SOLUTIONS MANUAL

ILLUSTRATED SERIES™

Adobe
Flash Professional CS5

Barbara Waxer

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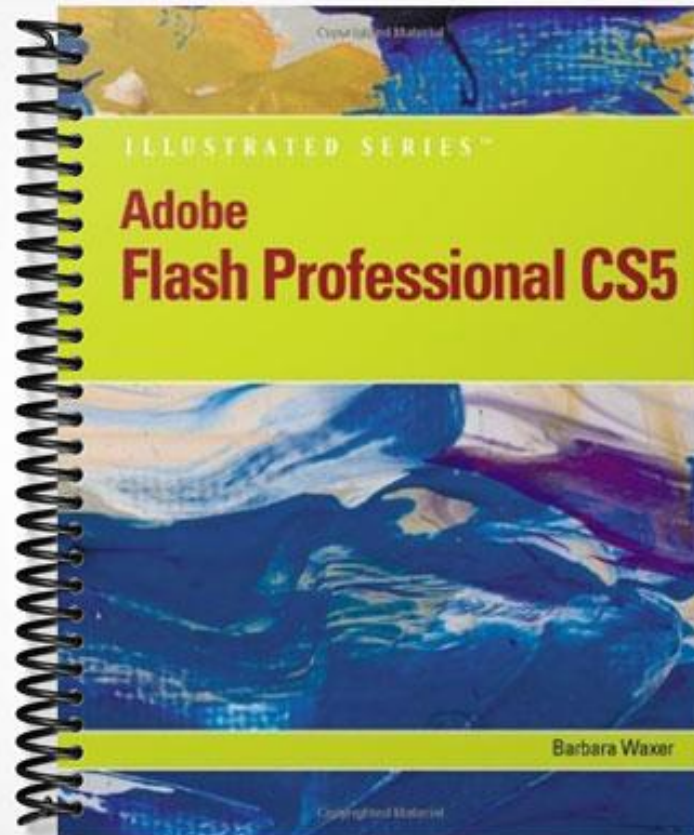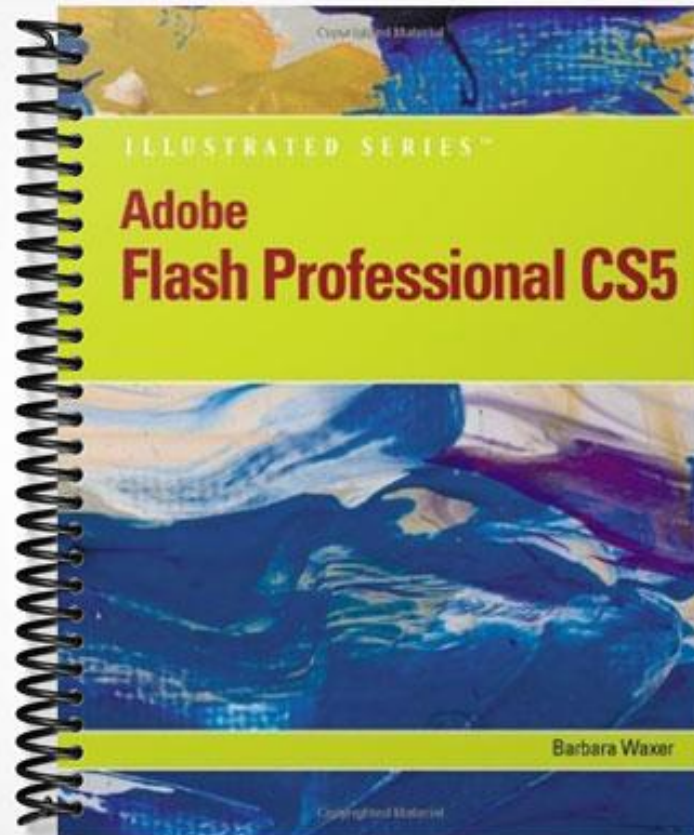
Flash CS5

Unit B: Creating Graphics and Text

A Guide to this Instructor's Manual:

We have designed this Instructor's Manual to supplement and enhance your teaching experience through classroom activities and a cohesive unit summary.

This document is organized chronologically, using the same heading in **blue** that you see in the textbook. Under each heading, you will find (in order): Lecture Notes that summarize the section, Figures and Boxes found in the section, if any, Teacher Tips, Classroom Activities, and Lab Activities. Pay special attention to teaching tips, and activities geared towards quizzing students, enhancing their critical thinking skills, and encouraging experimentation within the software.

In addition to this Instructor's Manual, our Instructor's Resources CD also contains PowerPoint Presentations, Test Banks, and other supplements to aid in your teaching experience.

For students:

Our latest online feature, CourseCasts, is a library of weekly podcasts designed to keep students up to date with the latest in technology news. Direct students to http://coursecasts.course.com, where they can download the most recent CourseCast onto their MP3 player. Ken Baldauf, host of CourseCasts, is a faculty member of the Florida State University Computer Science Department, where he is responsible for teaching technology classes to thousands of FSU students each year. Ken is an expert in the latest technology and sorts through and aggregates the most pertinent news and information for CourseCasts, so students can spend their time enjoying technology, rather than trying to figure it out. Open or close your lecture with a discussion based on the latest CourseCast.

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UNIT OBJECTIVES

Students will have mastered the material in Flash Unit B when they can:

- Understand vector and bitmap graphics
- Create a new document
- Set tool options and create a shape
- Reshape an object
- Select and modify a shape
- Copy and transform an object
- Use design panels
- Create text
- Modify text

26: Understanding Vector and Bitmap Graphics

LECTURE NOTES
- Explain that vector and bitmap graphics are used on the Web.
- Emphasize that Flash animation is best applied to vector objects.
- Discuss the differences between vector and bitmap images.
- Explain how resolution affects image quality.
- Discuss the Flash drawing modes.

FIGURES: B-1, B-2

BOXES
1. Quick Tip: Other Adobe programs, such as Photoshop, primarily use bitmap graphics. Illustrator uses vector graphics, and Fireworks uses both types with great effectiveness.

2. Quick Tip: Vector graphics are resolution-independent: You can edit them without losing image quality. Bitmap images are resolution-dependent: Resizing them strongly affects image quality.

3. Quick Tip: You draw in Merge Drawing mode by default. To select Object Drawing mode, click a tool, then click the Object Drawing button at the bottom of the Tools panel to select it.

TEACHER TIP
Remind students that the choice of whether to work in Merge Drawing mode or Object Drawing mode is determined by how they want multiple objects to interact. Use Merge Drawing mode to combine or merge objects and Object Drawing mode to retain the individual attributes of multiple objects.

CLASSROOM ACTIVITIES
1. Group Activity:
   Break students into small groups and ask them to obtain bitmap and vector images and compare their quality as they enlarge them. Students can obtain images from their computer, the Internet, a digital camera, or scanned media. When downloading from the Internet, students should always assume the work is protected by copyright. Remind them to check the Web site's terms of use to determine if they can use the work for educational, personal, or noncommercial purposes.

2. Quick Quiz:
    a. True/False: The border of an object is also known as a stroke. (Answer: True)
    b. True/False: In Merge Drawing mode, you can modify overlapping objects without affecting either object. (Answer: False)
    c. What is degree of clarity, sharpness, and detail known as?
        a. pixel
        b. raster
        c. vector
        d. resolution
        (Answer: d)

28: Creating a New Document

LECTURE NOTES
*   Explain how to create a new Flash document.
*   Show how to save a document with a new name.
*   Demonstrate how to modify a document in the Document Settings dialog box.
*   Explain rulers, guides, and the grid.
*   Describe the function of Snap Align.

FIGURES: B-3, B-4, B-5

BOXES
1. Quick Tip: You can also press [Ctrl][2] (Win) or [⌘][2] (Mac) to fit the Stage in the window.

2. Quick Tip: Objects will snap to the grid even if the grid is not displayed.

3. Clues to Use: Understanding view tools
    In addition to adjusting magnification on the Stage using the View list arrow in the Document window, you can use the Zoom Tool. When you select the Zoom Tool, you can also zoom in or zoom out by selecting one of the zoom buttons that appears at the bottom of the Tools panel and then clicking the Stage. To focus in on a particular area, you can select the Zoom tool and drag a zoom bounding box on the Stage and the magnification will increase based on the size of the selection box. To resize the Stage to 100% quickly, double-click the Zoom Tool on the Tools panel. You can use the Hand Tool to move a particular part of a large or magnified object into view if the object is too large to fit completely in the current magnification. To switch to the Hand Tool temporarily when another tool is selected, press [Spacebar]. Neither tool affects the actual size of objects in your document; they simply allow you to manipulate your view of the Stage.

TEACHER TIP
To quickly show or hide rulers, press and hold [Ctrl][Alt][Shift][R] (Win) or [⌘][option][Shift][R] (Mac). Students may feel overwhelmed by the number of aligning options available on the View menu. Make sure they understand rulers, guides, the grid, and snapping options.

CLASSROOM ACTIVITIES
1. Quick Quiz:
    a. True/False: The grid and guides will be visible when you publish a Flash movie.
        (Answer: False)
    b. True/False: When Snap to Grid is turned on, an object snaps to the closest intersection on the
        grid. (Answer: True)
2. Which alignment tool do you drag from the ruler onto the Stage? (Answer: guide)

LAB ACTIVITIES
1. Ask students to create a new document and then show the grid. Have them change grid settings
    and make a note of the settings they prefer.

30: Setting Tool Options and Creating a Shape

LECTURE NOTES
• Explain how to select a color in the color pop-up window for strokes and fills.
• Explain how to select tools in a tool group on the Tools panel.
• Demonstrate how to create a shape on the Stage.
• Discuss the complement of drawing and painting tools, as shown in Table B-1.

FIGURES: B-6, B-7, B-8

TABLE: B-1

BOXES
1. Quick Tip: You can adjust the transparency of a color by decreasing the percentage of the Alpha
    setting, or not set any color by clicking the No Color icon.

2. Trouble: If the Rectangle Tool is not visible on the Tools panel, click and hold the visible tool,
    then click the Rectangle Tool.

3. Quick Tip: To create a perfect square or circle, select the Rectangle Tool or Oval Tool, and then
    press and hold [Shift] as you draw the shape on the Stage.

4. Clues to Use: Aligning objects on the Stage
    Flash provides several options for aligning objects, shown in Figure B-6. Snap Align displays a
    dotted line when you drag an object within a defined distance of another object or the Stage edge.
    Snap to Grid aligns an object's center or edge to a grid intersection. Snap to Guides aligns an
    object's center or edge to a guide dragged from the ruler. Snap to Objects snaps an object along
    another object's edge. Snap to Pixels moves objects one pixel at a time. To turn a snapping option
    on or off, click View on the menu bar, then click an option. To adjust snapping options, click
    View on the menu bar, point to Snapping, click Edit Snapping, and then adjust options in the Edit
    Snapping dialog box.

TEACHER TIP
The scope of Flash CS5 – Illustrated did not allow for an exploration of every tool on the Tools panel. Students will enjoy experimenting with the Deco Tool and Spray Brush Tool (located with the Brush Tool), among others. To become familiar with these tools, perform a search for them in Help, or navigate to http://tv.adobe.com, where the search results contain video tutorials.

CLASSROOM ACTIVITIES
1. Assign a Project: Break the class into groups and distribute several vector shapes that have already been created. Assign each group several alignment options with which to experiment. Have each group demonstrate what they have learned to the class.

2. Quick Quiz:
    a. True/False: A small arrow in the bottom-right corner of the tool icon indicates that other tools are available in that tool group. (Answer: True)
    b. True/False: Hexadecimal is a color system that uses numbers and letters to define color. (Answer: True)
    c. With the Ellipse tool selected, which key do you press to draw a perfect circle? (Answer: Shift or [Shift])

32: Reshaping an Object

LECTURE NOTES
- Explain how to change the magnification of the Stage using the Zoom Tool.
- Demonstrate how to use the Selection Tool to alter a shape's contour on a corner point.
- Demonstrate how to use the Selection Tool to create a curve in a shape.

FIGURES: B-9, B-10, B-11

BOXES
1. Quick Tip: You can deselect objects on the Stage by pressing [Ctrl][Shift][A] (Win) or [⌘][Shift][A] (Mac).

2. Trouble: If the curve pointer is not visible as you point to the edge of the triangle, redo Step 3 to create a perfectly straight line.

3. Clues to Use: Understanding guide layers
    A guide layer is a layer that contains a shape you can use to trace or align objects, or to create a motion path for an animated object. First, you create the shape or path on the guide layer, then you use it as a template for objects in the layers above it. For example, say you want to show an airplane circling in the sky. You could draw and modify an oval shape on a guide layer and then use it to create the motion path of an airplane graphic "flying" in another layer. You can also import or copy a graphic to a layer and then convert it to a guide layer.
    To create a guide layer, right-click (Win) or [control]-click (Mac) a layer in the Timeline, then click Guide. A guide layer icon appears on the layer. Because a guide layer appears in the Timeline but is not visible in a published movie, it is an efficient design tool.

4. Clues to Use: Understanding primitive tools
   You can create the same shapes using Rectangle Primitive and Rectangle tools or the Oval Primitive tools and Oval tools. The difference lies in their shape type and editability after you create them. The shapes you draw with the primitive tools are separate objects, similar to objects you draw in Object Drawing mode using regular shape tools. With the regular shape tools, you set the shape options before you create the shape. After you create the shape, you cannot alter shape options, such as corner radius value for a rectangle, and start and end angles and inner radius values for an oval. In contrast, you can edit any of these settings with a primitive shape, and reset the shape to default settings. With the Rectangle Primitive tool, you can even change a corner radius as you are creating it by dragging the mouse on the Stage. To so do, press the Up or Down arrow keys on the keyboard.

TEACHER TIP
Encourage students to zoom in on objects when they manipulate them.

CLASSROOM ACTIVITIES
1. Quick Quiz:
   a. True/False: A snap ring disappears as you approach a snapping point. (Answer: False)
   b. True/False: When adjusting a shape, the Selection Tool pointer changes to either a corner pointer or a circular pointer. (Answer: False)

LAB ACTIVITIES
1. Ask students to create different shapes, select the Selection Tool, and then practice altering their shapes' workspaces using the Workspace switcher.

34: Selecting and Modifying a Shape

LECTURE NOTES
- Explain the importance of the Selection Tool to modify shapes.
- Show how to change a shape's stroke color.
- Show how to change a shape's fill color.
- Review the options for Selection Tools, as described in Table B-2.

FIGURES: B-12, B-13, B-14

TABLE: B-2

BOXES
1. Quick Tip: To quickly select an entire object or multiple objects, click the Selection Tool, then drag a selection bounding box around the objects you want to select.

2. Quick Tip: You can double-click any part of the stroke to select it in its entirety.

3. Quick Tip: For objects created in Object Drawing mode, you can double-click the object and then individually select a fill or stroke.

TEACHER TIP
The Properties panel always identifies the currently selected object, animation, sound, and so on, at the top of the panel.

CLASSROOM ACTIVITIES
1. Quick Quiz:
   a. True/False: To select a shape's entire stroke, double-click anywhere along the edge. (Answer: True)
   b. What pattern is visible when an object is selected? (Answer: dot pattern)

36: Copying and Transforming an Object

LECTURE NOTES
- Explain the different ways you can transform an object; refer to Table B-3.
- Explain that there are several ways you can copy an object.
- Explain how to rotate an object.

FIGURES: B-15, B-16, B-17

TABLE: B-3

BOXES
1. Trouble: Depending on your monitor and zoom level, your pasted object may not appear in the same location as the one shown in the figure.

2. Quick Tip: To flip objects horizontally or vertically, or to rotate objects 90°, click Modify on the menu bar, point to Transform, then click a flip or rotate command.

3. Trouble: You may need to drag slowly or increase magnification to see the line.

4. Clues to Use: Understanding paste and drag options
   After you copy an object, you can use commands on the Edit menu to paste it in various locations. Paste in Center—[Ctrl][V] (Win) or [⌘] [V] (Mac)—pastes the object in the middle of the visible Stage. Paste in Place—[Ctrl][Shift][V] (Win) or [⌘] [Shift][V] (Mac)—pastes the object directly on top of the original. You use Paste Special when you have copied a selection from another program, and Duplicate to paste a copy at a 10-pixel offset from the original. To use the keyboard to drag and copy a duplicate from the original, select the object(s), press and hold [Alt] (Win) or [option] (Mac), then drag the copy anywhere on the Stage.

TEACHER TIP
The lesson shows students how to use the Paste in Center command, which is also how Flash applies the typical [Ctrl][V] (Win) or [⌘][V] (Mac) keyboard command. Also point out the Paste in Place option (which pastes the object directly on top of the copied object on the same layer); and for Windows users, the Paste Special option (which allows you to paste the image as an uneditable version).

CLASSROOM ACTIVITIES
1. Quick Quiz:
    a. Which tool allows you to rotate a selected object? (Answer: Free Transform Tool)
    b. True/False: Pressing and holding [Shift] constrains the rotation to 45° increments.
        (Answer: True)
    c. Which of the following is not an option that transforms an object with the Free Transform
        Tool?
            a. scale
            b. resolution
            c. distort
            d. skew
        (Answer: b)

38: Using Design Panels

LECTURE NOTES
*   Explain that the Info panel shows information based on where the pointer is on the Stage; refer to
    Figure B-18.
*   Explain that the Align panel sizes, aligns, or distributes multiple objects to the Stage or to each
    other; refer to Figure B-18.
*   Explain that the Transform panel performs the functions of the Free Transform Tool, and more;
    refer to Figure B-19.
*   Explain that the Color panel contains features for adjusting an object's stroke and fill colors; refer
    to Figure B-20.
*   Explain that the Swatches panel contains colors from the active color palette; refer to Figure B-20.

FIGURES: B-18, B-19, B-20

BOXES
1. Quick Tip: You can also change how Flash determines an object's location on the Stage by
    clicking the Registration point button.

2. Clues to Use: Using web-safe colors
    The pop-up color window that appears when you change text, stroke, or fill color displays the
    colors included with your document. The default Flash color palette is the web-safe color palette,
    a set of 216 colors that appear consistent in Web browsers and across computer platforms. Many
    consider the limited web-safe color palette a moot issue for most computers, given the
    improvement in standard video cards. However, web-safe colors are still relevant when
    developing content to be viewed on a portable device, such as a cell phone.

3. Clues to Use: Resizing objects
    To adjust a shape's size proportionately, make sure the Lock Constrain icon on the Properties
    panel is active. To adjust a width or height size individually, click to make the Unlock
    Resizing objects Constrain icon active. The ScreenTip for both the Lock Constrain and Unlock
    Constrain icons is Lock width and height values together.

TEACHER TIP
The History panel, accessed from the Other Panels command on the Window menu, shows the last set of steps or changes you have made to the current document since you last opened or created it. Explain that once students become familiar with the History panel, they can use it to experiment with different settings, and then move back in time in the document by dragging the slider up in the step list. The History panel tracks the last 100 changes. To modify the number of changes, adjust the number of levels on the General tab of the Preferences dialog box.

CLASSROOM ACTIVITIES
1. Quick Quiz:
   a. Which color setting is associated with transparency? (Answer: alpha)
   b. True/False: The Position and Size section of the Properties panel shows the same information as the Info panel. (Answer: True)
   c. True/False: In the Align panel, you can align objects to each other or to the size of the browser window. (Answer: False)

LAB ACTIVITIES
1. Demonstrate how students can create sophisticated shapes using the Transform panel. Ask students to open the Transform panel, and then create an ellipse approximately 85 W x 35 H with no fill, and the stroke color of their choice. In the Transform panel, set the Rotate value to 15°, and then click the Duplicate Selection and Transform button 10 times.

40: Creating Text

LECTURE NOTES
- Explain to students that they use the Text Tool to create text.
- Make sure students understand the difference between variable-width text and fixed-width text.
- Describe the three types of Flash text: static, input, and dynamic.
- Demonstrate how to set font attributes on the Properties panel.
- Show how to create text blocks.

TEACHER TIP
The word "ecocruise" is deliberately misspelled so students can fix it in the next lesson.

FIGURES: B-21, B-22, B-23

BOXES
1. Trouble: If a section in the Properties panel is not expanded, click the expand section arrow on the panel title bar.

2. Trouble: If you inadvertently deselect the text, click it with the Text Tool.

3. Quick Tip: To manually insert a line break in variable-width text, press [Enter] (Win) or [return] (Mac).

TEACHER TIP

Remind students of the importance of keeping text readable by using a sans serif font, such as Helvetica or Arial, for small text; avoiding capital letters, bold, and italics, except perhaps in a button; and selecting Anti-Aliasing, especially if the text is going to be animated.

CLASSROOM ACTIVITIES
1. Quick Quiz:
   a. True/False: Fixed-width text refers to when the text block continues to expand as long as you type. (Answer: False)
   b. True/False: You can easily convert fixed-width text to variable-width text by double-clicking the square handle. (Answer: True)

2. Class Discussion:
   Ask students to discuss when to use different text blocks (variable-width versus fixed-width). Encourage them to consider the needs of a project requiring multiple text blocks.

42: Modifying Text

LECTURE NOTES
- Show the components of the Character and Paragraph sections of the Properties panel used to modify text.
- Demonstrate how to change the font family, size, and color.
- Demonstrate how to sample color.

FIGURES: B-24, B-25, B-26

BOXES
1. Trouble: You may need to scroll down the list to the "G" section to locate the font or, if this font is not available, select another font. Some fonts might not have a bold option.

2. Quick Tip: Your text block might snap to a slightly different location.

3. Clues to Use: Understanding Flash text engines
   In the TLF text engine, you can access advanced text features, add a link to text and set advanced properties in the Advanced Character section, or set columns in the Container and Flow section. TLF text uses containers, which are similar to text blocks, to support text flowing across and around columns and images. You can resize and link containers, add borders and a background color to create professional-looking text flows. TLF also provides typographical control for kerning (the space between adjacent letters), ligatures (two or more letters, such as "fl," that appear as a single symbol), typographic and digit case, proportional width, baseline shift, and hyphenation, among others. In addition to TLF text, you can select the Classic Text engine, which provides three text types. Static text is the default type and is best used for basic content.

   For movies that contain interactivity, you can select Input text for obtaining user information, and dynamic text for displays that constantly update. Both text engines share aliasing properties to ensure the best font appearance: Use Device Fonts (common ones installed on your computer

are best), Readability (impose legibility at small sizes), and Animation (designed to create smooth movement).

TEACHER TIP
To set up Flash to spell check automatically, click Text on the menu bar, then click Spelling Setup to open the dialog box. At the top of the dialog box, select the areas of text and dictionaries to use. Select grammar and character options at the bottom of the dialog box. To perform spell checking, click Text on the menu bar, then click Check Spelling.

CLASSROOM ACTIVITIES
1. Quick Quiz:
   a. True/False: You can sample a color to use in Flash in any open program window on your computer. (Answer: False)
   b. True/False: Fonts are listed in alphabetical order in the Font Family list. (Answer: True)

2. Class Discussion: Ask students to discuss when it may be useful to sample a color to apply to text or an object.

End of Unit Material

- Concepts Review – Includes screen identification, multiple choice, and matching questions.

- Skills Review – Provides additional hands-on exercises that mirror the progressive style of the lesson material.

- Independent Challenges 1, 2, and 3 – Case projects that require critical thinking and application of the unit skills. The Independent Challenges increase in difficulty, with the first being the easiest (with the most step-by-step detailed instructions). Independent Challenges 2 and 3 become increasingly more open-ended.

- Real Life Independent Challenge – Using a real world focus to apply the unit skills, students create documents that will benefit their everyday lives.

- Advanced Challenge Exercises – Optional steps that are set within two of the four Independent Challenges for each unit. They are designed to challenge more advanced students. Two solution files are provided for easy grading.

- Visual Workshop – A practical, self-graded capstone project that requires independent problem solving.

Glossary of Key Terms

- vector graphic (26)
- anchor points (26)
- path (26)
- stroke (26)
- bitmap graphic (26)
- pixel (26)
- raster images (26)
- resolution (26)
- Merge Drawing mode (26)
- Object Drawing mode (26)
- rulers (28)
- guide (28)
- grid (28)
- hexadecimal (30)
- snap ring (32)
- guide layer (32)
- transform (36)
- Info panel (38)
- Align panel (38)
- Transform panel (38)
- Color panel (38)
- alpha (38)
- Swatches panel (38)
- Web-safe color palette (38)
- text block (40)
- variable-width text (40)
- fixed-width text (40)
- Text Layout Framework (TLF) (40)
- Read Only (40)
- Selectable (40)
- Editable (40)
- Static text (40)
- Input text (40)
- dynamic text (40)
- font (42)
- font family (42)
- sample (42)

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UNIT B: Creating Graphics and Text

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Unit: Creating Graphics and Text

Concepts Review

Screen Labeling	Matching Items	Multiple Choice
1 stroke	9 b	16 a
2 fill	10 e	17 b
3 eyedropper pointer	11 g	18 a
4 grid	12 a	19 d
5 hexadecimal text box or hexadecimal value	13 f	20 d
6 Rectangle tool	14 c	
7 Text tool	15 d	
8 Selection tool		

Skills Review

Step 1a. A vector graphic is a mathematically calculated object composed of anchor points and straight or curved line segments, which collectively form a path. A bitmap graphic displays a picture image as a matrix of dots, or pixels, on a grid. Vector objects can be resized without losing quality, not so for bitmap graphics.

Step 1b. Vector images are used in line drawings and illustrations; bitmaps are used in photographs.

Step 1c. A pixel is the smallest square of color used to display an image on a computer screen.

Step 1d. Merge Drawing mode assumes that the objects' paths (their strokes and fills) will combine in some fashion, such as using the outline of one object to create a shape in another. You can select, move, or delete an object's fill or stroke, or overlap multiple objects and then move the top one to punch or cut its shape through the bottom shape. Object Drawing mode treats the object as a whole. You can modify an object's attributes, such as fill or stroke color, and you can overlap multiple objects without affecting either object. The top object may obscure the bottom object, just as a top layer obscures a lower layer in the Timeline
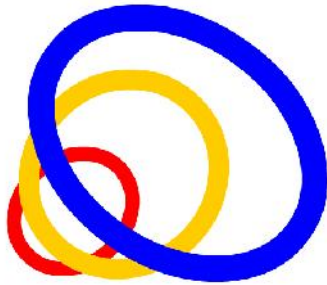
Independent Challenges
Because students will solve the independent challenges in different ways, it is important to stress there is not just one correct solution. The following are examples of possible solutions for the Independent Challenges in Unit B of this book.

Note: Testing the movie and creating a SWF file is assumed for all exercises.

Independent Challenge 1
Filenames: CoasterWoop.fla, CoasterWoop.swf

Students are asked to create a new document, turn on Snap to Guides, then create three circles in Object Drawing mode. Students then set stroke and fill options and transform the ovals into an interesting configuration. Students also create text. Figure B-29 shows the completed image.

Independent Challenge 2
Filenames: lingoroots.fla, lingoroots.swf

Students are asked to open a file and save it with a new name, use the shape in a guide layer to create lines in Merge Drawing mode and adjust their color and stroke. Students then use the Selection tool to adjust the curve of the lines and adjust the stroke of a few lines. Lastly, students create text. Figure B-31 shows the image.
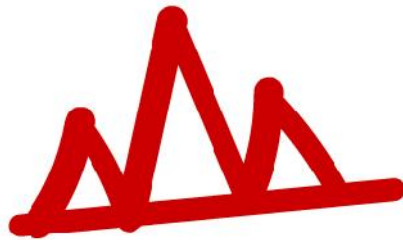
ACE: Students make a copy of the mountain shape, and adjust its size, color, stroke, and placement. The sample ACE has the following:
- Scaled smaller
- Color: #CCCCCC
- Stroke: 2 px
- Aligned: beneath the Mountain-Ancient text

Independent Challenge 3

Filenames: ibrobotz.fla, ibrobotz.swf

Students are asked to open a file and save it with a new name, create several shapes in Merge Drawing mode to create a robot, adjusting fill and stroke options. Some construction of the robot is open-ended and students are encouraged to be creative. Students also create text. Figure B-31 shows the image.
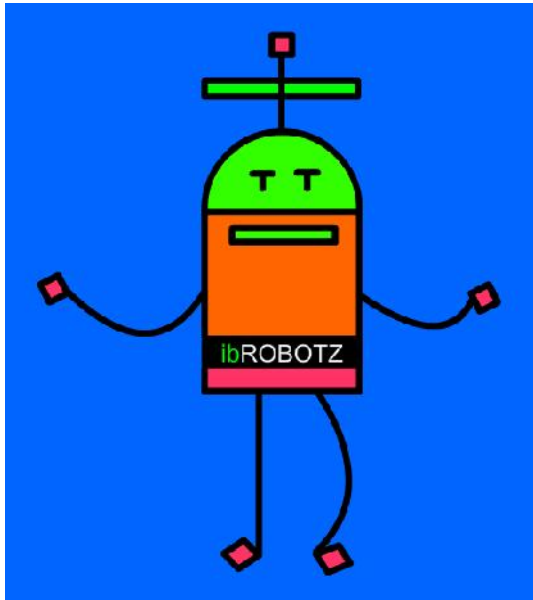
ACE: Here students use tools and transformation options of their choice.
Sample solution file:

- Hands: PolyStar, style Star, Number of sides 6, Star point size: .30, stroke 1px, color #CBFF65
- Head ornament: Added several white polystars, 9 sides
- Reshaped objects
  - Mouth curved down
  - Feet curved
  - Text "belt" resized
  - Head ornament bar curved

Real Life Independent Challenge

Filenames: myproject.fla, myproject.swf

In the Real Life Independent Challenge, students create their own Flash project, myproject.fla, with which they work continue to work for the remaining units. Here students should create at least three objects using different tools, set the fill and stroke, show the grid, then and align the objects to the grid.

Visual Workshop

Students analyze the Web page for the National Archives (www.archives.gov), and the Web site of their choice.
For the National Archives Web page:

a. What is the Web site's purpose and goal?
To provide information about the National Archives, including news, events, research and access to archival material.

b. Who is the target audience? How does the design (look and feel) of the Web site fit the target audience?
The target audience are Americans and others who want to learn about or access the network National Archives databases, including veterans, genealogists, educators, students, member of the press, and the interested public. The design of the Web site is geared toward providing as much information as possible about the various services the National Archives provides, while using artwork and a very clean functional layout. Each component of the National Archives is separated by section. Artwork is used to show what is available.

c. Looking at the navigation bar and other elements of the page:
How are vector and bitmap shapes used?
    The logo and subtle nav bar background have vector graphics, as do the background of specific
    sections. Bitmap photos and vector graphics are used in the slideshow at the top of the page..
Are there obviously drawn shapes? Which elements appear to have been created in Merge Drawing mode or Object Drawing mode?
    The logo and elements of the slide show and vertical sections have vector graphics in various
    shapes.
Do objects have clear strokes and fills?   Yes
How have objects appear to have been modified or transformed?   Yes

How is text used on this page? How many fonts are there? The page is text-dominant and is used to give the user a broad overview of the National Archives. Since there are many small specific sections, there are several fonts.
d. What is animated on this page? The slide show playing at the top of the page.
e. What is your overall opinion of the design, organization, and function of this page? How would you improve it? The page tries to give an enormous amount of information to the reader, which can be overwhelming. The use of color and graphics helps the user to visually digest the page.

UNIT B
Creating Graphics and Text

Solution – EXTRA Independent Challenge 1

Students should explain that generally, two types of graphics are used on the Web: vector and bitmap. Students should note that most often in Flash, you work with vector graphics. Students should define vector graphics by explaining that they are mathematically calculated objects composed of anchor points and straight or curved line segments, which collectively form a path. Students should explain how to fill a path with a color, gradient, or pattern and outline it with a line known as a stroke. Students should explain that vector graphics appear smooth, which makes them perfect for illustrations. Because they retain their appearance regardless of how you edit them, vector graphics offer far more flexibility than bitmap images. They keep their sharp, crisp-looking edges no matter how much you enlarge them. Students should explain that a bitmap graphic displays a picture image as a matrix of dots, or pixels, on a grid. A pixel is the smallest square of color used to display an image on a computer screen. This is why most of the photographs and other images on a Web page are bitmap images (also known as raster images). Students should explain that pixels allow your computer screen to depict colors realistically in a photographic image. A bitmap image consists of a finite number of pixels. Therefore, when you resize the image, the existing pixels are stretched over a larger area, which causes distortion and loss of image quality.

Solution – EXTRA Independent Challenge 2

Students should explain that you can modify any aspect of text using features on the Properties panel. Many features on the Character and Paragraph sections are similar to options offered in word-processing programs, such as font attributes, indent, and alignment options. Students should explain how to take a sample of an existing color in a document and then apply it to another element. Students should explain that the Options section allows you to link text to a Web site, and the Filters section offers text effects such as drop shadow, bevel, and glow. To add a filter, click the Add filter button, then click a filter in the list.