol around the reference point.

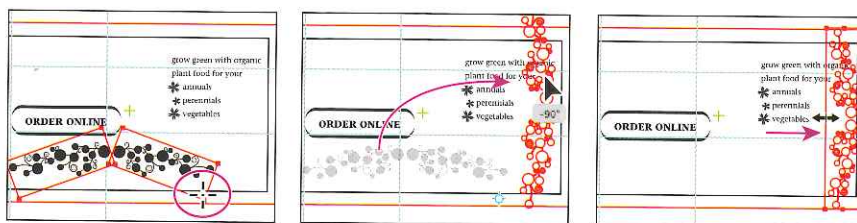


Note: If you select an object, and then select the Rotate tool, you can Alt-click or Option-click anywhere on the object (or artboard) to set a reference point and open the Rotate dialog box.

- 3 Select the Selection tool, and click the symbol on the right.
- 4 Double-click the Rotate tool (⌘) in the Tools panel.

Tip: To learn more about symbols, see Lesson 13, "Working with Symbols."

- 5 In the Rotate dialog box, change the angle to -20 , and then click OK.
- 6 With the Selection tool, Shift-click to add the symbol on the left to the current selection.
- 7 Choose Object > Group.
- 8 Choose View > Zoom Out twice.
- 9 Select the Rotate tool. Click the bottom, right edge of the group to set the reference point (\odot). Click and drag from the left side of the group up and to the right. Notice that the movement is constrained to a circle rotating around the reference point. While dragging, press the Shift key to constrain the rotation to 45° . When the group is vertical and the measurement label shows -90° , release the mouse button, and then the key.
- 10 With the Selection tool, drag the group to the right edge of artboard and visually center it vertically on the artboard. The placement does not have to be exact.
- 11 Shift-drag the left middle bounding point of the group, and drag to the right to resize it until the group fits within the top and bottom bleed guides.



- 12 With the group still selected, click the word Opacity in the Control panel and change the opacity blending mode to Overlay.
- 13 Choose Object > Show All to see the business card background.
- 14 Choose View > Guides > Hide Guides.
- 15 Choose File > Save.

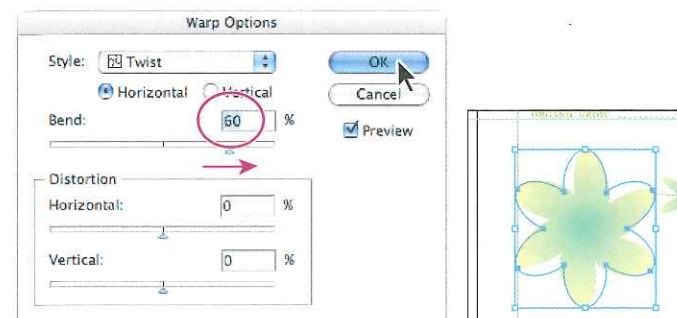


Distorting objects

You can distort the original shapes of objects in different ways using various tools. Now you'll create a flower, first using the Twist effect to twirl the shape of a star, and then applying the Pucker & Bloat distort filter to transform its center.

- 1 Click the First button (1) in the status bar to navigate to artboard 1.
- 2 With the Selection tool (\blacksquare), click to select the large flower shape below the Green Glow logo.

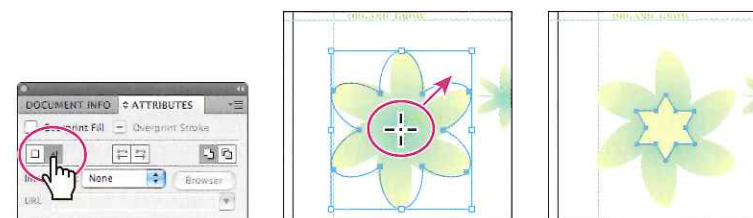
- 3 Choose Effect > Warp > Twist. Select Preview in the Warp Options dialog box. Change Bend to 60 and click OK.



Twist distortion is applied as an effect, which maintains the original shape and lets you remove or edit the effect at any time in the Appearance panel. Learn more about using effects in Lesson 11, "Applying Effects."

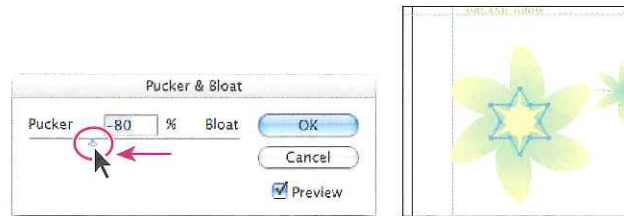
Now you'll draw the middle part of the flower that's centered on top of the flower.

- 4 With the flower selected, choose Window > Attributes to open the Attributes panel. Click the Show Center button (\boxplus) to display the center point of the flower.
- 5 Close the Attributes panel group.
- 6 Select the Zoom tool (\mathcal{Q}), and click the flower shape three times.
- 7 Select the Star tool (\star) nested within the Rounded Rectangle tool, and drag from the center point to draw a star over the center of the flower. Press the Up Arrow key once to add a point to the star, making a total of six points on the star. Press the Shift key and drag until the height is approximately .8 inches in the measurement label. Release the mouse button and Shift key, and keep the star selected.
- 8 Click Fill color in the Control panel and choose the light green swatch (12c 0m 47y 0k). Press Escape to close the Swatches panel that appears.



Now you'll distort the frontmost star using the Pucker & Bloat effect. This effect distorts objects inward and outward from their anchor points.

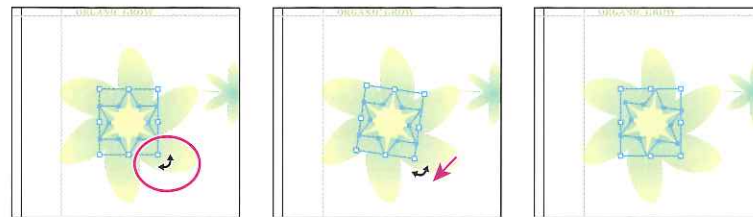
- 9 Select the Zoom tool (Q) in the Tools panel and click the flower shapes twice to zoom in.
- 10 With the center star selected, choose Effect > Distort & Transform > Pucker & Bloat.
- 11 In the Pucker & Bloat dialog box, select Preview, and drag the slider to the left to change the value to roughly -80% to distort the star. Click OK.



- 12 Choose View > Smart Guides to deselect smart guides.
- 13 With the Selection tool, position the pointer off the lower right corner of the star bounding box until the rotate arrows (↻) appear. Click and drag down and to the left until the star points are lined up with the flower shapes.

When you rotate or distort objects in other ways, the bounding box is also rotated or distorted. When necessary, you can reset the bounding box so that it is squared to the object again.

- 14 With the shape still selected, choose Object > Transform > Reset Bounding Box.



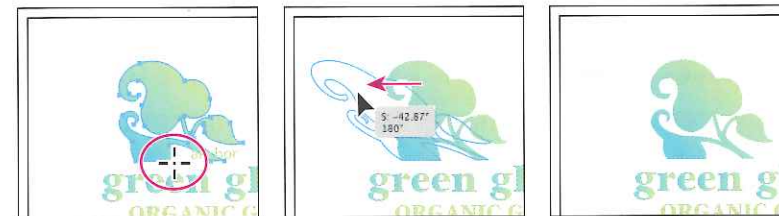
- 15 With the Selection tool, Shift-click the flower shape behind it and the smaller flower shape to the right to select all three shapes. Choose Object > Group.
- 16 In the Control panel, change Opacity to 20.
- 17 With the Selection tool, drag the flower group to the right side of the artboard, and about half way down the page.
- 18 Choose Select > Deselect, and then File > Save.

Shearing objects

Shearing an object slants, or skews, the sides of the object along the axis you specify, keeping opposite sides parallel and making the object asymmetrical.

Next you'll copy and shear the logo shape.

- 1 Choose View > Fit Artboard In Window.
- 2 Choose View > Smart Guides to select the smart guides.
- 3 Select the Zoom tool (Q) in the Tools panel and drag a marquee around the green glow logo in the upper left corner of the artboard.
- 4 Select the Selection tool (⬚). Click to select the flower shape above the "green glow" text.
- 5 Choose Edit > Copy, and then choose Edit > Paste In Front to paste a copy directly on top of the original.
- 6 Select the Shear tool (⇧⌘) nested within the Scale tool (⇧⌘) in the Tools panel. Position the pointer at the bottom edge of the flower shape and click to set the reference point. Shift-drag the flower shape to the left and stop before it reaches the edge of the artboard. Release the mouse button, and then the Shift key.
- 7 Change the opacity in the Control panel to 20%.
- 8 Choose Object > Arrange > Send Backward to put the copy behind the original flower shape.



► **Tip:** In the Transform panel, you can also change the scale, shear, and rotate, as well as the position on the x and y axes.

- 9 With the Selection tool, drag a marquee around the two flower shapes, the "green glow" text, and the "organic grow" text to select the logo pieces. Make sure not to select the dotted line to the right of the logo. Choose Object > Group.
- 10 Choose Select > Deselect.
- 11 Choose File > Save.

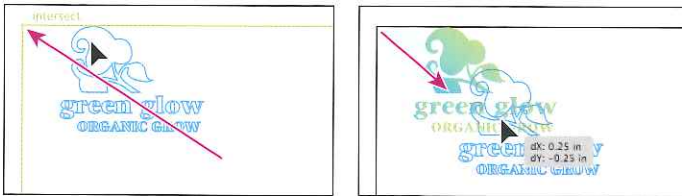
You've completed the letterhead artwork. Keep the file open so that you can use this artwork later in the lesson.

Positioning objects precisely

You can use the smart guides and Transform panel to move objects to exact coordinates on the x and y axes of the page and to control the position of objects in relation to the edge of the artboard.

You'll add content to the envelope by pasting a copy of the logo into the envelope artwork, and then specifying its exact coordinates on the envelope.

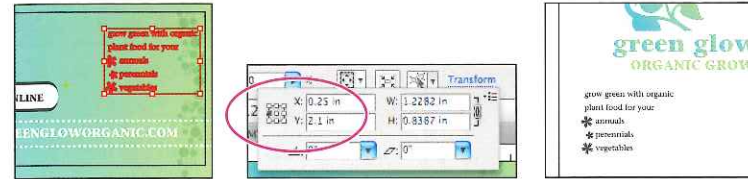
- 1 Choose View > Fit All In Window to see all the artboards.
- 2 Using the Selection tool (⬚), Alt-drag (Windows) or Option-drag (Mac OS) the logo group onto the envelope artboard (artboard 03).
- 3 With the Selection tool, click the envelope artboard to make that the active artboard. Choose View > Fit Artboard In Window.
- 4 Double-click in the upper left corner where the rulers intersect. This resets the ruler origin to the lower left corner of the active artboard.
- 5 With the Selection tool, select the copied logo group again, click Align To Selection (⌘⇧A) in the Control panel and choose Align To Artboard from the menu. Click Horizontal Align Left (⇧⌘L), and then Vertical Align Top (⇧⌘T).
- 6 Select the Zoom tool (Q) and drag a marquee around the upper left corner of the artboard. Using the Selection tool, drag the logo group from the corner down and to the right. While dragging, press Shift and when dX: 0.25 in and dY: -0.25 in appears in the measurement label, release the mouse button, and then the Shift key.
- 7 Choose Select > Deselect.



Note: The dY: -0.25 appeared in the measurement label for the previous step because the ruler origin (0,0) starts in the lower left corner of the artboard. Dragging content down on an artboard gives you a negative value by default.

- 8 Choose 4 from the Artboard Navigation menu in the status bar to view the back of the business card.
- 9 With the Selection tool, Shift-click the text and small flowers in the upper right corner of the business card.
- 10 Choose Object > Group, and then choose Edit > Copy.

- 11 Choose 3 from the Artboard Navigation menu in the status bar to return to the envelope artboard. Choose Edit > Paste.
- 12 In the Control panel, click the word Transform, then click the middle left reference point (⌘⇧R) in the Transform panel. Change the X value 0.25 in and Y to 2.1 in. Press Enter or Return to apply these settings.



- 13 Click away from the artwork to deselect it, and then choose File > Save.

Note: Depending on your screen resolution the word Transform may not appear in the Control panel. Instead, the Transform options may appear in the Control panel.

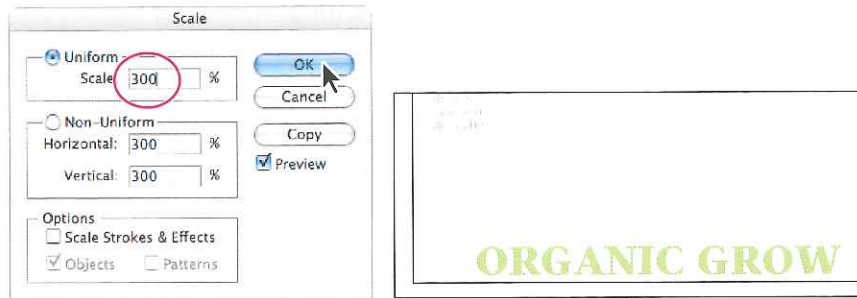
Changing the perspective

Now you'll use the Free Transform tool to change the perspective of the text. The Free Transform tool is a multipurpose tool that, besides letting you change the perspective of an object, combines the functions of scaling, shearing, reflecting, and rotating.

- 1 With the Selection tool (⬚), double-click the green glow logo in the upper left corner. This puts the logo in isolation mode.
- 2 Select the text "organic grow" and choose Edit > Copy.
- 3 Double-click a blank area of the artboard to exit isolation mode.
- 4 Choose Edit > Paste. Drag the text to the bottom of the artboard about 1 inch from the left edge of the artboard.
- 5 Double-click the Hand tool (H) in the Tools panel to fit the artboard in the window.



- 6 Select the Scale tool (⌘) nested within the Shear tool (⇧) in the Tools panel, and then Alt-click (Windows) or Option-click (Mac OS) the left side of the “organic grow” text to set the origin point. In the Scale dialog box select Preview, and then change Uniform Scale to 300%. Click OK.

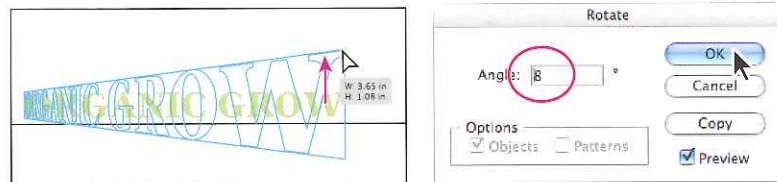


- 7 With the text selected, select the Free Transform tool (⇧) in the Tools panel.
- 8 Position the double-headed pointer (↔) over the upper right corner of the bounding box of the object. Extra attention is required in the rest of this step, so follow directions closely. Click and slowly drag the upper right corner handle upward. While dragging, press Shift+Alt+Ctrl (Windows) or Shift+Option+Command (Mac OS) to change the perspective of the object. Release the mouse button, and then the keys.

● **Note:** If you use the modifier keys while clicking to select, the perspective feature does not work.

Pressing Shift as you drag scales an object proportionally. Pressing Alt (Windows) or Option (Mac OS) scales an object from its center point. Pressing Ctrl (Windows) or Command (Mac OS) as you drag distorts an object from the anchor point or bounding box handle that you’re dragging.

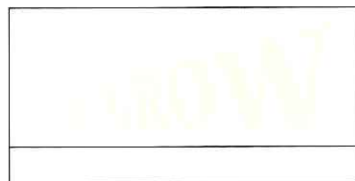
- 9 Double-click the Rotate tool (⌘), select Preview in the Rotate dialog box, and then change the angle to 8°. Click OK.



- 10 If necessary, with the Selection tool, drag the text until the bottom is above the bottom of the artboard.

- 11 Change Opacity to 30% in the Control panel.

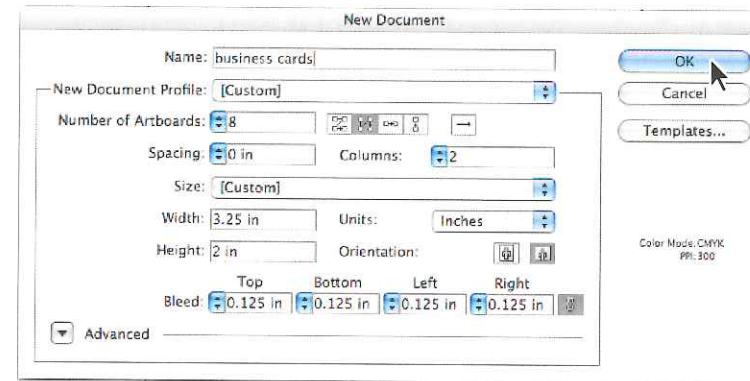
- 12 Choose Select > Deselect.



Using the Free Distort effect

Now you’ll explore a slightly different way of distorting objects. Free Distort is an effect that lets you distort a selection by moving any of its four corner points.

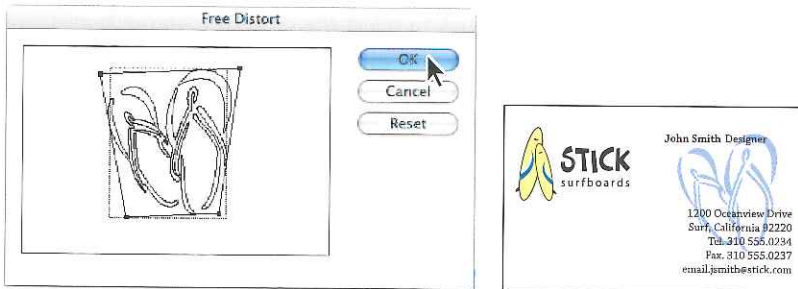
- 1 Choose File > Open, and open the L4start2.ai file in the Lesson04 folder, located in the Lessons folder on your hard disk. This file has content that you will copy into another file that you create.
- 2 Choose File > New.
- 3 In the New Document dialog box, change the name to business cards, ensure that Print is chosen for New Document Profile, change Units to Inches, change the Number Of Artboards to 8, click to select the Grid By Column button (⇧), change Spacing to 0 in, Columns to 2, Width to 3.25 in, Height to 2 in, and Orientation to landscape (⇧). Click the up arrow to the left of the Top Bleed field to make all the bleed values 0.125 in. Click OK.



- 4 With the Selection tool (⌘), click the top left artboard to make it the active artboard.
- 5 Choose File > Save As. In the Save As dialog box, leave the name as business cards.ai and navigate to the Lesson04 folder. Leave the Save As Type option set to Adobe Illustrator (*.AI) (Windows) or the Format option set to Adobe Illustrator (ai) (Mac OS), and click Save. In the Illustrator Options dialog box, leave the Illustrator options at their default settings, and click OK.
- 6 Click the Arrange Documents button (⇧) in the Control panel and choose 2-Up from the menu to arrange the documents side by side.
- 7 Click in the business cards.ai window, and choose View > Fit Artboard In Window. Click in the L4start2.ai window, and choose View > Fit Artboard In Window. Choose Select > All to select the content on the L4start.ai artboard. Choose Object > Group. Drag the selected content onto the upper left business card artboard (artboard 1).
- 8 Close the L4start2.ai document without saving.

● **Note:** After rotating, the bottom of the text should be above the bottom of the artboard. If that isn’t the case, try a different value in the Rotate dialog.

- 9 In the business cards.ai file, Align To Artboard (⌘) should still be selected in the Control panel. Click Horizontal Align Center (⌘), and then click Vertical Align Center (⌘) to align the artwork in the center of the artboard.
- 10 With the Selection tool, double-click the group of objects to enter isolation mode. Click to select the sandals.
- 11 Choose Effect > Distort & Transform > Free Distort.
- 12 In the Free Distort dialog box, drag one or more of the handles to distort the selection. We dragged the upper anchor points to the outside and the bottom points in toward the center. Click OK.



- 13 Double-click outside the artwork to exit isolation mode and to deselect it.

Making multiple transformations

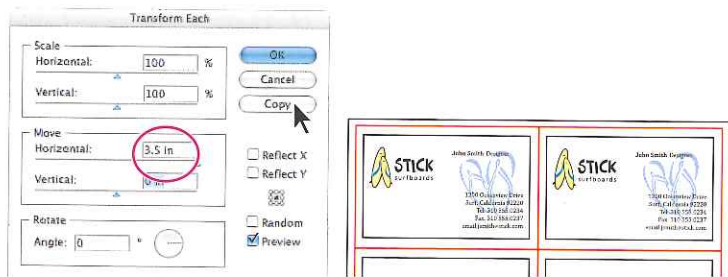
Now you'll create multiple copies of the business card content.

- 1 Choose View > Fit All In Window.
- 2 Choose Select > All to select all the objects on every artboard.
- 3 Choose Object > Transform > Transform Each.

The Move options in the Transform Each dialog box let you move objects in a specified or random direction.

Now you'll move a copy of the selected objects.

- 4 In the Transform Each dialog box, select Preview, and type 3.5 in in the Move Horizontal text field. Leave the other settings as they are, and click Copy (don't click OK).



- 5 Press Ctrl+A (Windows) or Command+A (Mac OS) to select everything on the two business cards, and right-click (Windows) or Control-click (Mac OS) in the Document window to display a shortcut menu. Choose Transform > Transform Each from the shortcut menu.
- 6 In the Transform Each dialog box, type 0 in in the Move Horizontal text field, and -2.25 in in the Move Vertical text field. Leave the other settings as they are, and click Copy (don't click OK).

► **Tip:** You can also apply multiple transformations as an effect, including scaling, moving, rotating, and reflecting an object. After selecting the objects, choose Effect > Distort & Transform > Transform. The dialog box looks the same as the Transform Each dialog box. Transforming as an effect has the advantage of letting you change or remove the transformation at any time.

- 7 Choose Object > Transform > Transform Again to create one more.

Now you'll use the keyboard shortcut to repeat the transformations.

- 8 Press Ctrl+D (Windows) or Command+D (Mac OS) to transform, creating a total of eight cards.

- 9 Choose Select > Deselect. Then choose View > Guides > Hide Guides to hide the red bleed guides, and press Tab to hide the Tools panel and other open panels.

► **Tip:** Pressing Shift+Tab alternately hides or shows all panels, except the Tools panel and Control panel.

- 10 Choose File > Save, and then File > Close.

► **Tip:** To print the business cards on a single page, choose File > Print, and select Ignore Artboards to fit all the artboards on a single page.

Exploring on your own

- 1 In the letterhead project, copy and paste the green glow logo group onto artboard 2.
- 2 Transform the logo so that it's .5 in wide.
- 3 Copy other content, including the order online button on artboard 4 onto artboard 2.
- 4 Try flipping the flower in the green glow logo by double-clicking the logo to enter isolation mode.
- 5 Select the flower and click the word Transform in the Control panel to reveal the Transform panel (or click X, Y, W, or H). Select the center reference point and choose Flip Horizontal from the Transform panel menu.

Review questions

- 1 Name two ways to change the size of an existing active artboard.
- 2 How can you select and manipulate individual objects in a group (as described in this chapter)?
- 3 How do you resize an object? Explain how you determine the point from which the object resizes. How do you resize a group of objects proportionally?
- 4 What transformations can you make using the Transform panel?
- 5 What does the square diagram (📐) indicate in the Transform panel, and how does it affect transformations?
- 6 What's an easy way to change perspective? List three other types of transformations you can perform with the Free Transform tool.

Review answers

- 1 Double-click the Artboard tool and edit the dimensions of the active artboard in the Artboard Options dialog box. Select the Artboard tool and position the pointer over an edge or corner of the artboard and drag to resize.
- 2 You can double-click the group with a selection tool to enter isolation mode. This ungroups content temporarily that allows you to edit content within a group without ungrouping.
- 3 You can resize an object several ways: by selecting it and dragging handles on its bounding box, by using the Scale tool or the Transform panel, or by choosing Object > Transform > Scale to specify exact dimensions. You can also scale by choosing Effect > Distort & Transform > Transform.

To determine the reference point from which an object scales, select a reference point from the reference point locator in the Transform panel or in the Transform Effect or Transform Each dialog box, or click in the artwork with the Scale tool. Pressing Alt (Windows) or Option (Mac OS) and dragging the bounding box or double-clicking the Scale tool resizes a selected object from its center point.

Shift-dragging a corner handle on the bounding box scales an object proportionally, as does specifying either a uniform scale value in the Scale dialog box or multiples of the dimensions in the Width and Height text fields in the Transform panel.

- 4 You use the Transform panel for making the following transformations:
 - Moving or precisely placing objects in your artwork (by specifying the x and y coordinates and the reference point)
 - Scaling (by specifying the width and height of selected objects)
 - Rotating (by specifying the angle of rotation)
 - Shearing (by specifying the angle of distortion)
 - Reflecting (by flipping selected objects vertically or horizontally)
- 5 The square diagram in the Transform panel indicates the bounding box of the selected objects. Select a reference point in the square to indicate the reference point from which the objects as a group move, scale, rotate, shear, or reflect.
- 6 An easy way to change the perspective of selected objects is to select the Free Transform tool, press Shift+Alt+Ctrl (Windows) or Shift+Option+Command (Mac OS), and drag a corner handle on the bounding box.

Other types of transformations that you can perform with the Free Transform tool are distorting, scaling, shearing, rotating, and reflecting.