

macromedia®
Flash®
Curriculum Guide

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INTRODUCTION

Flash is the Web standard for vector graphics and animation. With Flash, you can quickly liven up your Web pages with interesting animated graphics and text effects. Flash also allows you to add sophisticated interactivity to your site without complicated scripting.

Flash is designed to make your Web animations download and begin playing quickly. Because it creates vector-based graphics, Flash can generate files which download in much less time than bitmapped image formats such as GIFs and JPEGs. In addition, Flash's streaming format means that Web movies can begin to play while they are still downloading. Your users won't have to wait to begin interacting with Flash movies.

The Flash authoring environment provides a complete set of tools for building Web-ready animations. The drawing and text tools allow you to create images and text from scratch. Flash can also import images from other graphics programs such as Freehand and Illustrator, as well as bitmaps created in programs like Photoshop. The Flash Timeline, which will be familiar to those who have used Macromedia Director, enables you to apply complex animations and interactions to your movies, with frame-by-frame control. After creating a complete movie in Flash, you can export it to the compressed .swf file format, and use Aftershock to add the movie to a Web page.

This course will take you step-by-step through the process of building an interactive animation in Flash. You'll learn to set up an animated "movie," draw characters, add text, animate both text and characters, add interactive buttons to control the animation, and finally, export your animation to a Web-ready file. Included with this lesson is a file called final fla, which shows the finished version of the movie you'll be working on throughout the lesson.

The exercise you'll work through will produce a simple animated movie with interactive buttons. But Flash is useful for more than cartoon-style animations or Web-based cinema. Its ability to respond to user input and launch Web pages makes it useful for building user interface elements such as navigation bars and drop-down menus, which you can add to your regular Web pages.

As you go through the lesson, feel free to check the Flash online software documentation for more advanced techniques and detailed information. The Macromedia Web site, www.macromedia.com provides even more resources in its Flash developers center.

LESSON 1: GETTING STARTED WITH FLASH

OBJECTIVES

In this lesson, you'll learn how to:

- set up a new Flash Movie file
- use Flash's built-in drawing tools to create graphics and text
- work with the toolbar and the Stage

CONTEXT

The first step to producing a Web-ready Flash animation is to create the characters you'll use in your animation. In this chapter, you'll create some simple characters and text using the drawing tools located in the Flash toolbar. You'll be surprised how simple it is to create graphics in Flash, even if you've never used a computer-based drawing program. Don't be afraid to experiment and play with the different tools and options.

The animation you'll eventually create will show an ant moving across the screen from left to right. You'll make it a sunny day. Finally, you'll add some explanatory text and later animate that as well.

EXERCISES

CREATING A NEW FLASH MOVIE

Animation sequences in Flash are called "movies." But you don't need a movie camera to create a Flash movie; you can make one yourself by drawing characters and then animating them. In this exercise, you'll set up a new file and learn how to change the overall dimensions of the movie.

First, open the Flash program. Flash will automatically open a new document for you. In the future, you can create new Flash movies by choosing **File > New**.

Examine the Movie Properties

1. Choose **Modify > Movie**.
Flash displays the **Movie Properties** dialog box (Figure 1-1).
2. Leave the **Frame Rate** at its default of 12 fps
"fps" means frames per second, and determines how smooth your animation will look when it plays. 12 fps should give good results for the Web. (Just for reference, motion pictures play at 24 fps in the theater, while Quicktime movies are often 12 fps.)
3. Leave the **Dimensions** at their default of 550 x 400 pixels.
This will be a good size to start with. In the future, you may want to make your movie larger or smaller. The smallest allowable size is 18 x 18 pixels. The largest size is 2880 x 2880 pixels. After creating a movie, you can use the **Match: Contents** option to crop out unused space.

The dimensions of your movie will determine how large an area of the Web browser your movie takes up.

4. Click OK to continue.

You can always go back and change the properties of your movie later. But it's a good idea to establish the frame rate before you start.

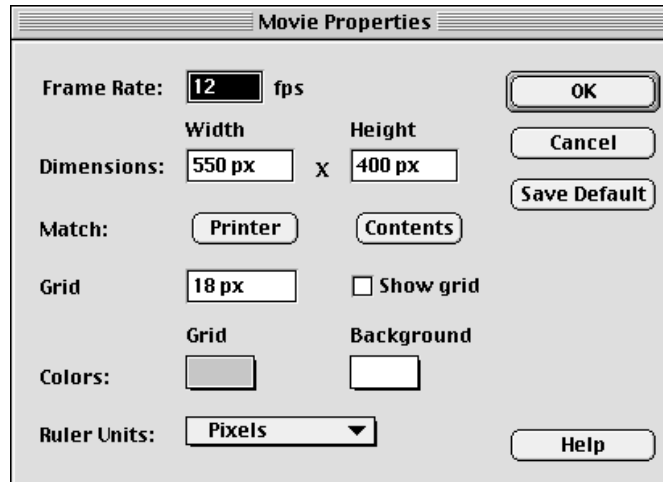


Figure 1-1

The Movie Properties dialog box determines the frame rate and the size of your movie.

DRAWING A NEW CHARACTER

Start the new animation by drawing the ant character, using the drawing tools in the Flash **Toolbar**. As you work with the tools, note that the bottom half of the toolbox contains context-sensitive **modifiers** (Figure 1-2). These provide different options based on which tool you've selected from the top part of the toolbar. In the middle of the toolbar, the pop-up menu next to the % figure allows you to zoom in and out on your movie.

You'll draw the ant in the large white area at the bottom left of the document. This area is called the Stage. You can draw graphics on the Stage, and later you'll play your animation here. Note that the size of the Stage is determined by the pixel dimensions in the Movie Properties dialog box which you looked at earlier.



Figure 1-2

The top half of the toolbar contains the basic tools, while the bottom half provides modifiers depending on which tool is selected.

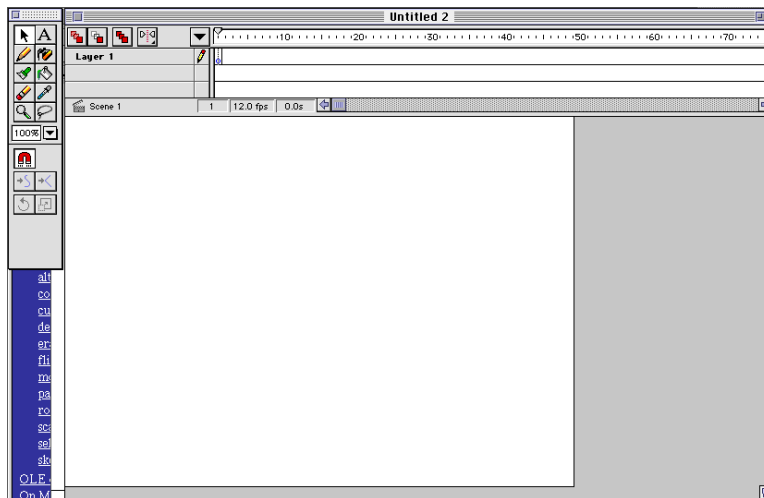


Figure 1-3

The large white area at the bottom left of the document is the Stage, where you'll create the main images for your animation.

Draw a Character Using the Pencil Tool

1. Click on the Pencil tool in the toolbar.
2. Note that the modifier options at the bottom of the toolbar have changed. Click the first square modifier button, and hold it down to see your **Pencil Mode** choices. You can modify the pencil to draw shapes such as ovals, rectangles, and lines. Or you can draw freehand with the Pencil, and Flash will smooth or straighten your line segments depending on which mode you've selected.
3. Select **Oval** from the Pencil Mode pop-up menu.
4. Move the cursor onto the Stage area. Use the Pencil tool to draw three overlapping ovals to form the ant's body. Unless you're a budding Rembrandt, your drawing should look something like Figure 1-4.

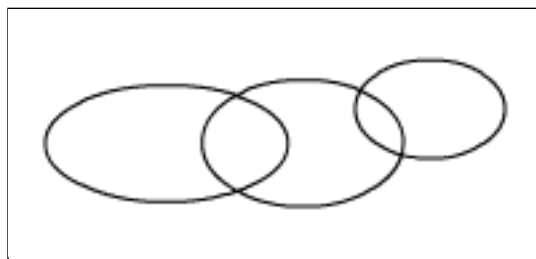


Figure 1-4

Using the Pencil tool in Oval mode, draw the outline of the ant's body.

5. To give the body a sense of depth, you'll need to delete a portion of each curve where it intersects the other curve (Figure 1-5). To do so, select the **Arrow** tool from the toolbar. Simply click on the portion of the curve you wish to delete, and hit the Backspace or Delete key. You'll notice that Flash automatically segments lines and curves where they intersect one another.

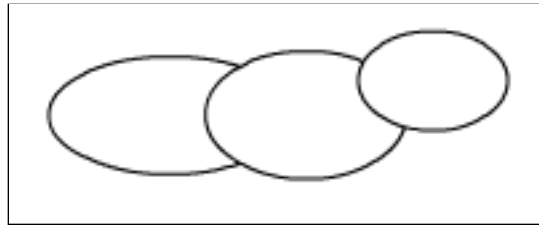


Figure 1-5

After you've deleted some lines with the Arrow tool, the ant should look like this.

6. Insects, you'll remember from high school biology, have six legs. So let's give this ant some legs. Select the pencil tool again. Click the Pencil mode button, and choose **Smooth**. This will allow you to draw free-form lines.
7. Draw six legs on the ant.
8. Give the ant additional detail by drawing antennae and a mouth, using the Pencil tool in Smooth mode.
9. Finally, switch back to Oval mode and use the Pencil to draw an eye on the ant's head.
10. The drawing should now look something like Figure 1-6.

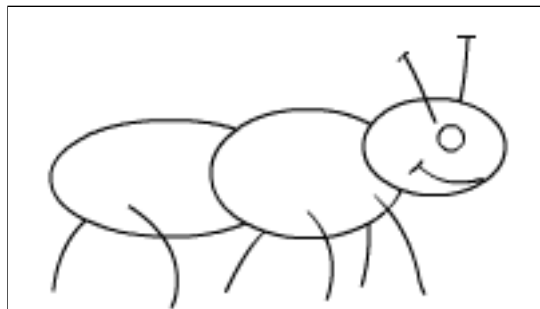


Figure 1-6

Voilà! An ant, of sorts.

Save Your Work

1. Select **File > Save**.
2. Name the file ant fla. (.fla is the standard file extension for Flash movies).
3. The **Save File as Type** pop-up menu should say "Flash Movie."
4. Using the disk browser, select a folder where you wish to save your new file.
5. Click the **Save** button.

Add Color Using the Paint Bucket

Now you'll give the ant a little color.

1. Select the **Paint Bucket** tool from the toolbar.
2. Notice that the modifier area changes when you select the Paint Bucket tool. The first modifier is now the **Fill Color pop-up**, which contains standard colors that should look good on most computer systems. (Technically speaking, this is the "browser-safe" color palette.) Using this pop-up, select a light gray color.
3. With the Paint Bucket tool, click down inside each section of the ant's body to fill it with color. Leave the eye white.

4. Now, go back to the Fill Color pop-up, and select black.
 5. Fill the ant's eye with black by clicking inside the eye circle with the Paint Bucket tool.
- Your ant should now look at least a little like Figure 1-7.

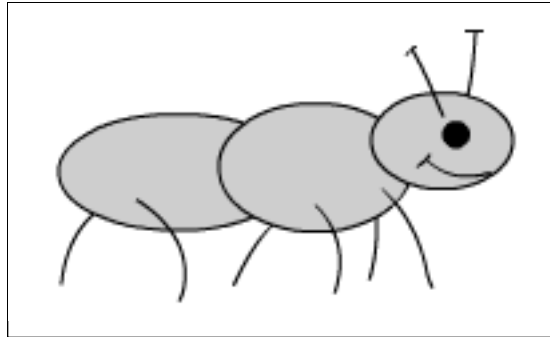


Figure 1-7
Use the Paint Bucket tool to give the ant some color.

ADDING MORE ELEMENTS TO THE DRAWING

Add a Background Using the Brush and Pencil tools

Next, you'll add a background to your drawing. You'll make the scene a sunny day, and give the ant some grass to run through. Refer to Figure 1-8 to see how your drawing might look.

1. From the toolbar, select the **Brush** tool, which looks like a paintbrush.
2. In the modifier area, use the Fill Color pop-up to select a bright, sunny yellow.
3. The modifier underneath the Fill Color pop-up is the **Brush Size** pop-up menu. Pick a medium-to-large brush size to draw the main part of the sun.
4. On the upper left of the **Stage**, draw a half-circle for the sun.
5. Now choose a smaller brush size from the Brush Size pop-up.
6. Draw some rays from the sun.

Next, add some grass to your drawing.

1. Select the Pencil tool from the toolbar.
2. From the Pencil mode pop-up, choose **Line**.
3. Choose a bright green in the color pop-up.
4. In the **Line Thickness** pop-up, select 8.0 for a thick line.
5. In the **Line Style** pop-up, select the fifth option, which will give a fuzzy, stippled look to the line.
6. On the Stage, draw a line underneath the ant. Draw the line an inch or so from the bottom of the Stage. (In Lesson 3 you'll place control buttons in this empty area, so it's a good idea to leave room now.)

Add Text

To finish the drawing, you'll add some text to the image.

1. Select the **Text** tool, represented by the letter A on the toolbar.
2. In the modifier area, make the font size 24 points.
3. In the **Text Color** pop-up, select a medium blue color.
4. On the Stage, click the Text tool to the right of the sun.
5. Type in "Where's the Picnic?"

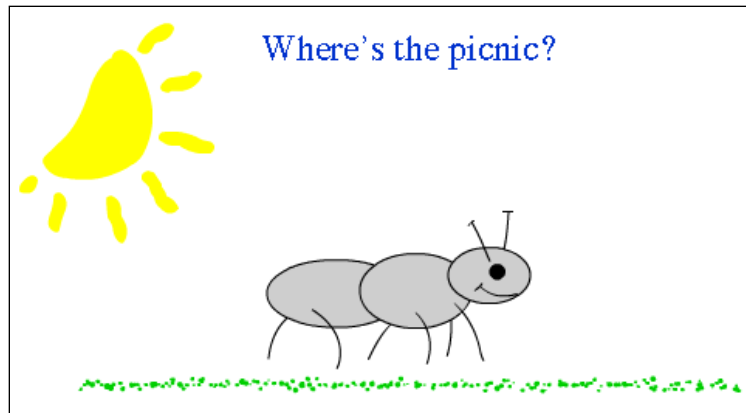


Figure 1-8

Use the Brush, Pencil, and Text tools to finish your drawing.

MAKING SELECTIONS WITH THE ARROW AND LASSO

You've already used the Arrow tool briefly to select line segments. In this section, you'll learn how to use the **Arrow** and the **Lasso** tools to select and move parts of your drawing.

Selecting Individual Elements with the Arrow Tool

The selection tools in Flash work a little differently from standard vector drawing programs. Take some time to familiarize yourself with how the Arrow tool works.

1. Select the Arrow tool from the toolbar.
2. With the Arrow tool, click on the back leg of the ant. Notice how the segment becomes highlighted, indicating that it is selected (Figure 1-9).
3. Now click on the front leg of the ant. Notice that the back leg remains selected as well.
4. To deselect, click on a blank area of the Stage. Now click on the front leg again, and note that it is the only current selection.

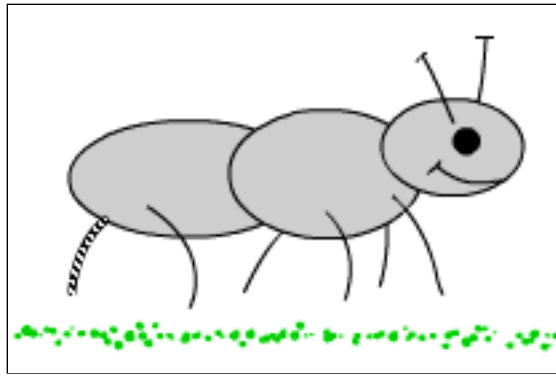


Figure 1-9
The back leg is highlighted, indicating that it has been selected.

Selecting Multiple Elements with the Arrow Tool

1. Double click on the front leg. Notice that the entire ant drawing becomes highlighted—with a few exceptions.
2. Now position the cursor over any highlighted segment of the ant's body. Click and drag to move the highlighted sections. Notice that some parts of the ant were left behind, such as the fill color, the eye, and any other lines that were not actually touching the segment you double-clicked. Your drawing may look like Figure 1-10.

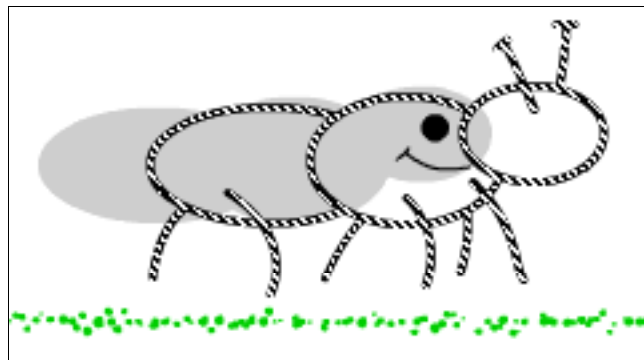


Figure 1-10
Oops! The ant was moved without all its parts selected.

3. Choose **Edit > Undo** to move the ant's lines back into their original position.
5. Click on the fill color on the ant's body. Notice that it becomes highlighted in addition to the outline.
6. Hold down the Shift key and click on the back leg to deselect it.
7. To deselect everything, click with the Arrow tool on a blank section of the Stage.
8. To quickly select the entire ant drawing, you can use the Arrow tool to draw a selection box around the ant. Position the Arrow to the right of and slightly above the ant. Click and drag down and to the left, until the selection box completely surrounds the ant. Make sure the entire ant is selected.
9. Click on any area of the ant, and drag the ant a little to the right. If you have selected it properly, the entire ant should move to the new position. If bits of it got left behind, choose Edit > Undo and try again.

Selecting Elements with the Lasso Tool

You will often want to select an irregular group of objects that doesn't fit into the rectangular selection of the Arrow tool. In these cases, the Lasso tool may help

1. Choose the Lasso tool from the toolbar; it's to the right of the **Magnifier**.
2. If the ant is still selected, click on a blank section of the Stage to deselect. Alternatively, you can choose **Edit > Deselect All**.
3. Position the Lasso close to, but outside of, the ant drawing. Click and drag to draw an irregular selection around the entire ant. The whole ant drawing should now be selected.

Making a Group

It's a lot easier to just click once on the ant to select it, without having to go through the steps we've just used. By grouping all the different parts of the ant, you can turn it into one object that can be easily selected and moved.

1. The ant should still be selected. If it's not, use one of the methods above to select all of its parts.
2. Choose **Modify > Group**. The ant should now have a rectangular selection border around it, indicating that the item is grouped (Figure 1-11). For now, you should leave the ant as a grouped object. (When you need to break a group into its separate elements, choose **Modify > Ungroup** or **Modify > Break Apart**. To understand the difference between these two options, refer to the Help Topics which Macromedia provides with your Flash program.)

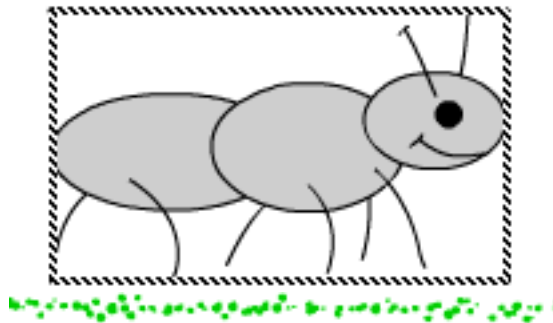


Figure 1-11

The rectangular selection highlight indicates that the different parts of the ant have been grouped together into one object.

Your drawing of the ant is complete for now. In the next lesson, you'll animate the drawings you've made. In Lesson 5, you'll learn more advanced Flash drawing techniques.

MORE EXERCISES TO SHARPEN YOUR SKILLS

- Make a new Flash document and experiment with the drawing tools.
- One by one, select each tool on the toolbar. Click each modifier and test what it does.
- Spend some time using the Arrow and Lasso to select, deselect, and move parts of your drawing.