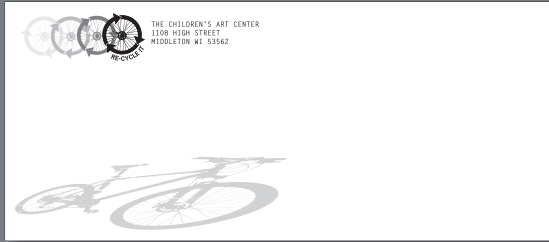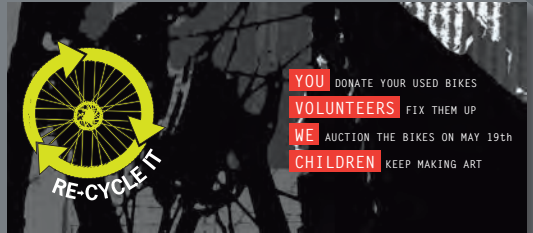# 4 TRANSFORMING OBJECTS

Lesson overview

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

- Add, edit, rename, and reorder artboards in an existing document.
- Navigate artboards.
- 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 multiple transformations.
- Apply a distortion effect.
- Repeat transformations quickly and easily.
- Copy to multiple artboards.

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

YOU DONATE YOUR USED BIKES
VOLUNTEERS FIX THEM UP
WE AUCTION THE BIKES ON MAY 19th
CHILDREN KEEP MAKING ART

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TO BENEFIT
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CHILDREN KEEP MAKING ART

YES WE/I WILL DONATE ____ BIKES BY APRIL 1st
NO WE/I WILL NOT DONATE A BIKE, BUT ENCLOSED IS A DONATION
OF $_____ TO SUPPORT THE CHILDREN'S ART CENTER
PLEASE RESERVE ____ TICKETS AT $25 EACH
FOR THE AUCTION & BENEFIT ON MAY 19th AT 1:30 PM
ENCLOSED IS A CHECK TO THE CHILDREN'S
ART CENTER IN THE AMOUNT OF $
M _____

THE CHILDREN'S ART CENTER
1108 HIGH STREET
MIDDLETON WI 53562

RE-CYCLE IT

RE-CYCLE IT

You can modify objects in many ways as you create artwork, by 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, while creating several pieces of artwork.

Getting started

In this lesson, you'll create content and use it to create a flyer, a save the date card, an envelope, and a hang tag. 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 exactly as described in this lesson, delete or deactivate (by renaming) the Adobe Illustrator CS6 preferences file. See "Restoring default preferences" on page 3.

2 Start Adobe Illustrator CS6.

● **Note:** If you have not already done so, copy the Lesson04 folder from the Lessons folder on the *Adobe Illustrator CS6 Classroom in a Book* CD onto your hard disk. See "Copying the Classroom in a Book files" on page 2.

3 Choose File > Open, and open the L4end_1.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 flyer, a save the date card (front and back), and an envelope. This lesson contains a fictitious business name, address, and website address, made up for the purposes of the project.

4 Choose View > Fit All In Window, and leave the artwork on-screen as you work. If you don't want to leave the file open, choose File > Close (without saving).

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

5 Choose File > Open to open the L4start_1.ai file in the Lesson04 folder, located in the Lessons folder on your hard disk. This file has been saved with the rulers showing.

6 Choose File > Save As. In the Save As dialog box, name the file **recycle.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 then click Save. In the Illustrator Options dialog box, leave the Illustrator options at their default settings and then click OK.

7 Choose Window > Workspace > Reset Essentials.

Working with artboards

Artboards represent the regions that can contain printable artwork, similar to pages in Adobe InDesign. You can use multiple artboards 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 or Artboards panel, and position them anywhere in the Document window. All artboards are numbered and can have a unique name assigned to them.

Next, you will add more artboards to create the save the date card (front and back) and envelope.

1 Choose View > Fit Artboard In Window. This is the first artboard.

2 Press the spacebar to temporarily access the Hand tool (🖐). Drag the artboard to the left until you see the canvas off the right side of the artboard.

3 Select the Artboard tool (⬚) in the Tools panel. Position the Artboard tool cursor to the right of the existing artboard and 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 9 in (width) by 4 in (height). The measurement label indicates when the artboard is the correct size.

> ▶ **Tip:** If you zoom in on an artboard, the measurement label has smaller increments.
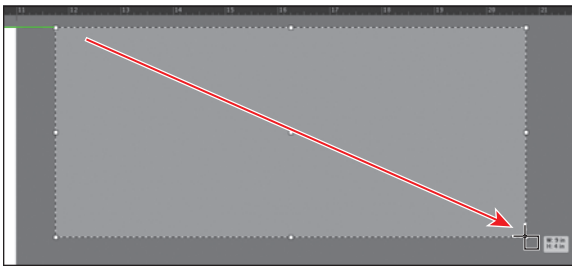
4 Click the New Artboard button (▤) in the Control panel. This allows you to create a duplicate of the last selected artboard.

5 Position the pointer below the lower-left corner of the new artboard. When a vertical green alignment guide appears, click to create a new artboard. This is artboard #3.

6 Select the Selection tool (▸) in the Tools panel.
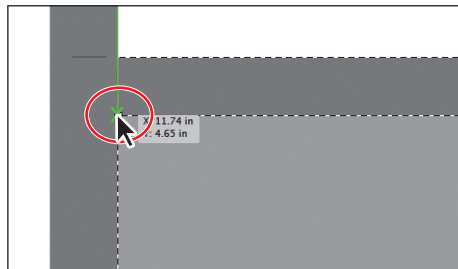
7 Click the Artboards panel icon (▦) on the right side of the workspace to expand the Artboards panel.

Notice that Artboard 3 is highlighted in the panel. The active artboard is always highlighted in this panel.

The Artboards panel allows you to see how many artboards the document currently contains. It also allows you to reorder, rename, add, and delete artboards and to choose many other options related to artboards.
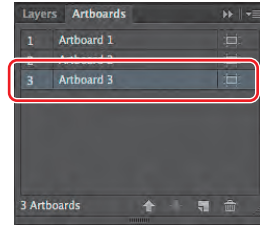
Next, you will create a copy of an artboard using this panel.

8 Click the New Artboard button (▤) at the bottom of the panel to create a copy of Artboard 3, called Artboard 4.

Notice that a copy is placed to the right of Artboard 2 in the Document window (the first artboard you created).
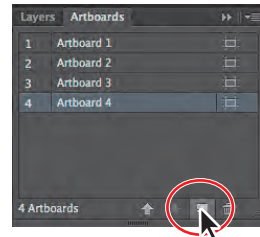
▶ **Tip:** With the Artboard tool (▯), you can also copy an artboard by holding down the Alt (Windows) or Option (Mac OS) key and dragging it until the copied artboard clears the original. When creating new artboards, you can place them anywhere; you can even overlap them.

9 Click the Artboards panel icon (▦) to collapse the panel.

10 Choose View > Fit All In Window.

Editing artboards

You can edit or delete artboards at any time by using the Artboard tool, menu commands, or the Artboards panel. Next, you will reposition and change the sizes of several of the artboards using multiple methods.

1 Select the Artboard tool (▯) in the Tools panel, and click Artboard 4, on the right, to select it.

Next, you will resize an artboard by entering values in the Control panel.

2 Select the upper-left point in the reference point locator (▦) in the Control panel.

This allows you to resize an artboard from the upper-left corner of the artboard. By default, artboards are resized from their center.

3 With the artboard named "04 – Artboard 4" selected, notice the bounding points around the artboard and the dashed box. In the Control panel, change the width to **9.5 in** and press Enter or Return. Make sure that the height is **4 in**.

● **Note:** If you don't see the Width and Height fields in the Control panel, click the Artboard Options button (▤) in the Control panel and enter the values in the dialog box that appears.


You will see the Constrain Width and Height Proportions button (⛓) in the Control panel, between the Width and Height fields. This button, if selected, allows both fields to change in proportion to each other.

Another way to resize an artboard is to drag the active artboard handles using the Artboard tool, which is what you'll do next.

4 With Artboard 4 (04 – Artboard 4) still selected, choose View > Fit Artboard In Window.

5 With the Artboard tool selected, drag the bottom-center bounding point of the artboard down until the height is approximately 4.15 in, as shown in the measurement label.
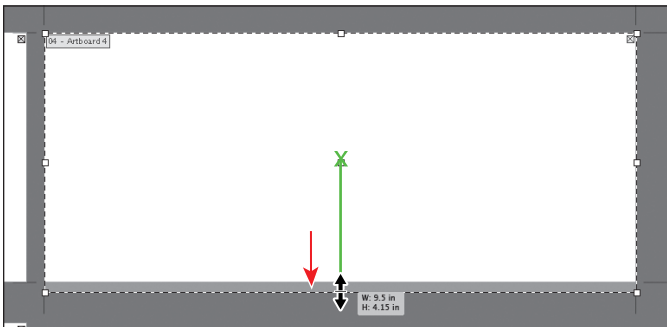
▶ **Tip:** To delete an artboard, select the artboard with the Artboard tool and either press Delete, click the Delete Artboard button (🗑) in the Control panel, or click the Delete icon (☒) in the upper-right corner of an artboard. You can delete all but one artboard.

6 With Artboard 4 (04 – Artboard 4) still selected, click the Show Center Mark button (▣) in the Control panel to show a center mark for the active artboard only. The center mark can be used for many purposes, including working with video content.

7 Select the Selection tool (▸), and choose View > Fit All In Window.

Notice the black outline around the artboard, which indicates that Artboard 4 is the currently active artboard.

● **Note:** Clicking the Artboard Options button (▤) in the Control panel, with the Artboard tool selected also allows you to display the center mark for an artboard.

8 Click the Artboards panel icon (▦) to expand the Artboards panel (Window > Artboards). Click the name "Artboard 1" in the Artboards panel to make it the active artboard.

This is the original artboard. Notice that a dark border appears around Artboard 1 in the Document window. This indicates that it is active. There can be only one active artboard at a time. Commands such as View > Fit Artboard In Window apply to the active artboard.

Next, you will edit the active artboard size by choosing a preset value.

9 Click the Artboard Options button (▭) to the right of the name "Artboard 1" in the Artboards panel. This opens the Artboard Options dialog box.
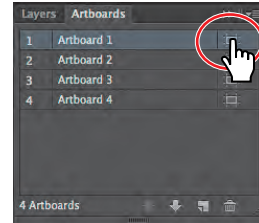
▶ **Tip:** You also may have noticed that this button appears to the right of each artboard. It allows access to the artboard options for each artboard but also indicates the orientation of the artboard.

10 Locate the reference point locator (▦) to the left of the X and Y values, and make sure that the upper-left point is still selected. This ensures that the artboard will be resized from the upper-left corner.

11 Choose Letter from the Preset menu in the Artboard Options dialog box. Click OK.
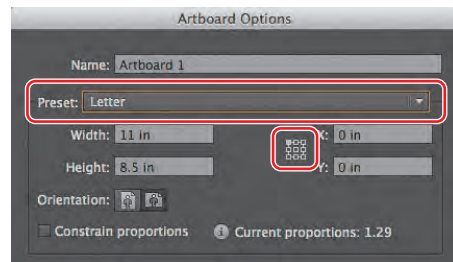
The Preset menu lets you change a selected artboard to a set size. Notice that the sizes in the Preset menu include typical print, video, tablet (Apple iPad, for instance), and web sizes. You can also fit the artboard to the artwork bounds or the selected art, which is a great way to fit an artboard to a logo, for instance.

12 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** 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 OK.
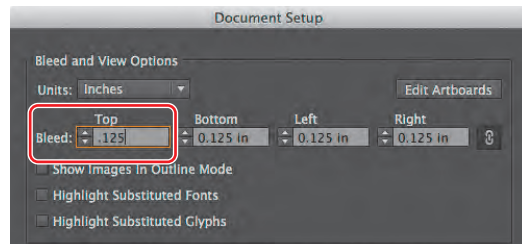
The Document Setup dialog box contains many useful options for the current document, including units, type options, transparency settings, and more.

14 Select the Artboard tool (⬚) in the Tools panel.

15 Click the upper-right artboard (04 – Artboard 4), and drag it below the original letter-sized artboard (01 – Artboard 1). Align the left edges of the artboards.

You can drag artboards at any time and even overlap them, if necessary.

16 Select the Selection tool (▶) in the Tools panel.

17 Choose Window > Workspace > Reset Essentials.

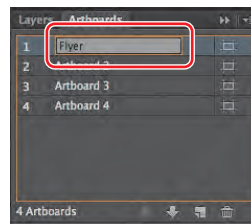**18** Choose File > Save.

Renaming artboards

By default, artboards are assigned a number and a name. When you navigate the artboards in a document, it can be helpful to name them.

Next, you are going to rename the artboards so that the names are more useful.

**1** Click the Artboards panel icon (⬚) to expand the Artboards panel.

2 Double-click the name "Artboard 1" in the Artboards panel. Change the name to **Flyer** and press Enter or Return.

▶ **Tip:** You can also change the name of an artboard by clicking the Artboard Options button (⬚) in the Artboards panel and changing the name in the Artboard Options dialog box. Another way is to double-click the Artboard tool in the Tools panel to change the name for the currently active artboard in the Artboard Options dialog box. You can make an artboard the currently active artboard by clicking the artboard with the Selection tool.

You will now rename the rest of the artboards.

3 Double-click the name "Artboard 2" in the panel, and change the name to **Card-front**.

4 Do the same for the remaining two artboards, changing "Artboard 3" to **Card-back** and "Artboard 4" to **Envelope**.

5 Choose File > Save, and keep the Artboards panel expanded for the next steps.
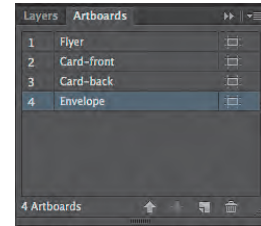
Reordering artboards

When you navigate your document, the order in which the artboards appear can be important, especially if you are navigating the document using the Next artboard and Previous artboard buttons. By default, artboards are ordered according to the order in which they are created, but you can change that order. Next, you will reorder the artboards so that the two sides of the card are in the correct order.

1 With the Artboards panel still open, click the name "Envelope" in the panel. This makes the Envelope artboard the active artboard.

2 Choose View > Fit All In Window.

3 Position the pointer over the Envelope artboard listed in the Artboards panel. Click and drag up until a line appears between the Flyer and Card-front artboards. Release the mouse button.
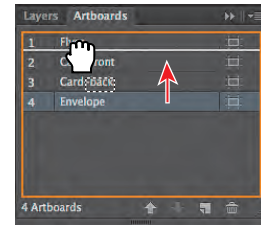
▶ **Tip:** You can also reorder the artboards by selecting an artboard in the Artboards panel and clicking the Move Up or Move Down button at the bottom of the panel.

This moves the artboard up in order so that it becomes the second artboard. Notice that it does nothing to the artboards in the Document window.

4 Double-click to the right or left of the name "Flyer" in the Artboards panel to fit that artboard in the Document window.

5 Click the Next Artboard button (▶) in the lower-left corner of the Document window to navigate to the next artboard (Envelope). This fits the Envelope artboard in the Document window.

If you had not changed the order, the next artboard would have been the Card-front.

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, Smart Guides, and more. 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 (horizontal and vertical) is called the ruler origin. The ruler origin can be reset depending on which artboard is active. There are also two types of rulers available: global rulers and artboard rulers. Artboard rulers, which are the default, set the ruler origin to the upper-left corner of the active artboard. Global rulers set the ruler origin at the upper-left corner of the first artboard.

Guides are non-printing lines that help you align objects. You can create horizontal and vertical ruler guides by dragging them from the rulers. Next, you will create a guide and then reset the origin and create a new guide.

1 In the Artboards panel, double-click to the right or left of the Card-front artboard name to navigate to that artboard.

2 Shift-drag from the left vertical ruler toward the right to create a vertical guide at 1/2 inch on the horizontal ruler. The Shift key snaps the guide to the ruler units as you drag. Release the mouse button, and then the Shift key. The guide will be selected.

   If you don't see the rulers, you can choose View > Rulers > Show Rulers. Also, you will see finer increments in the rulers the more you zoom in to the artboard.
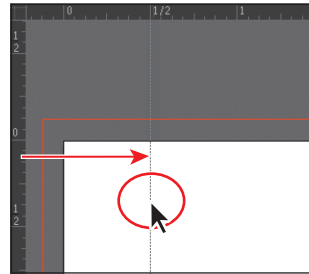
● **Note:** Notice that the rulers show 0 at the upper-left corner of the artboard. If they don't show 0, choose View > Rulers > (and make sure that you see) Change To Global Rulers. If you see Change To Artboard Rulers, choose it.

3 With the guide selected, change the X value in the Control panel to **.25 in** and press Enter or Return.

● **Note:** If you don't see the X value, you can click the word "Transform" or open the Transform panel (Window > Transform).

   Guides are similar to drawn objects in that they can be selected like a drawn line, and they can be deleted by pressing the Backspace or Delete key.
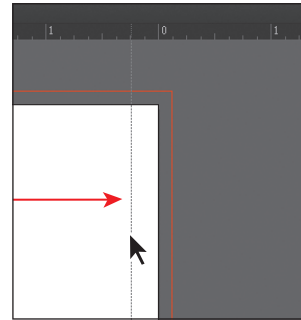
4 Position the pointer in the upper-left corner of the Document window, where the rulers intersect (▦), and drag the pointer to the upper-right corner of the artboard, not the red bleed guides. The word "intersect" will appear.

As you drag, a cross hair in the window and in the rulers indicates the changing ruler origin. This sets the ruler origin (0,0) to the upper-right corner of the artboard.
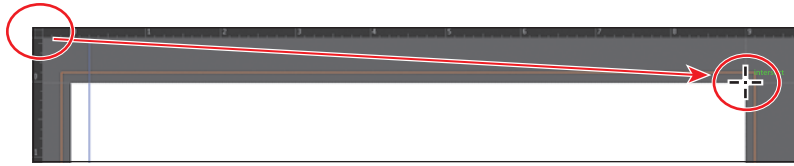
5 Shift-drag from the left vertical ruler toward the right to 1/4 inch inside the right edge of the artboard to create a new guide. Release the mouse button and then the key.

Look at the X value in the Control panel and, after releasing the mouse button, you should see -0.25 in. The X axis runs horizontal, and the Y axis runs vertical. Measurements to the right (horizontal) and below (vertical) the ruler origin are positive. Measurements to the left (horizontal) and above (vertical) the ruler origin are negative.

6 Position the pointer in the upper-left corner of the Document window, where the rulers intersect, and double-click to reset the ruler origin.

7 Choose View > Guides > Lock Guides to prevent them from being accidentally moved. Choose View > Fit All In Window.

The guides are no longer selected and are aqua in color, by default.

▶ **Tip:** To change guide settings, choose Edit > Preferences > Guides & Grid (Windows) or Illustrator > Preferences > Guides & Grid (Mac OS).

8 Choose File > Save.

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 point. So far in the lessons, you scaled most content with the selection tools. In this lesson, you'll use several other methods to scale the objects.

First, you'll set the preference to scale strokes and effects. Then, you'll scale a logo by using the Scale command and aligning the logo 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 Click to select the large yellow/green wheel logo on the Flyer artboard. Alt-drag (Windows) or Option-drag (Mac OS) the object to the upper-right artboard. Release the mouse button and then the key, when in position.
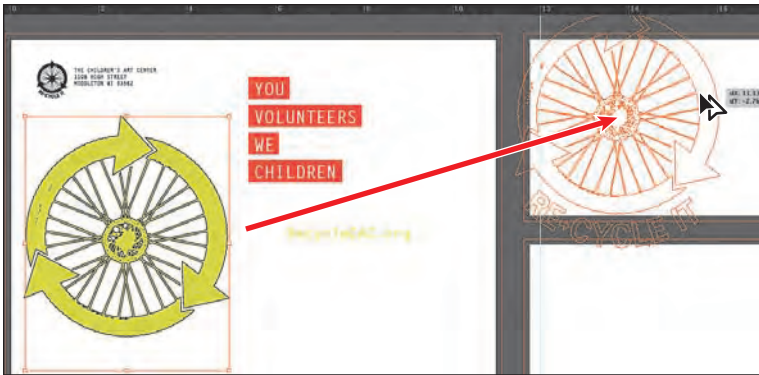

3 Select the Zoom tool (🔍) in the Tools panel, and click twice, slowly, on the new wheel logo to zoom in.

4 Choose View > Hide Edges. This hides the inside edges of the shapes, not the bounding box.

5 Double-click the Scale tool (⬚) in the Tools panel.

6 In the Scale dialog box, select the Preview option. Change Uniform to **50%**. Deselect and then select Preview to see the change in size. Click OK.
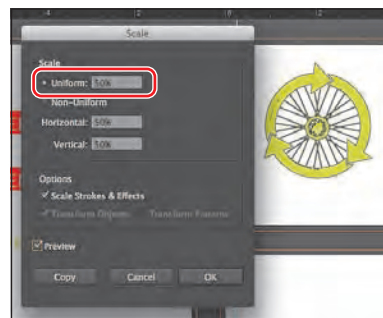
7 With the Selection tool (▶) selected, position the pointer over the left anchor point of the bottom, left arrow in the wheel. When you see the word "anchor" appear, drag the wheel to the left until the anchor snaps to the guide. The pointer will turn white when it is snapped.

● **Note:** You may need to turn off the Smart Guides in order to snap the content to the guide (View > Smart Guides). If you do turn them off, turn them back on after you have completed the step.
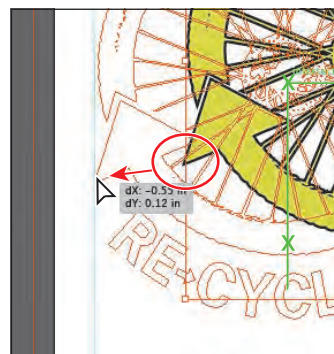
● **Note:** When snapping to a point, the snapping alignment depends on the position of the pointer, not the edges of the dragged object. Also, you can snap points to guides because the View > Snap To Point command is selected by default.

8 Choose View > Fit All In Window, and then choose View > Show Edges.

9 Choose View > Outline.

10 With the Selection tool, drag a marquee across the text that starts with, "YOU DONATE YOUR," and ends with, "KEEP MAKING ART," on the first artboard (Flyer) to select it all. Choose Edit > Copy.

11 Choose 3 Card-front from the Artboard Navigation menu in the lower-left corner of the Document window to return to the card artboard.

12 Choose Edit > Paste In Place.

This command pastes the grouped content in the same relative position on the card artboard as it was on the Flyer artboard.

● **Note:** Depending on the resolution of your screen, the Transform options may not appear in the Control panel. If they do not appear, you can click the word "Transform" to see the Transform panel, or you can also choose Window > Transform.

13 In the Control panel, click the middle-left reference point of the reference point locator (▦) to set the reference point. Click to select the Constrain Width And Height Proportions icon (▦), located between the W and H fields. Type **75%** in the Width (W) field, and then press Enter or Return to decrease the size of the grouped text.

14 Choose View > Preview, and then choose File > Save.

You will position the text, along with other content, later in the lesson.

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 an invisible axis. In a similar way to scaling and rotating, when you reflect an object, you either designate the reference point or use the object's center point by default. Next, you'll move content onto an artboard and use the Reflect tool to flip it 90° across the vertical axis and copy it.

1 Choose View > Fit All In Window. Press Ctrl+– (Windows) or Command+– (Mac OS) twice to zoom out to see the bicycle off the left edge of the Flyer artboard.
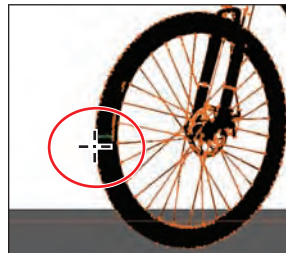
2 With the Selection tool (⬚), click to select the bicycle. Choose Edit > Cut.

3 Choose 4 Card-back from the Artboard Navigation menu in the lower-left corner of the Document window to return to the card artboard.

4 Choose Edit > Paste to paste the bicycle in the center of the Document window.

5 With the Selection tool (⬚), drag the bicycle down into the lower-right corner of the artboard. Try to approximately align the right side of the bicycle with the right guide, using the figure as a guide. It doesn't have to be exact.

6 With the bicycle still selected, choose Edit > Copy and Edit > Paste In Front to put a copy directly on top.

7 Select the Reflect tool (⬚), which is nested within the Rotate tool (⟳) in the Tools panel. Click the left edge of the front bicycle tire (the word "anchor" or "path" may appear).

This will set the point of the axis on the left edge of the bicycle rather than the center, which is the default.

8 With the bicycle copy still selected, position the pointer off the left edge and drag clockwise. As you are dragging, hold down the Shift key. When the measurement label shows −90°, release the mouse and then the modifier key.

The Shift key constrains the rotation to 45° as it is reflected. Leave the new bicycle where it is for now. You'll move it a bit later.

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. You can also rotate objects using the Transform panel to set a reference point and a rotation angle.

You'll rotate the wheels using the Rotate tool.

1 Choose 1 Flyer from the Artboard Navigation menu in the lower-left corner of the Document window. Select the Zoom tool (🔍), and drag a marquee across the small, black wheel logo in the upper-left corner of the Flyer artboard.

2 With the Selection tool (▶), select the small black wheel. Choose Object > Transform > Rotate.

By default, the wheel logo will rotate around its center.

▶ **Tip:** To access the Rotate dialog box, you can also double-click the Rotate tool (↻) in the Tools panel. The Transform panel (Window > Transform) also has a rotate option.

3 In the Rotate dialog box, make sure that Preview is selected. Change the angle to **20**, and then click OK to rotate the wheel around the center.

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

4 Choose View > Fit All In Window. Select the Selection tool (▶) and, with the small wheel logo selected, press the Shift key and click the text to the right of logo that begins, "THE CHILDREN'S ART CENTER," to select both. Choose Edit > Cut.

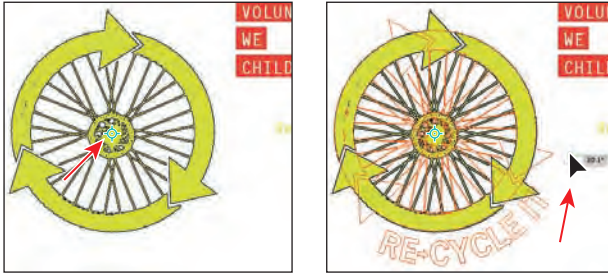**5** Choose 2 Envelope from the Artboard Navigation menu.

6 Choose Edit > Paste In Place. Click the word "Transform" in the Control panel to open the Transform panel. With the middle, left point chosen in the reference point locator (▦), change the X value to **1.7 in** and the Y value to **0.6 in**. Press Enter or Return to hide the panel again.

Next, you'll rotate content manually, using the Rotate tool.

7 Choose View > Fit All In Window.

8 With the Selection tool, click to select the large yellow/green wheel logo on the Flyer artboard. Choose View > Hide Edges.

9 Select the Rotate tool (⟳) which is nested within the Reflect tool (⟳) in the Tools panel. Click in the approximate center of the wheel part of the logo to set the reference point (⊕) (just above where the reference point is by default). Position the pointer to the right of the wheel logo, and drag up. Notice that the movement is constrained to a circle rotating around the reference point. When the measurement label shows approximately 20°, release the mouse button.


Next, you will rotate the wheel logo on the 3 Card-front artboard in the same way.

10 Choose 3 Card-front from the Artboard Navigation menu in the lower-left corner of the Document window. Select the Selection tool, and click to select the yellow/green wheel logo.

11 Select the Rotate tool (⟳), and click in the approximate center of the wheel part of the logo to set the reference point (⊕) (just above where the reference point is by default). Position the pointer to the right of the wheel logo, and drag up. When the measurement label shows approximately 20°, release the mouse button.

**12** Choose View > Show Edges, and then choose File > Save.

Distorting objects

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

1 Click the First button (⏮) in the status bar to navigate to the first artboard.

2 Click the Layers panel icon to open the panel, and then click the visibility column to the left of the Flyer Background layer name to show that content.

3 Select the Selection tool (▶), and click to select the white triangle in the lower-right corner of the Flyer artboard.

4 Choose Effect > Distort & Transform > Pucker & Bloat.
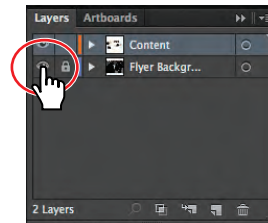
5 In the Pucker & Bloat dialog box, select Preview and drag the slider to the left to change the value to roughly **–60%**, which distorts the triangle. Click OK.
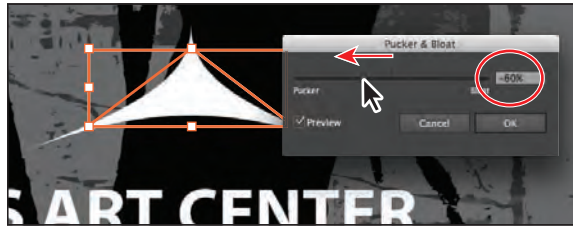
6 Choose Effect > Distort & Transform > Twist. Change the Angle to **20**, select Preview if not already selected, and then click OK.
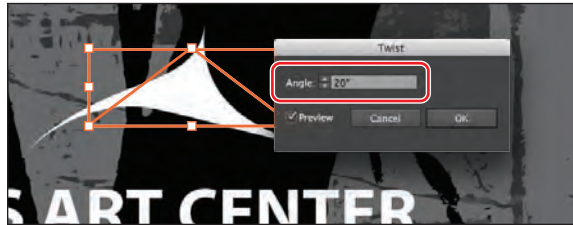
Twist distortion is applied as an effect, which maintains the original shape and lets you remove or edit the effect at any time, in the Appearance panel. Learn more about using effects in Lesson 12, "Applying Effects."

7 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 a bicycle object and apply shear to it.

1 Click the Artboards panel tab. Double-click the 4 to the left of the Card-back artboard name. Click the Artboards panel tab to collapse the panel group.

2 Select the Selection tool (◄). Click to select the bicycle shape on the left. Choose Object > Hide > Selection. Click to select the remaining bicycle shape.

3 Choose Edit > Copy, and then choose Edit > Paste In Front to paste a copy directly on top of the original.

4 Select the Shear tool (⬀), nested within the Scale tool (⬕) in the Tools panel. Position the pointer at the bottom of the bicycle shape, between the wheels, and click to set the reference point.
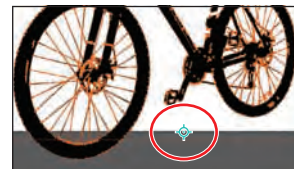
5 Drag from the approximate center of the bicycle to the left, and stop when the sheared copy looks like what you see in the figure. Release the mouse button.
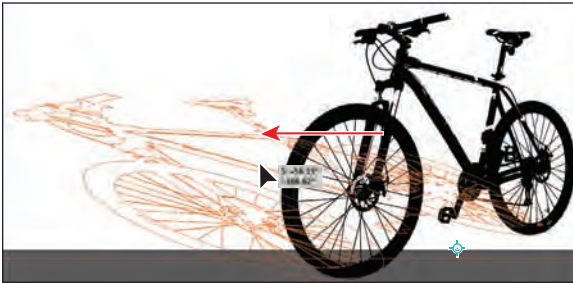
6 Change the opacity in the Control panel to **20%.**

7 Choose Object > Arrange > Send Backward to put the copy behind the original bicycle shape.

▶ **Tip:** In the Transform panel, you can also shear, rotate, and change the scale as well as the position on the X and Y axes.

8 Choose Object > Show All to show and select the reflected bicycle copy you hid earlier. Choose Edit > Cut to cut the bicycle from the artboard.

9 Choose 2 Envelope from the Artboard Navigation menu in the lower-left corner of the Document window. Choose Edit > Paste.

10 Choose Select > Deselect and then File > Save.

Positioning objects precisely

You can use the Smart Guides and the Transform panel to move objects to exact coordinates on the X and Y axes and to control the position of objects in relation to the edge of the artboard.

You'll add content to the backgrounds of both sides of the cards and then position it precisely.

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

2 Press Ctrl+– (Windows) or Command+– (Mac OS) once to zoom out. You should see the two images off the left edge of the Flyer artboard.

3 With the Selection tool (⯀), click to select the top, darker image.

4 Click the Artboards panel icon (▦), if the panel isn't showing. Click once on the 3 Card-front artboard name in the list to make it the active artboard.

The ruler origin is now in the upper-left corner of that artboard.

5 Click the upper-left point of the reference point locator (▦) in the Control panel. Then, change the X value to **0** and the Y value to **0**.


6 Choose Object > Arrange > Send to Back, and then Select > Deselect.

The image should now be precisely positioned on the artboard, since it was the same size as the artboard to begin with.

7 Choose View > Fit Artboard In Window to fit the 3 Card-front artboard in the Document window.

8 With the Selection tool, hold down the Shift key and, in the text on the right, click/drag to the left from the word, "YOU," until the right edge of the "h" in "MAY 19th" is aligned with the right guide. Release the mouse button and then the Shift key.
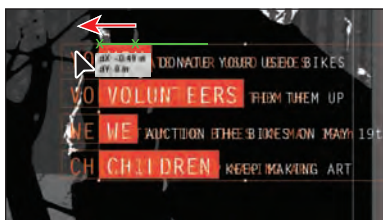
9 In the Artboards panel, click once on the 4 Card-back artboard name in the list to make it the active artboard. Click the Artboards panel tab to collapse the panel group.

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

11 Press Ctrl+– (Windows) or Command+– (Mac OS) once to zoom out. You should see the second, lighter image off the left edge of the Flyer artboard.

12 With the Selection tool, click to select the image off the left side of the Flyer artboard.

13 With the upper-left point of the reference point locator (⊞) selected in the Control panel, change the X value to **0** and the Y value to **0**.


14 Choose Object > Arrange > Send to Back.

15 Choose View > Fit Artboard In Window to fit the 4 Card-back artboard in the Document window.

16 Press Ctrl+– (Windows) or Command+– (Mac OS) twice to zoom out. You should see the text group off the right edge of the artboard.

17 With the Selection tool, click to select the text group. With the upper-left point of the reference point locator (⊞) in the Control panel selected, change the X value to **0** and the Y value to **0**.
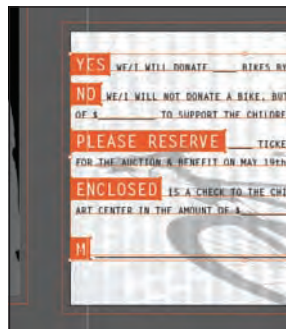
18 Choose View > Fit Artboard In Window.

19 Using the Selection tool, position the pointer over the upper-left word, "YES," and drag the text group down and to the right. When the measurement label shows dX: 0.25 in and dY: 0.5 in, release the mouse button.

● **Note:** The dX or dY appears as a negative value in the measurement label if you drag content up or to the left on an artboard.
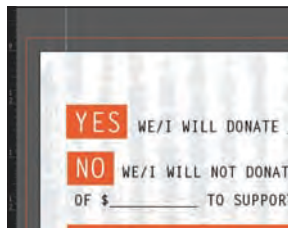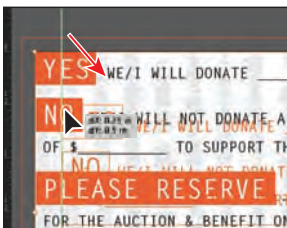
The dY in the measurement label indicates the distance moved along the Y axis (vertically), and the dX indicates the distance moved along the X axis (horizontally).

20 With the text group still selected, choose Object > Arrange > Bring To Front, to bring the text on top of the other content on the artboard.

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

Changing perspective

Next, you'll use the Free Transform tool to change the perspective of content. 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 Choose 2 Envelope from the Artboard Navigation menu in the lower-left corner of the Document window.

2 Click to select the bicycle on the artboard with the Selection tool (▶). Select the Free Transform tool (▦) in the Tools panel.

3 Position the pointer over the upper-middle point of the bounding box around the bicycle. *Extra attention is required in the rest of this step, so follow directions closely.* Slowly drag the point down and to the right. *While dragging,* press the Control (Windows) or Command (Mac OS)


key to transform the object. When the measurement label shows a width of approximately 4.75 in and a height of approximately 1.5 in, release the mouse button and then the modifier key.

Pressing the Ctrl (Windows) or Command (Mac OS) key as you drag distorts an object from the anchor point or bounding box handle that you're dragging.

● **Note:** Take your time on this step. The process is specific, and you can always choose to undo if you make a mistake.

4 Position the pointer over the upper-left corner of the bounding box, and begin dragging down. *While dragging,* press the Shift+Control+Alt (Windows) or Shift+Option+Command (Mac OS) keys to transform the object. When the measurement label shows a width of approximately

4.75 in and a height of approximately 1.25 in, release the mouse button and then the modifier keys. If the values you see don't match exactly, that's okay.
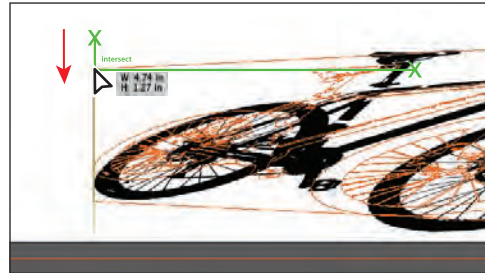
5 With the Selection tool, drag the bicycle to the left until the left edge is close to the edge of the artboard. Change the Opacity to **20%** in the Control panel. See the figure for placement help.
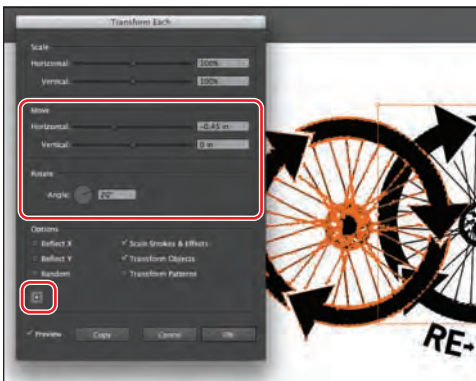
6 Choose Select > Deselect, and then File > Save.

Applying multiple transformations

Next, you will learn about the Transform Each command and how to apply a series of transformations multiple times.

1 With the 2 Envelope artboard showing in the Document window, select the Zoom tool (🔍), and drag a marquee across the upper-left corner of the artboard. Make sure you can still see the corner of the artboard and the wheel.

2 With the Selection tool (▶), double-click the small wheel logo. Click to select the wheel shape (not the "RE-CYCLE IT" text), and then choose Edit > Copy.

3 Press the Escape key to exit Isolation mode, and then choose Edit > Paste In Front.

4 Choose Object > Transform > Transform Each. In the Transform Each dialog box, select Preview. Ensure that center point of the reference point locator (▦) is selected in the dialog box. Change the Move Horizontal to **−0.45 in**. Change the Rotate Angle to **20**. Leave the other settings as they are, and then click **Copy.**

The options in the Transform Each dialog box let you apply multiple types of transformations in a random manner, if you want. It also allows you to transform multiple selected objects on the artboard, independently of each other.

5 With the new wheel selected, change the Fill color to a darker gray (C=0 M=0 Y=0 K=60) in the Control panel and choose Object > Arrange > Send To Back.

6 Choose Object > Transform > Transform Again to create one more wheel.

7 With the new wheel selected, change the Fill color to a lighter gray (C=0 M=0 Y=0 K=30) in the Control panel and choose Object > Arrange > Send To Back.

8 Press Ctrl+D (Windows) or Command+D (Mac OS) to transform the last selected wheel, creating a total of four wheel shapes.

▶ **Tip:** You can also apply transformations to selected content as an effect (Effect > Distort & Transform > Transform). Transforming as an effect has the advantage of letting you change or remove the transformation in the Appearance panel at any time. You will learn more about the Appearance panel in Lesson 13, "Applying Appearance Attributes and Graphic Styles."

9 Change the Fill color of the last wheel to a lighter gray (C=0 M=0 Y=0 K=10) in the Control panel, and choose Object > Arrange > Send To Back.

10 Choose File > Save and File > Close.

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 L4start_2.ai file in the Lesson04 folder, located in the Lessons folder on your hard disk.

2 Choose File > Save As. In the Save As dialog box, change the name to **hangtags.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 then click Save. In the Illustrator Options dialog box, leave the Illustrator options at their default settings, and then click OK.

3 Choose View > Fit Artboard In Window to fit Artboard 1 in the window.

4 With the Selection tool (⬀), double-click the text, "RE-CYCLE IT" to enter Isolation mode. Click to select the text shapes.

5 Choose Effect > Distort & Transform > Free Distort.

6 In the Free Distort dialog box, drag one or more of the handles to distort the selection. In the figure, we dragged the upper-right point up and the bottom-right point in toward the center. Click OK.

7 Double-click outside the artwork to exit Isolation mode and to deselect it.
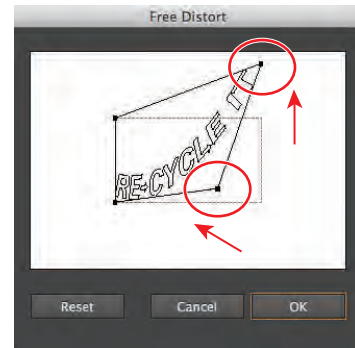
Now, you'll create multiple copies of the business card content.

8 Choose Select > All On Active Artboard.

9 Choose Edit > Cut.

10 Choose View > Fit All In Window, and then choose Edit > Paste On All Artboards.

11 Choose Select > Deselect. Then, choose View > Guides > Hide Guides to hide the red bleed guides.

12 Choose File > Save and then File > Close.