



Adobe  
**Animate CC**  
2019 release



# **CLASSROOM IN A BOOK®**

The official training workbook from Adobe

Russell Chun



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Adobe Animate CC Classroom in a Book® (2019 release)

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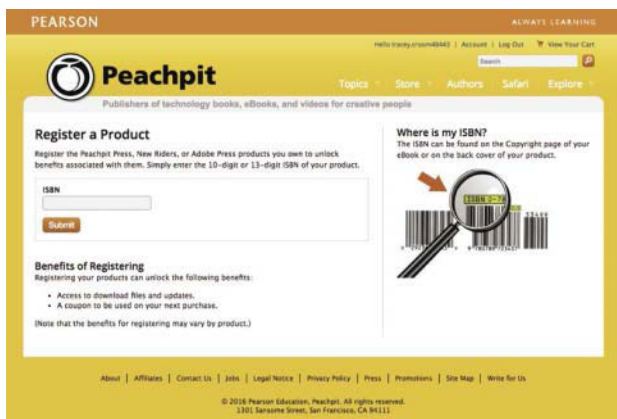
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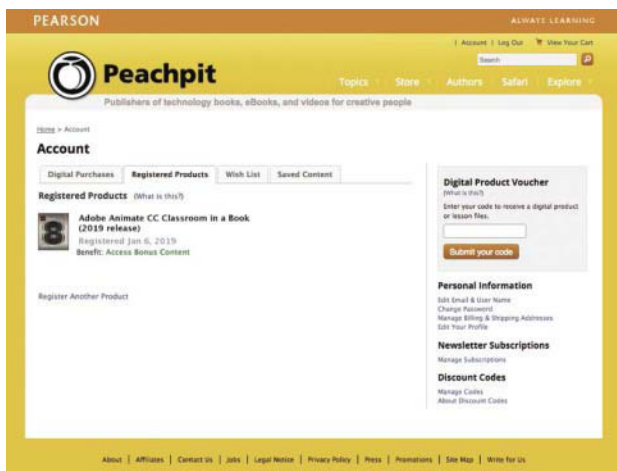
Purchase of this Classroom in a Book in any format gives you access to the lesson files you'll need to complete the exercises in the book.

You'll find the files you need on your Account page at peachpit.com on the Registered Products tab.

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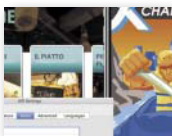
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# GETTING STARTED

The 2019 release of Adobe Animate CC provides a comprehensive authoring environment for creating sophisticated animations and interactive, media-rich applications that you can publish to a variety of platforms. Animate CC is widely used in the creative industry to develop engaging projects that integrate video, sound, graphics, and animation. You can create original content in Animate CC or import assets from other Adobe applications such as Photoshop CC or Illustrator CC, quickly design animation and multimedia, and use code to integrate sophisticated interactivity.

Use Animate CC to generate graphics and animation assets, to publish broadcast-quality animation, to build innovative and immersive websites, to create stand-alone applications for the desktop, or to create apps to distribute to mobile devices running on the Android or iOS system.

With extensive controls for animation, intuitive and flexible drawing tools, and output options for HD video, HTML5, WebGL, SVG, mobile apps, desktop applications, and Flash Player, Adobe Animate CC is a robust multimedia authoring environment that enables your imagination to become reality.

## About Classroom in a Book

*Adobe Animate CC Classroom in a Book (2019 release)* is part of the official training series for Adobe graphics and publishing software developed with the support of Adobe product experts. The lessons are designed so you can learn at your own pace. If you're new to Animate, you'll learn the fundamental concepts and features you'll need to use the program. Classroom in a Book also teaches many advanced features, including tips and techniques for using the latest version of this application.

Although each lesson provides step-by-step instructions for creating a specific project, there's room for exploration and experimentation. You can follow the book from start to finish or do only the lessons that correspond to your interests and needs. Each lesson concludes with review questions to reinforce what you've learned.

## What's new

The 2019 release of Adobe Animate CC provides more expressive tools, powerful controls for animation, and robust support for a wider variety of playback platforms.

The lessons in this book provide opportunities to use some of the updated features and improvements in Animate CC, including

- New layer effects, which allow you to apply filters and color effects to individual keyframes on layers
- Layer parenting, a powerful new way to establish hierarchies between layers to make character animation faster and easier than ever before
- AI-driven lip syncing that automatically matches phonemes in graphic symbols to dialogue in a soundtrack on the timeline
- A new Asset Warp tool that can animate distortions in both vector images and bitmap images
- Improvements to the Layer Depth panel, which helps create a realistic sense of three-dimensional space
- New VR 360 and VR Panorama documents to create virtual reality environments that are immersive and interactive
- New WebGL glTF Standard and Extended documents that provide greater support for WebGL graphics and animation

## Prerequisites

Before you begin using *Adobe Animate CC Classroom in a Book (2019 release)*, make sure your system is set up correctly and that you've installed the required software. You should have a working knowledge of your computer and operating system. You should know how to use the mouse and standard menus and commands, and also how to open, save, and close files. If you need to review these techniques, see the printed or online documentation included with your macOS or Microsoft Windows software.

In addition, you need to download the free Adobe AIR runtime, available at [get.adobe.com/air/](http://get.adobe.com/air/), to publish desktop applications in Lesson 12.

# Installing Animate CC

You must purchase the Adobe Animate CC application as part of Adobe Creative Cloud. The following specifications are the minimum required system configurations.

## macOS

- Multicore Intel® processor
- macOS v10.12 (64-bit) or 10.13 (64-bit)
- 2 GB of RAM (8 GB recommended)
- 1024x900 display (1280x1024 recommended)
- QuickTime 12.x software recommended
- 4 GB of available hard disk space for installation; more free space required during installation (cannot install on a volume that uses a case-sensitive file system or on removable flash storage devices)
- OpenGL version 3.3 or higher
- Internet connection and registration necessary for required software activation, validation of subscriptions, and access to online services
- QuickTime 10.x software recommended

## Windows

- Intel® Pentium 4, Intel Centrino®, Intel Xeon®, or Intel Core™ Duo (or compatible) processor (2 GHz or faster processor)
- Microsoft® Windows® 7 with Service Pack 1 or Windows 10 version 1703
- 2 GB of RAM (8 GB recommended)
- 1024x900 display (1280x1024 recommended)
- 4 GB of available hard disk space for installation; more free space required during installation (cannot install on removable flash storage devices)
- OpenGL version 3.3 or higher
- Internet connection and registration necessary for required software activation, validation of subscriptions, and access to online services

For updates on system requirements and complete instructions on installing the software, visit [helpx.adobe.com/animate/system-requirements.html](https://helpx.adobe.com/animate/system-requirements.html).

Install Animate CC from Adobe Creative Cloud at [creative.adobe.com](https://creative.adobe.com) and make sure that you have your login and password accessible.

## Online content

Your purchase of this Classroom in a Book includes online materials provided by way of your Account page on [peachpit.com](https://peachpit.com). These include the following:

### Lesson files

To work through the projects in this book, you will need to download the lesson files from [peachpit.com](https://peachpit.com). You can download the files for individual lessons, or it may be possible to download all of them in a single file.

### Web Edition

The Web Edition is an online interactive version of the book providing an enhanced learning experience. Your Web Edition can be accessed from any device with a connection to the Internet, and it contains:

- The complete text of the book
- Hours of instructional video keyed to the text
- Interactive quizzes

In addition, the Web Edition may be updated when Adobe adds significant feature updates between major Creative Cloud releases. To accommodate the changes, sections of the online book may be updated or new sections may be added.

## Accessing the lesson files and Web Edition

If you purchased an eBook from [peachpit.com](https://peachpit.com) or [adobepress.com](https://adobepress.com), your Web Edition will automatically appear under the Digital Purchases tab on your Account page. Click the Launch link to access the product. Continue reading to learn how to register your product to get access to the lesson files.

If you purchased an eBook from a different vendor or you bought a print book, you must register your purchase on [peachpit.com](https://peachpit.com) in order to access the online content:

- 1 Go to [www.peachpit.com/register](https://www.peachpit.com/register).
- 2 Sign in or create a new account.

- 3 Enter the ISBN: **9780135298886**.
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- 5 The Web Edition will appear under the Digital Purchases tab on your Account page. Click the Launch link to access the product.

The lesson files can be accessed through the Registered Products tab on your Account page. Click the Access Bonus Content link below the title of your product to proceed to the download page. Click the lesson file links to download them to your computer.

## How to use the lessons

Each lesson in this book provides step-by-step instructions for creating one or more specific elements of a real-world project. Some lessons build on projects created in preceding lessons; most stand alone. All the lessons build on one another in terms of concepts and skills, so the best way to learn from this book is to proceed through the lessons in sequential order. In this book, some techniques and processes are explained and described in detail only the first few times you perform them.

You will create and publish a variety of final project files, such as animated GIFs, HTML files, videos, or AIR desktop applications, in the lessons in this book. The files in the End folders (01End, 02End, and so on) within the Lesson folders are samples of completed projects for each lesson. Use these files for reference if you want to compare your work in progress with the project files used to generate the sample projects.

The organization of the lessons is also project-oriented rather than feature-oriented. That means, for example, that you'll work with symbols on real-world design projects over several lessons rather than in just one chapter.

## Additional resources

*Adobe Animate CC Classroom in a Book (2019 release)* is not meant to replace documentation that comes with the program or to be a comprehensive reference for every feature. Only the commands and options used in the lessons are explained in this book. For comprehensive information about program features and tutorials, refer to these resources, which you can reach by choosing commands on the Help menu or by clicking links in the Start Screen:

**Adobe Animate Learn and Support:** You'll find and browse Help and Support content at [helpx.adobe.com/animate.html](https://helpx.adobe.com/animate.html). You can also reach that page by choosing Help > Animate Help or by pressing F1. On the Learn & Support page, click User



Guide for documentation on individual features, or visit [helpx.adobe.com/animate/topics.html](https://helpx.adobe.com/animate/topics.html). Also on the Learn & Support page, click Animate CC manual (PDF) to download Help as a printable PDF document.

**Animate tutorials:** For a range of interactive tutorials on Animate CC features, choose Help > Animate Tutorial or visit [helpx.adobe.com/animate/tutorials.html](https://helpx.adobe.com/animate/tutorials.html). A more limited set of tutorials is available within Animate itself by choosing Help > Learn or by clicking Learn on the Start screen.

**Adobe Creative Cloud tutorials:** For inspiration, key techniques, cross-product workflows, and updates on new features, go to the Creative Cloud tutorials page, [helpx.adobe.com/creative-cloud/tutorials.html](https://helpx.adobe.com/creative-cloud/tutorials.html). Available to all.

**Adobe forums:** Tap into peer-to-peer discussions, questions, and answers on Adobe products at [forums.adobe.com](https://forums.adobe.com). The Adobe Animate CC forum is accessible by choosing Help > Adobe Online Forums.

**Adobe Create:** The online magazine *Create* offers thoughtful articles on design and design issues, a gallery showcasing the work of top-notch designers, tutorials, and more. Check it out at [create.adobe.com](https://create.adobe.com).

**Resources for educators:** [www.adobe.com/education](https://www.adobe.com/education) and [edex.adobe.com](https://edex.adobe.com) offer a treasure trove of information for instructors who teach classes on Adobe software. Find solutions for education at all levels, including free curricula that use an integrated approach to teaching Adobe software and can be used to prepare for the Adobe Certified Associate exams.

Also check out these useful sites:

**Adobe Add-ons:** [creative.adobe.com/addons](https://creative.adobe.com/addons) is a central resource for finding tools, services, extensions, code samples, and more to supplement and extend your Adobe products.

**Adobe Animate CC product home page:** [www.adobe.com/products/animate.html](https://www.adobe.com/products/animate.html)

## Adobe Authorized Training Centers

Adobe Authorized Training Centers offer instructor-led courses and training on Adobe products. A directory of AATCs is available at [training.adobe.com/trainingpartners](https://training.adobe.com/trainingpartners).

## Contributor

Russell Chun is an assistant professor at the L. Herbert School of Communication at Hofstra University, where he teaches multimedia storytelling, data journalism, and information design. He has been writing about Animate and its precursor, Flash, since 2000. His writings have appeared in *SBS Design*, *MacWorld*, and other instructional publications.

# 1

## GETTING ACQUAINTED

### Lesson overview

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

- Create a new file in Adobe Animate CC.
- Understand the different Adobe Animate document types.
- Adjust Stage settings and document properties.
- Add layers using the Timeline panel.
- Understand and manage keyframes in the timeline.
- Work with imported images in the Library panel.
- Move and reposition objects on the Stage.
- Add filters and color effects to keyframes.
- Open and work with panels.
- Select and use tools in the Tools panel.
- Preview your animation.
- Save your file.



This lesson will take less than 1 hour to complete. Please log in to your account on [peachpit.com](http://peachpit.com) to download the files for this lesson, or go to the Getting Started section at the beginning of this book and follow the instructions under “Accessing the Lesson Files and Web Edition.” Store the files on your computer in a convenient location.

Your Account page is also where you'll find any updates to the lesson files. Look on the Lesson & Update Files tab to access the most current content.



In Animate, the Stage is where you lay out all your visual elements, the Timeline panel is where you organize frames and layers, and other panels let you edit and control your creation.

# Starting Adobe Animate CC and opening a file

● **Note:** If you have not already downloaded the project files for this lesson to your computer from your Account page on peachpit.com, make sure to do so now. See “Getting Started” at the beginning of the book.

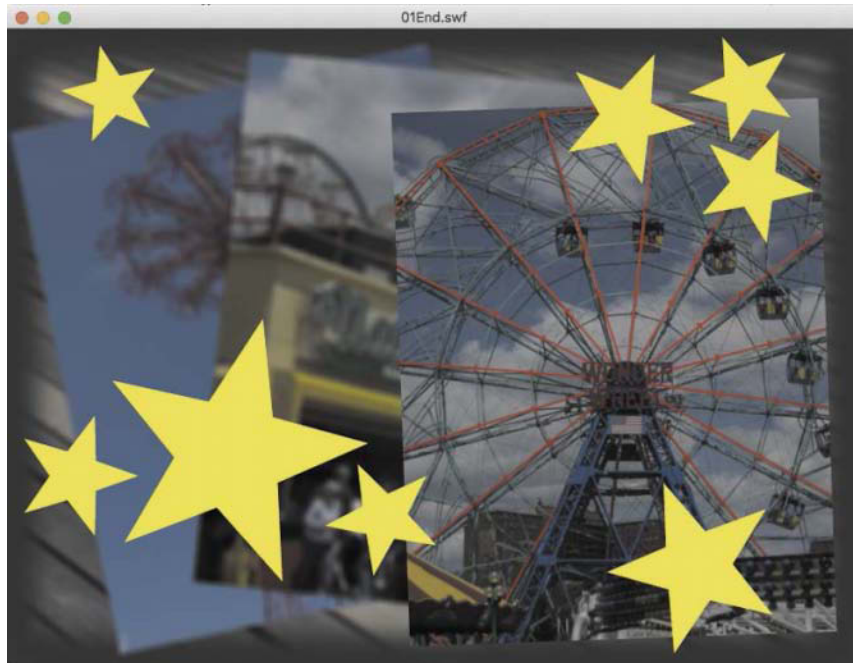
► **Tip:** You can also start Animate by double-clicking an Animate file (\*.fla or \*.xfl), such as the 01End.fla file that is provided to show you the completed project.

● **Note:** The Output panel will display a warning saying that the bitmaps were packed into a sprite sheet and that EaselJS is starting frame numbers at 0 instead of 1. You can ignore both warnings. The first is just a notification, and the second is irrelevant because you are playing the timeline straight from beginning to end.

The first time you start Adobe Animate CC you’ll see the Start workspace, which also serves as the New Document dialog box. It displays the categories of project you can build along with options for different types and sizes of documents. In this lesson, you’ll create a simple slideshow-type animation to showcase a few vacation snapshots. You’ll add a background, photos, and some decorative elements, and in the process you’ll learn about positioning elements on the Stage and placing them along the timeline of the animation so that they appear one at a time, in sequence. You’ll begin learning how to use the Stage to organize your visual elements spatially, and how to use the Timeline panel to organize your elements temporally.

- 1 Start Animate. In Windows, choose Start > Programs > Adobe Animate CC. On a Mac, double-click Adobe Animate CC 2019 in the Adobe Animate CC 2019 folder in the Applications folder.
- 2 Choose File > Open. In the Open dialog box, select the 01End.fla file in the Lesson01/01End folder and click Open to see the final project.
- 3 Choose Control > Test.

Animate exports the project and opens it in a new window.



An animation plays. During the animation, several overlapping photos appear one by one, with stars appearing at the end. As the new photos appear, the previous photos become blurry, receding into the background.

- 4 Close the preview window and the FLA file.

## Understanding document types and creating a new document

Animate is an animation and multimedia authoring tool that creates media for multiple platforms and playback technologies. Knowing where your final animation will play determines what type of document you'll choose when you create a new file.

### Playback environment

The playback, or runtime, environment is the technology that your final, published files use to play. Your animation could play in a browser with the Flash Player, or they could play in a browser with HTML5 and JavaScript. Perhaps your animation will be exported as a video to be uploaded to YouTube. Or your project could play as an app on a mobile device or even as a virtual reality immersive experience. You should make that decision first so you can choose the appropriate document type.

### Document types

Regardless of the playback environment and document type, all documents are saved as FLA or XFL (Animate) files. The difference is that each document type is configured to export different, final published files.

- Choose HTML5 Canvas to create animated assets that play back in a modern browser using HTML5 and JavaScript. You can add interactivity by inserting JavaScript within Animate or adding it to the final published files.
- Choose WebGL-glTF-Extended or Standard for interactive animated assets to take advantage of hardware-accelerated support of graphics, or for supported 3D graphics.
- Choose ActionScript 3.0 to create animation and interactivity that plays in the Flash Player in a desktop browser or for creating animation to be exported for HD video. ActionScript 3.0 is the latest version of the native scripting language in Animate, which is similar to JavaScript. Choosing an ActionScript 3.0 document doesn't mean you have to include ActionScript code.

**Note:** Not all features are supported across all document types. For example, HTML5 Canvas documents don't support the 3D Rotation or Translation tool. Tools that are not supported by the current document type are dimmed in the Animate interface.

**Note:** Animate supports only ActionScript 3.0. If you need ActionScript 1.0 or 2.0, you must work with Flash Professional CS6 or earlier.

**Note:** The ActionScript 3.0 document also supports publishing content as a projector for either Windows or macOS. A projector plays as a stand-alone application on the desktop, without needing a browser.

► **Tip:** You can easily switch from one document type to another. For example, you can convert an ActionScript 3.0 document into an HTML5 Canvas document if you have an old Flash banner ad animation that you want to update. Choose **File > Convert To > [new document type]**. Some functionality and features may be lost in the conversion, however. For example, conversion to an HTML5 Canvas document will comment out ActionScript code.

● **Note:** The Start screen adds an extra column to the left side of the same content displayed in the New Document dialog box. At the top of the column are buttons that you click to toggle between displaying Home content (the default view) and Learn content (video tutorials to help you start using Animate quickly). Below those buttons are the Open button (to find and open existing files) and a list of recently opened files (click a filename to open it).

Be aware that Adobe will no longer support the Flash Player in browsers beyond 2020. Despite this impending end-of-life date for the Flash Player, it's best to think of an ActionScript 3.0 document as one that supports the widest range of drawing and animation features in Animate from which you can ultimately export animation assets, such as sprite sheets or PNG sequences, or finished high-definition video.

- Choose AIR for Desktop to create animation and interactivity that plays as an application on Windows or macOS desktops, without needing a browser. You can add interactivity in an AIR document using ActionScript 3.0.
- Choose AIR for Android or AIR for iOS to publish an app for an Android or an Apple mobile device. You can add interactivity for your mobile app using ActionScript 3.0.
- Choose VR Panorama or VR 360 to publish a virtual reality project for the web browser that lets your audience look in all directions. You can add animation or interactivity to your immersive environments.

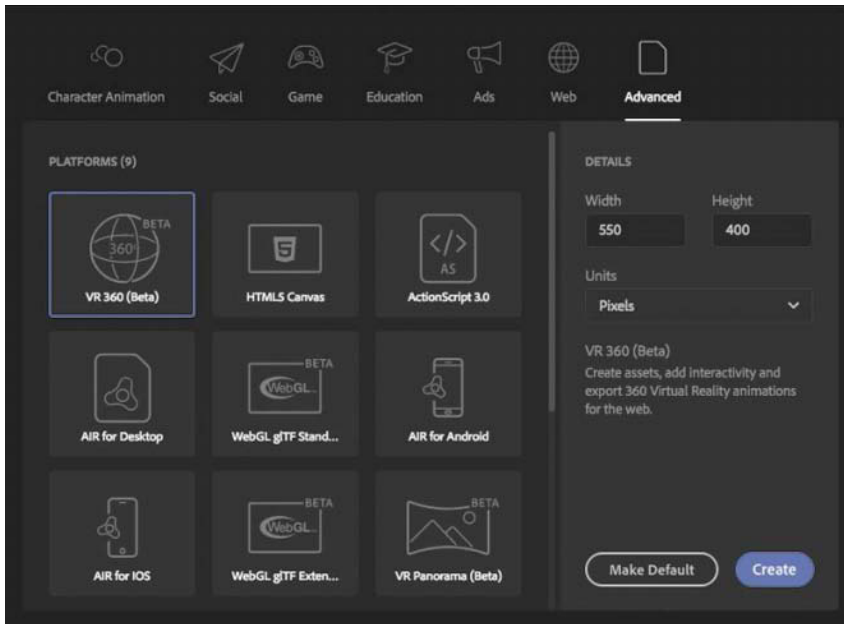
## Creating a new document

You'll create the simple animation that you previewed earlier by starting a new document. Animate offers two interfaces for creating new documents: the standard New Document dialog box and the slightly more elaborate Start screen (which is always displayed if no document is open). Both interfaces contain the same controls for defining the parameters of new documents, whether by selecting a preset for the most common types of intended projects or by choosing your own document type with specific values for its width and height.

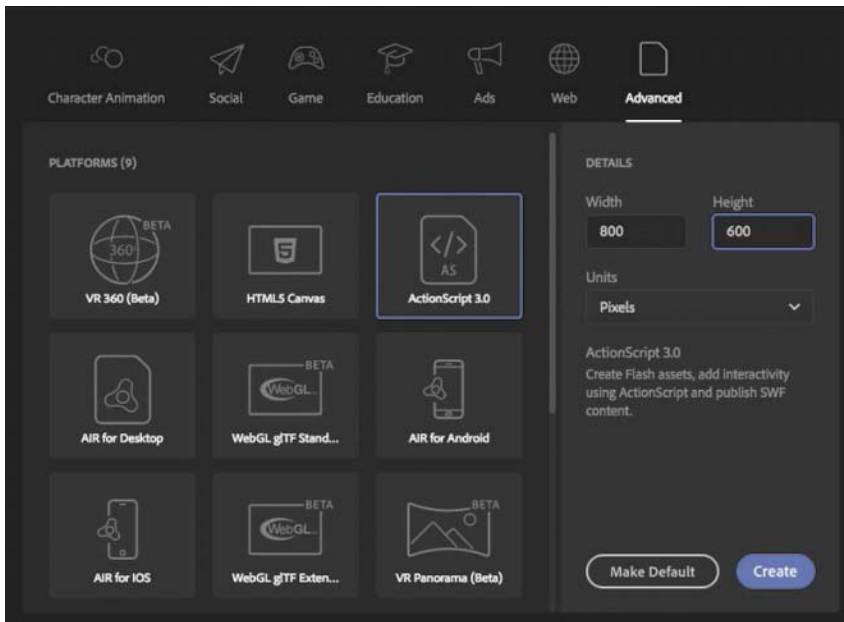
The presets are grouped in six categories of intended uses (listed across the top of the dialog box); click a category to display the presets it contains in the center of the dialog box. You can either use the presets as given or fine-tune their settings using the Details section on the right side of the dialog box. Type the document's dimensions (in pixels) into the Width and Height boxes and choose a document type from the Platform Type menu, which lists the platforms on which Animate can play back content.

If you would prefer to customize the document settings from scratch, then select the Advanced category at the far right. The center of the dialog box will now display all the available platforms. You can select a document type, and type your document's dimensions into the Width and Height boxes.

- 1 From the Home screen in Animate, select the Advanced category.



- 2 In the Platforms area in the center of the dialog box, select ActionScript 3.0. In the Details area on the right side of the dialog box, choose the dimensions of the Stage by entering new pixel values for the Width and Height. Enter **800** for Width and **600** for Height.





● **Note:** If you save your Animate document as an Animate Uncompressed Document (.xfl), your document is saved as a collection of files in folders and not as a single document. This exposes the contents of your document to you and to other developers to swap assets easily. The XFL format is a more advanced saved document that you won't be using in this book.

### 3 Click Create.

Animate creates a new ActionScript 3.0 document with the specified Stage dimensions.

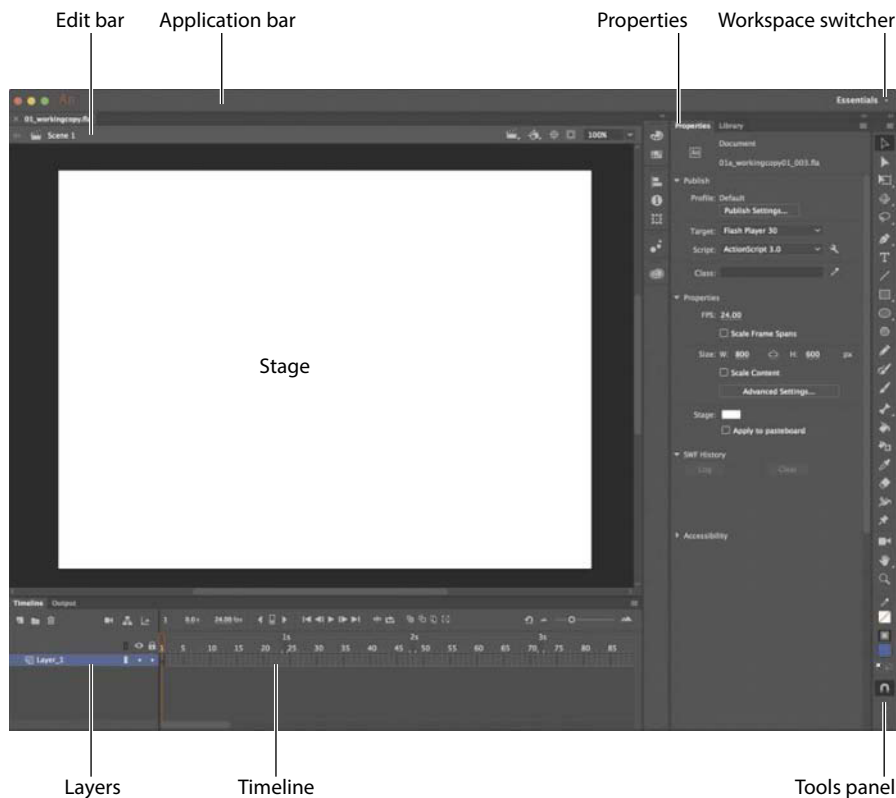
### 4 Choose File > Save. Name the file **01\_workingcopy.fla**, and from the File Format/Save As Type menu, choose Animate Document (\*.fla). Although the software application is called Animate, be aware that the file extension is .fla or .xfl, which both preserve echoes of the name of the ancestor of Animate: “Flash.” Navigate to the 01Start folder and click Save.

Saving your file right away is a good working habit that ensures your work won't be lost if the application or your computer crashes. You should always save your Animate file with the extension .fla (or .xfl if you save it as an Animate Uncompressed Document) to identify it as the Animate source file.

## Getting to know the workspace

The Animate work area includes the command menus at the top of the screen and a variety of tools and panels for editing and adding elements to your movie. You can create all the objects for your animation in Animate, or you can import elements you've created in Adobe Illustrator CC, Adobe Photoshop CC, Adobe After Effects CC, or other compatible applications.

By default, Animate displays the menu bar, Timeline panel, Stage, Tools panel, Properties panel, Edit bar, and a few other panels. As you work in Animate, you can open, close, group, ungroup, dock, undock, and move panels around the screen to fit your work style or your screen resolution.



## Choosing a new workspace

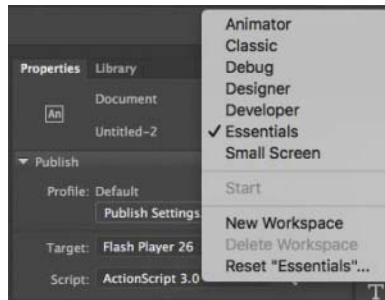
Animate also provides a few preset panel arrangements (“workspaces”) that may better suit the needs of particular users. Use the Window > Workspaces submenu to choose a different workspace or to save a new one. The same functionality is provided by the workspace switcher at the right end of the Application bar.

- 1 Click the workspace switcher and choose a new workspace.

The various panels are rearranged and resized according to their importance in the chosen workspace. For example, the Animator and Designer workspaces put the Timeline panel at the top of the work area for easy and frequent access.

- 2 If you have moved some of the panels around and want to return to one of the prearranged workspaces, choose Window > Workspaces > Reset [preset name] and click OK in the confirmation dialog box.

- 3 To return to the default workspace, choose Window > Workspaces > Essentials. In this Classroom in a Book, we'll be using the Essentials workspace.



## Saving your workspace

If you find an arrangement of panels that suits your style of work, you can save it as a custom workspace and return to it at a later date.

- 1 Open the workspace switcher and choose New Workspace.

The New Workspace dialog box appears.

- 2 Enter a name for your new workspace. Click OK.



► **Tip:** By default, the Animate interface is rather dark. However, you can change the interface to a lighter gray if you prefer. Choose Animate CC > Preferences (macOS) or Edit > Preferences (Windows), and in the General preferences category, choose Light from the User Interface menu. On the other hand, if you don't find it dark enough, you can choose Darkest from the menu to make the interface almost black.

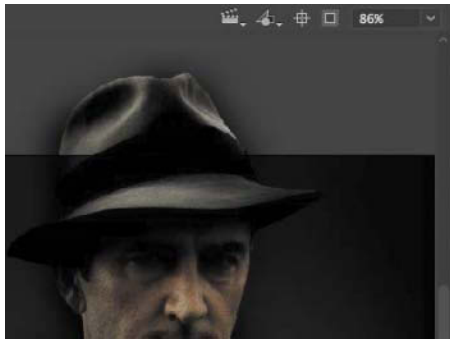
Animate saves the current arrangement of panels and adds it to the options in the Workspace menu, which you can access at any time.

## About the Stage

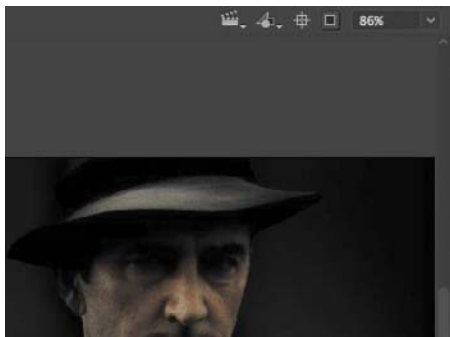
The big white rectangle in the middle of your screen is called the Stage. As with a theater stage, the Stage in Animate is the area that viewers see when a movie is playing. It contains the text, images, and video that appear on the screen. Move elements on and off the Stage to place them in and out of view. You can use the rulers (View > Rulers) or grids (View > Grid > Show Grid) to help you position items on the Stage. Other positioning aids include guides (pulled from the top or side rulers; View > Guides) or the Align panel and other tools you'll learn about in later lessons in this book.

By default, you'll see the gray area off the Stage where you can place elements that won't be visible to your audience. The gray area is called the *pasteboard*. To see only the Stage, choose View > Magnification > Clip To Stage to select the option. For now, leave Clip To Stage deselected, allowing the pasteboard to remain in view.

You can also click the Clip Content Outside The Stage button to crop the graphic elements that fall beyond the Stage area to see how your audience will view your final project.

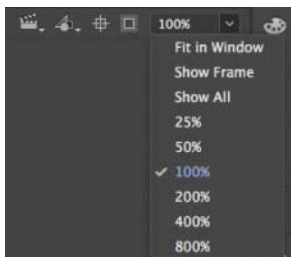


Default Stage



Stage with Clip Content Outside The Stage selected

To scale the Stage so that it fits completely in the application window, choose View > Magnification > Fit In Window. You can also choose different magnification view options from the menu just above the Stage.

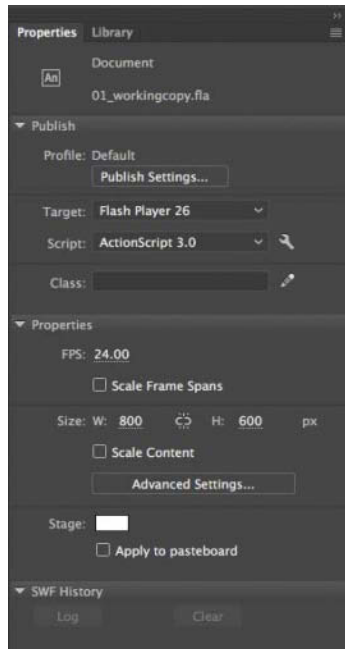


► **Tip:** You can view the Stage in full-screen mode without the distraction of the various panels by choosing View > Screen Mode > Full Screen Mode. Press F4 to toggle the panels, and press the Esc key to return to Standard Screen Mode.

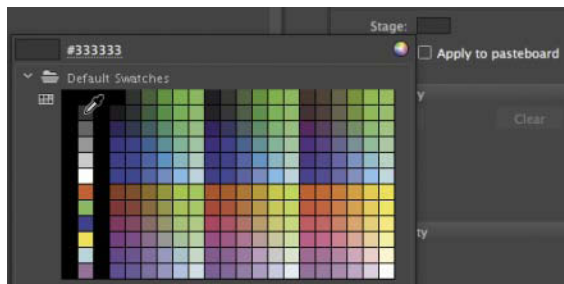
## Changing the Stage properties

Now you'll change the color of the Stage. The Stage color, along with document properties such as the Stage dimensions and frame rate, is available in the Properties panel, which is the vertical panel just to the right of the Stage.

- 1 In the Properties pane of the Properties panel, note that the dimensions of the current Stage (the Size parameters) are set at 800x600 pixels, which you chose when you created the new document.



- 2 Also in the Properties pane, click the Background Color box next to Stage: and choose a new color from the color palette. Choose dark gray (#333333).



Your Stage is now a different color. You can change the Stage properties at any time.

# Working with the Library panel

The Library panel is accessible from a tab just to the right of the Properties panel. The Library panel displays the contents of your document's library, which is where you store and organize symbols created in Animate, as well as imported files, including bitmaps, graphics, sound files, and certain video clips. Symbols are graphics used frequently for animation and for interactivity.

**Note:** You'll learn much more about symbols in Lesson 2.

## About the Library panel

The Library panel lets you organize library items in folders, see how often an item is used in a document, and sort items by type. You can also create folders in your Library panel to help group items. When you import items into Animate, you can import them directly onto the Stage or into the library. However, any item you import onto the Stage is also added to the library, as are any symbols you create. You can then easily access the items to add them to the Stage again, edit them, or see their properties.

To display the Library panel, choose Window > Library, or press Command+L (macOS)/Ctrl+L (Windows).

**Tip:** You can also access the assets that you've stored in your Creative Cloud account by clicking the CC Libraries icon (Window > CC Libraries).

## Importing an item to the Library panel

Often, you'll create graphics directly with the drawing tools in Animate and save them as symbols, which are stored in the library. Other times you'll import media such as JPEG images or MP3 sound files, which are also stored in the library. In this lesson, you'll import several images into the library to be used in the animation.

- 1 Choose File > Import > Import To Library. In the Import To Library dialog box, select the background.png file in the Lesson01/01Start folder and click Open. Choose All Files (\*.\*) from the Enable menu if the image files are dimmed.

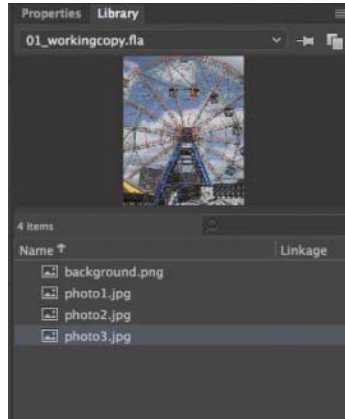
Animate imports the selected PNG image and places it in the Library panel.

- 2 Continue importing photo1.jpg, photo2.jpg, and photo3.jpg from the 01Start folder.

You can also hold down the Shift key to select multiple files and import all of the images at once.

The Library panel lists the filenames of all the imported images and provides a thumbnail preview of any selected file. These images are now available to be used in your Animate document.

**Tip:** If the Enable menu isn't visible, click the Options button to activate it.

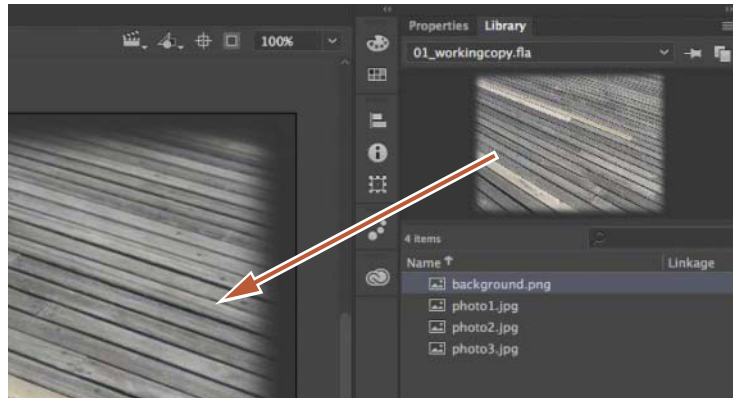


## Adding an item from the Library panel to the Stage

To use an imported image, simply drag it from the Library panel onto the Stage.

- 1 Choose Window > Library to open the Library panel if it isn't already open.
- 2 Drag the background.png item onto the Stage and place it approximately in the center of the Stage.

► **Tip:** You can also choose File > Import > Import To Stage, or press Command+R (macOS) or Ctrl+R (Windows), to import an image file to the library and put it on the Stage all in one step.

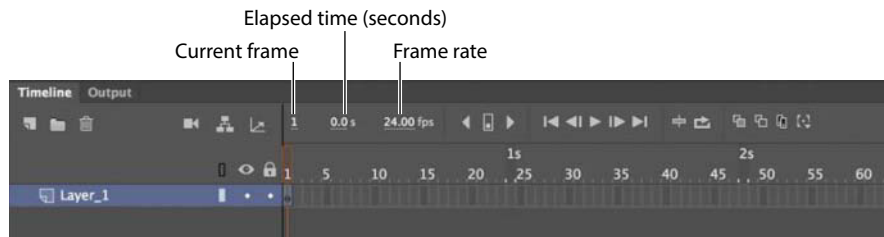


## Understanding the Timeline panel

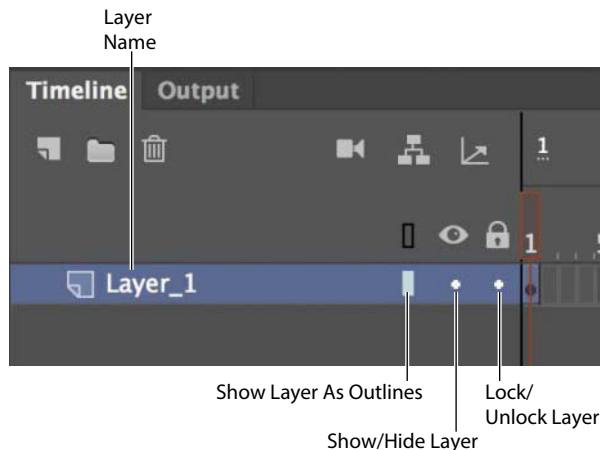
In the default Essentials workspace, the Timeline panel is located below the Stage. The Timeline panel contains playback controls for your animation as well as the timeline itself, which displays the sequence of events in the animation in linear form through time. An Animate movie measures time in frames, just as in a filmstrip. As

the movie plays, the playhead, shown as a red vertical line, advances through the frames shown in the timeline. You can change the content on the Stage for different frames. To display a frame's content on the Stage for any particular time, move the playhead to that frame in the timeline.

At the top of the Timeline panel, Animate indicates the selected frame number, the current frame rate (how many frames play per second), and the time that has elapsed so far in the movie.



The timeline portion of the Timeline panel also displays layers, which help you organize the artwork in your document. At the moment, your project has only one layer, which is called Layer\_1. Think of layers as multiple filmstrips stacked on top of one another. Each layer can contain a different image that appears on the Stage, and you can draw and edit objects on one layer without affecting objects on another layer. The layers are stacked in the order in which they overlap each other so that objects on the bottom layer in the timeline are on the bottom of the stack on the Stage. You can hide, lock, or show the contents of layers as outlines by clicking the dots or square in the layer under the layer option icons.

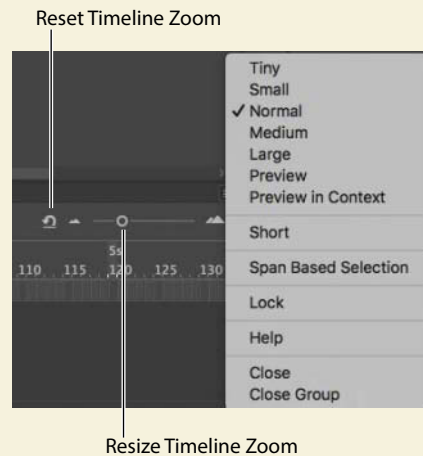




## Changing the appearance of the timeline

You can adjust the timeline's appearance to accommodate your workflow. When you want to see more layers, choose **Short** from the **Frame View** menu in the upper-right corner of the Timeline panel. The **Short** option decreases the height of frame cell rows. The **Preview** and **Preview In Context** options display thumbnail versions of the contents of your keyframes in the timeline.

You can also change the width of the frame cells by choosing **Tiny**, **Small**, **Normal**, **Medium**, or **Large**. In this book, we show the timeline frames in their default size of **Normal**.



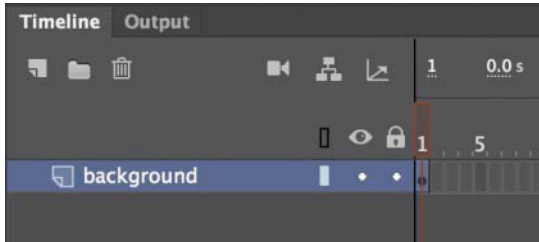
For finer control over the timeline frame sizes, drag the **Resize Timeline View** slider. The slider adjusts the size of the frames so you can see more or less of the timeline. Click the **Reset Timeline Zoom To The Default Level** button to revert the Timeline view to its **Normal** size.

## Renaming a layer

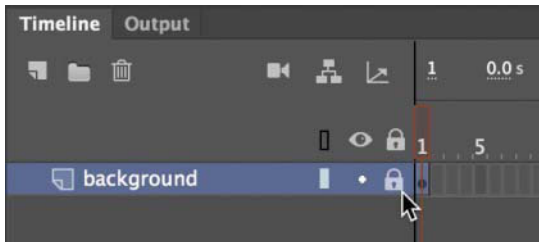
It's a good idea to separate your content on different layers and name each layer to indicate its contents so that you can easily find the layer you need later.

- 1 Double-click the name of the existing layer, **Layer\_1**, to rename it, and type **background**.

- 2 Click outside the name box to apply the new name.




- 3 Click the dot below the lock icon to lock the layer. Locking a layer prevents you from accidentally moving or making changes to whatever is inside that layer.

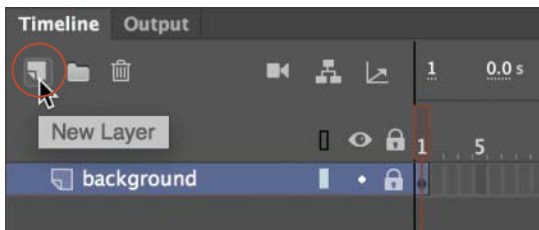


A lock icon appears in the layer. The lock icon indicates that you can't make edits to the layer because it is locked.

## Adding a layer

A new Animate document contains only one layer, but you can add as many layers as you need. Objects in the top layers will overlap objects in the bottom layers.

- 1 Select the background layer in the timeline.
- 2 Choose Insert > Timeline > Layer. You can also click the New Layer button  above the timeline. A new layer appears above the background layer.



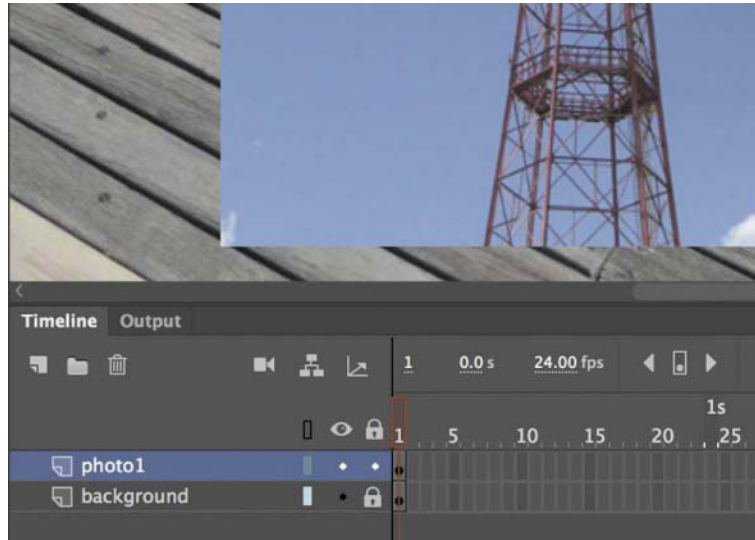
- 3 Double-click the new layer to rename it, and type **photo1**. Click outside the name box to apply the new name.

Your timeline now has two layers. The background layer contains the background photo, and the newly created photo1 layer above it is empty.

- 4 Select the top layer, called photo1.
- 5 Choose Window > Library to open the Library panel if it isn't already open.
- 6 Drag the library item called photo1.jpg from the library onto the Stage.

The photo1 JPEG appears on the Stage and overlaps the background image.

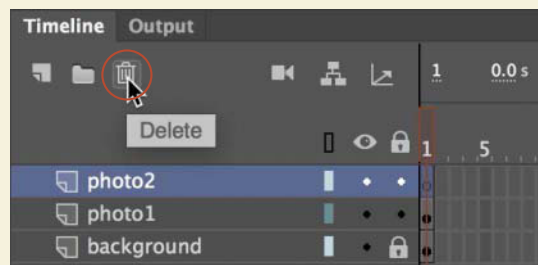
**Note:** As you add more layers and your overlapping graphics become more complicated, click the dot below the eye icon in any layer to hide its contents. Alternatively, hold Shift and click the dot below the eye icon to make the layer partially transparent so that you can see what's below it. Hiding or making a layer transparent affects only how you see your project in Animate—it doesn't affect your final exported project. Double-click the Layer icon to modify the level of transparency in the Layer Properties dialog box.



- 7 Choose Insert > Timeline > Layer, or click the New Layer button above the timeline, to add a third layer.
- 8 Rename the third layer **photo2**.

## Working with layers

If you don't want a layer, you can easily delete it by selecting it and then clicking the Delete button above the timeline.

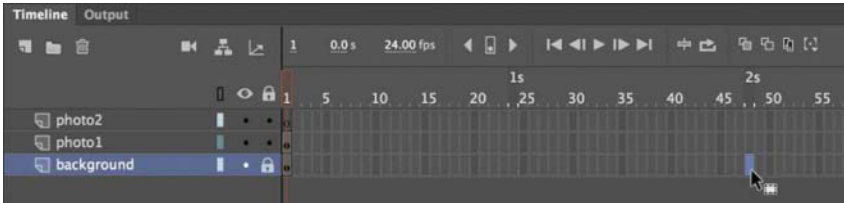


If you want to rearrange your layers and change how your graphics overlap each other, simply drag any layer up or down to move it to a new position in the layer stack.

## Inserting frames

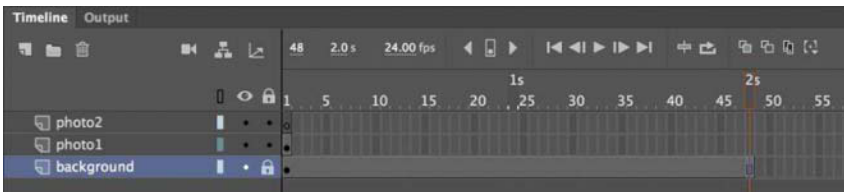
So far, you have a background photo and another overlapping photo on the Stage, but your entire animation exists for only a single frame, which is only a fraction of a second. To create more time on the timeline and make this animation run for a longer duration, you must add additional frames.

- 1 Select frame 48 in the background layer. Use the Resize Timeline View slider at the upper-right corner of the Timeline panel to expand the timeline frames to make it easier to identify frame 48.



- 2 Choose Insert > Timeline > Frame (F5). You can also right-click and choose Insert Frame from the context menu that appears.

Animate adds frames in the background layer up to the selected frame, frame 48.



- 3 Select frame 48 in the photo1 layer.
- 4 Choose Insert > Timeline > Frame (F5) or right-click and choose Insert Frame to add frames in the photo1 layer up to frame 48.
- 5 Select frame 48 in the photo2 layer and insert frames on this layer.

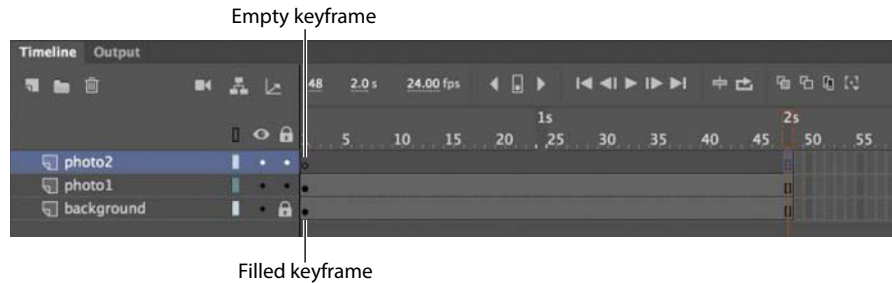
You now have three layers, all with 48 frames on the timeline. Since the frame rate of your Animate document is 24 frames per second, your current animation lasts 2 seconds.

## Selecting multiple frames

Just as you can hold down the Shift key to select multiple files on your desktop, you can hold down Shift to select multiple frames on the Animate timeline. If you have several layers and want to insert frames into all of them, hold down Shift and drag where you want to add frames. Then choose Insert > Timeline > Frame.

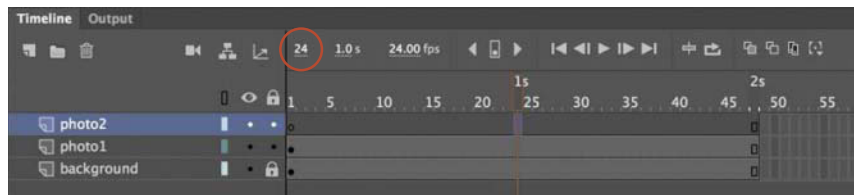
## Creating a keyframe

A keyframe indicates a change in content on the Stage. Keyframes are indicated on the timeline as a circle. An empty circle means there is nothing in that particular layer at that particular time. A filled-in black circle means there is something in that layer at that time. The background layer, for example, contains a filled keyframe (black circle) in the first frame. The photo1 layer also contains a filled keyframe in its first frame. Both layers contain photos. The photo2 layer, however, contains an empty keyframe in the first frame, indicating that it is currently empty.



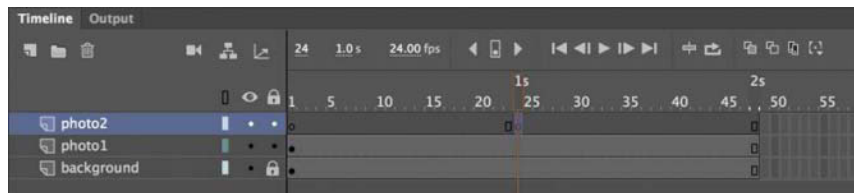
You'll insert a keyframe in the photo2 layer at the point in time when you want the next photo to appear.

- 1 Select frame 24 on the photo2 layer. The frame number of a selected frame is displayed above the left end of the timeline.



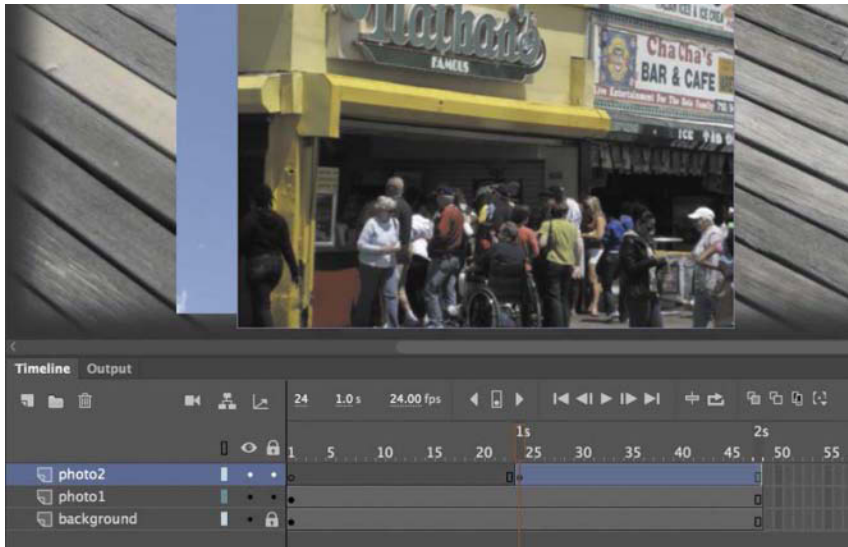
- 2 Choose Insert > Timeline > Keyframe (F6).

A new keyframe, indicated by an empty circle, appears in the photo2 layer in frame 24.

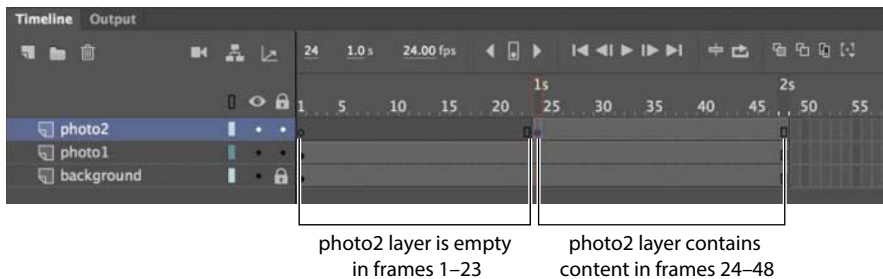


- 3 Select the new keyframe at frame 24 in the photo2 layer.
- 4 Drag photo2.jpg from your library onto the Stage.

The empty circle at frame 24 becomes filled, indicating that there is now content in the photo2 layer. When your animation plays, your photo appears on the Stage at frame 24. You can drag the red playhead along the top of the timeline to “scrub,” or show what’s happening on the Stage, at any point along the timeline. You’ll see that the background photo and photo1 remain on the Stage throughout the timeline but that photo2 appears only at frame 24.



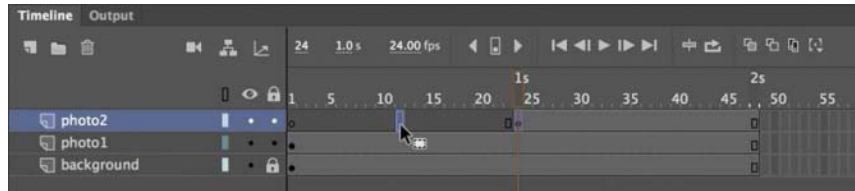
Understanding frames and keyframes is essential for mastering Animate. Be sure you understand how the photo2 layer contains 48 frames with two keyframes—an empty keyframe at frame 1 and a filled keyframe at frame 24.



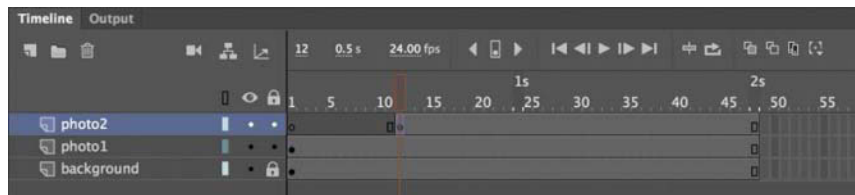
## Moving a keyframe

If you want photo2.jpg to appear later or earlier in time, you need to move the keyframe in which it appears closer to or farther from the right on the timeline. You can easily move any keyframe by simply dragging it to a new position.

- 1 Select the keyframe in frame 24 on the photo2 layer.
- 2 Move your mouse cursor slightly, and you'll see a box icon appear near your cursor indicating that you can reposition the keyframe.
- 3 Drag the keyframe to frame 12 in the photo2 layer.



The photo2.jpg file now appears on the Stage much earlier in the animation.



## Removing keyframes

If you want to remove a keyframe, do not press the Delete/Backspace key! Doing so will delete the contents of that keyframe on the Stage, leaving you with an empty keyframe. Instead, select the keyframe and choose **Modify > Timeline > Clear Keyframe** (Shift+F6). Your keyframe (and its contents) will be removed from the timeline.

## Organizing layers in a timeline

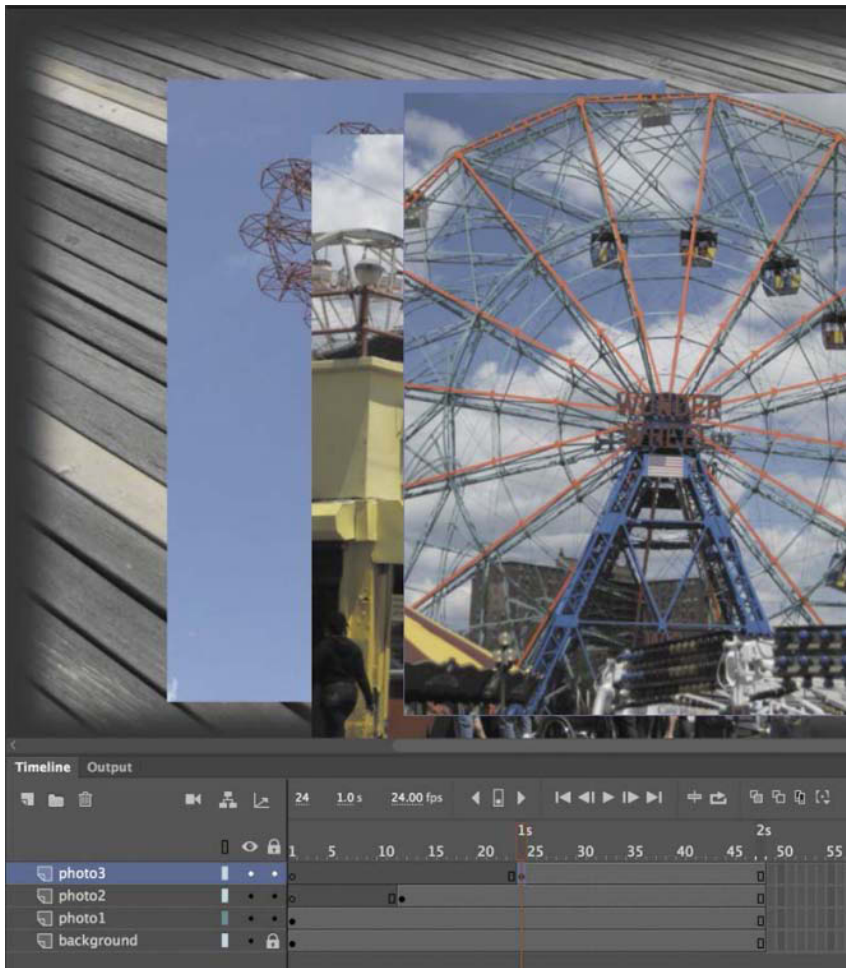
At this point, your working Animate file has only three layers: a background layer, a photo1 layer, and a photo2 layer. You'll be adding more layers for this project, and as in most other projects, you'll end up having to manage multiple layers. Layer folders help you group related layers to keep your timeline organized and manageable, just as you make folders for related documents on your desktop. Although it may take some time to create the folders, you'll save time later because you'll know exactly where to look for a specific layer.

## Creating layer folders


For this project, you'll continue to add layers for additional photos, and you'll place those layers in a layer folder.

- 1 Select the photo2 layer and click the New Layer button above the timeline.
- 2 Name the layer **photo3**.
- 3 Insert a keyframe at frame 24.
- 4 Drag photo3.jpg from the library onto the Stage.

You now have four layers. The top three contain photos of scenes from Coney Island that appear at different keyframes.

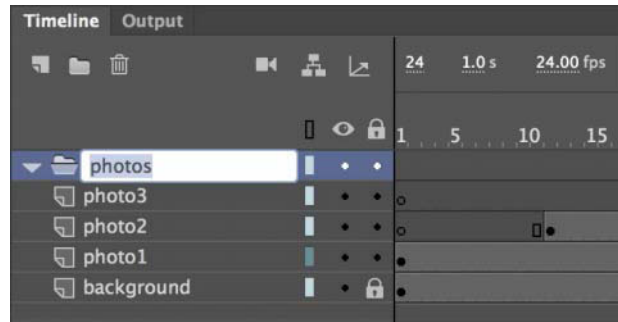




- 5 Select the photo3 layer and click the New Folder icon  at the top of the Timeline panel.

A new layer folder appears above the photo3 layer.

- 6 Name the folder **photos**.

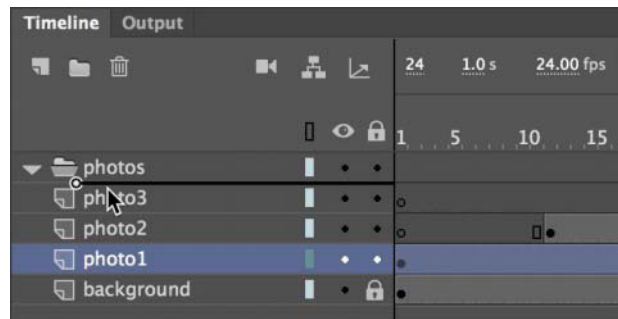


## Adding layers to layer folders

Now you'll add the photo layers to the photos folder. As you arrange layers, remember that Animate displays the content in the layers in the order in which they appear in the timeline, with the top layer's content at the front and the bottom layer's content at the back.

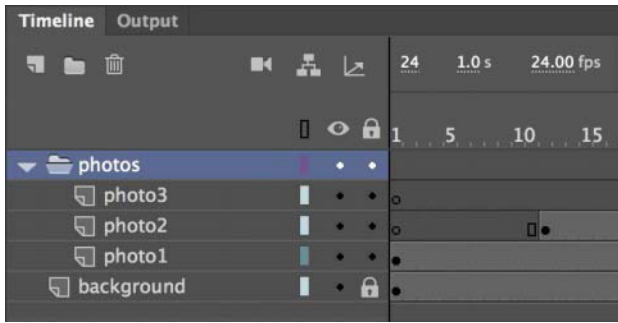
- 1 Drag the photo1 layer into the photos folder.

Notice how the bold line indicates the destination of your layer. When you place a layer inside a folder, Animate indents the layer name.



- 2 Drag the layers photo2 and photo3 into the photos folder.

All three photo layers should be in the photos folder, in the same stacking order as they were in outside the folder.

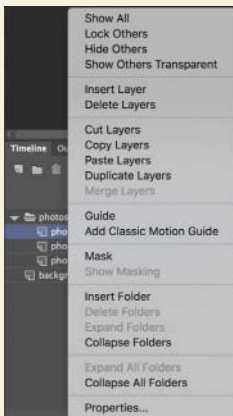


You can collapse the folder by clicking the arrow just to the left of the folder name. Expand the folder by clicking the arrow again. Be aware that if you delete a layer folder, you delete all the layers inside that folder as well.

## Cut, copy, paste, and duplicate layers

When managing multiple layers and layer folders, you can rely on cut, copy, paste, and duplicate layer commands to make your workflow easier and more efficient. All the properties of the selected layer are copied and pasted, including its frames, its keyframes, any animation, and even the layer name and type. You can also copy and paste layer folders and their contents.

To cut or copy any layer or layer folder, simply select the layer, right-click the layer name, and choose Cut Layers or Copy Layers.



Right-click the timeline again and choose Paste Layers. The layer or layers that you cut or copied are pasted into the timeline. Use Duplicate Layers to copy and paste in one operation.

You can also cut, copy, paste, or duplicate layers from the application menu bar. Choose Edit > Timeline, and then choose Cut Layers, Copy Layers, Paste Layers, or Duplicate Layers.

# Using the Properties panel

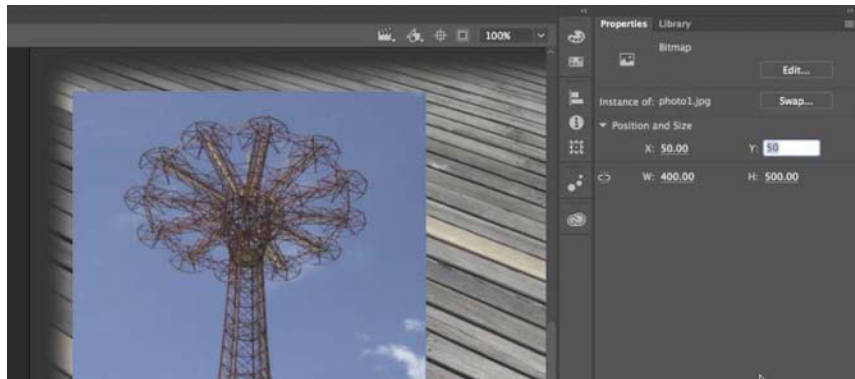
The Properties panel gives you quick access to the attributes you're most likely to need. What appears in the Properties panel depends on what you've selected. For example, if nothing is selected, the Properties panel includes options for the general Animate document, including changing the Stage color or dimensions. If you've selected an object on the Stage, the Properties panel shows its *x* and *y* coordinates and its width and height, among other information. You'll use the Properties panel to move your photos on the Stage.

## Positioning an object on the Stage

You'll begin by using the Properties panel to move the photos. You'll also use the Transform panel to rotate the photos.

► **Tip:** If the Properties panel is not open, choose Window > Properties, or press Command+F3 (macOS) or Ctrl+F3 (Windows).

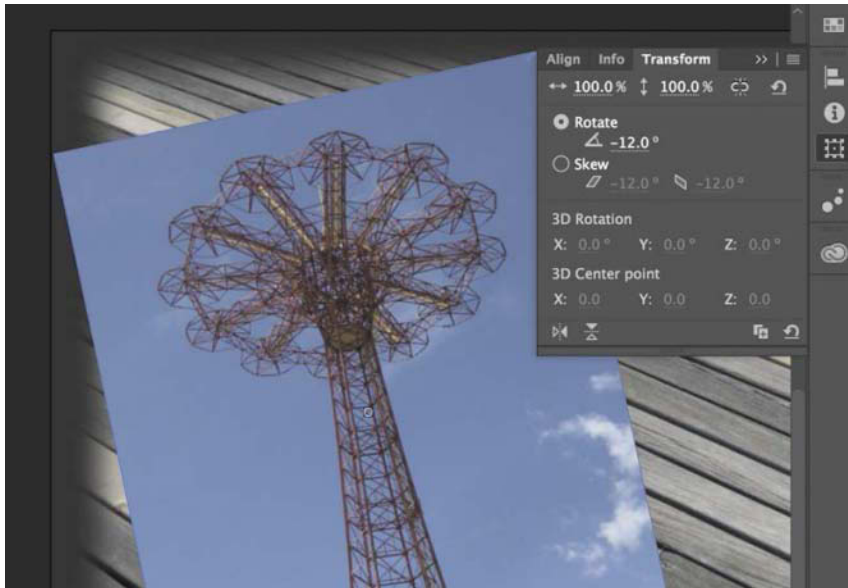
- 1 Move the playhead to frame 1 of the timeline, select the photo1.jpg image that you dragged onto the Stage in the photo1 layer. A very narrow blue outline indicates that the object is selected.
- 2 In the Properties panel, type **50** for the X value and **50** for the Y value. Press Return (macOS)/ Enter (Windows) to apply the values. You can also drag over the X and Y values to change their values. The photo moves to the left side of the Stage.



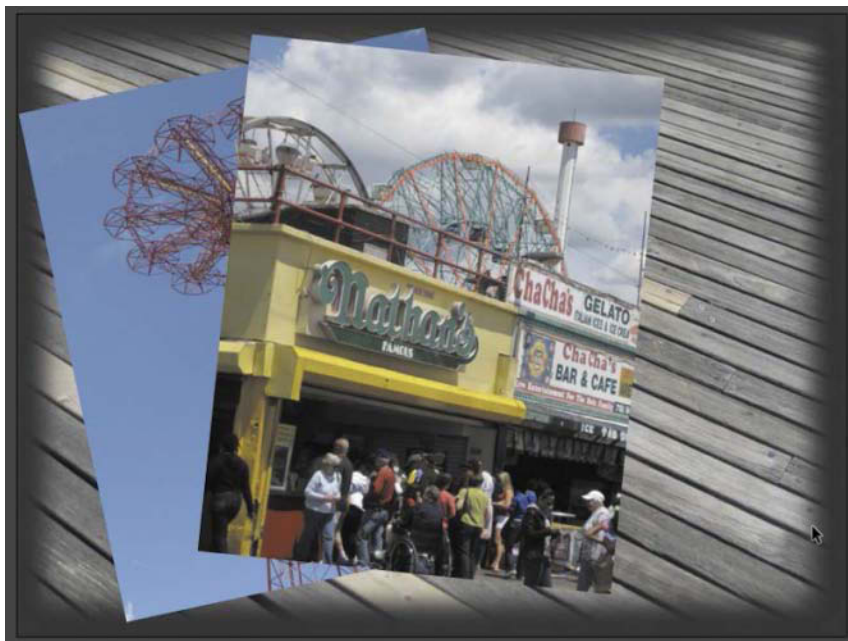
The X and Y values are measured on the Stage from the upper-left corner. X begins at 0 and increases to the right, and Y begins at 0 and increases downward. The registration point (the point from which Animate makes measurements) for imported photos is at the upper-left corner.

- 3 Choose Window > Transform to open the Transform panel.
- 4 In the Transform panel, select Rotate and type **-12** in the Rotate box, or drag over the value to change the rotation. Press Return/Enter to apply the value.

The selected photo on the Stage rotates 12 degrees counterclockwise.



- 5 Select frame 12 of the photo2 layer. Now click photo2.jpg on the Stage to select it.
- 6 Use the Properties panel and Transform panel to position and rotate the second photo in an interesting way. Use X=200, Y=40, and a Rotate value of 6 to give it some contrast with the first photo.



- 7 Select frame 24 in the photo3 layer. Now click photo3.jpg on the Stage to select it.
- 8 Use the Properties panel and Transform panel to position and rotate the third photo in an interesting way. Use X=360, Y=65, and a Rotate of -2 so that all your photos have visual variety.

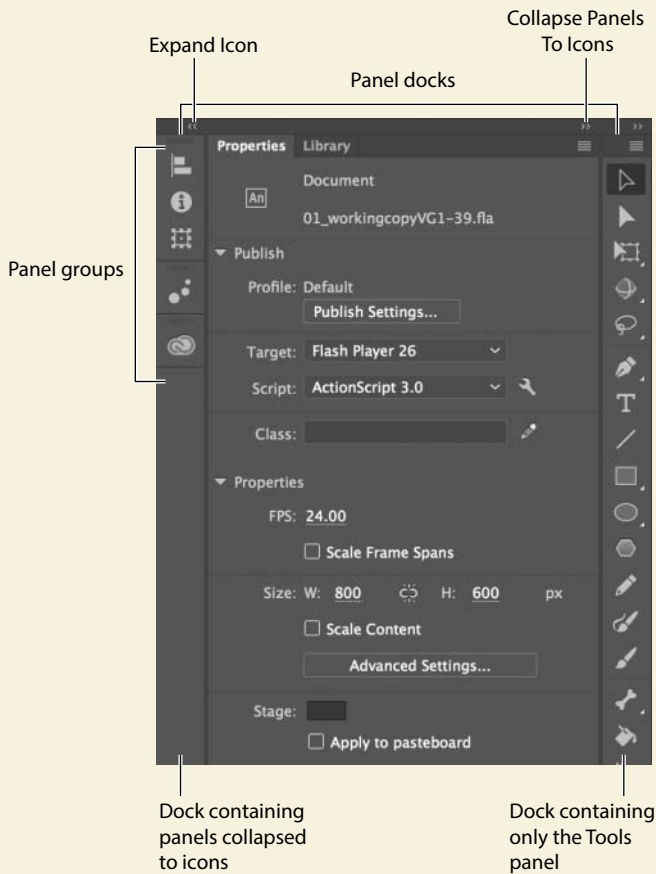


● **Note:** When images are scaled or rotated in Animate, they may appear jagged. You can use the Bitmap Properties dialog box to smooth each image. Double-click the bitmap icon or the image thumbnail in the Library panel to open the dialog box and select the Allow Smoothing option.

## Working with panels

Just about everything you do in Animate involves a panel. In this lesson, you use the Library panel, Tools panel, Properties panel, Transform panel, History panel, and Timeline panel. In later lessons, you'll learn to use other panels to control various aspects of your project. Because panels are such an integral part of the Animate workspace, it pays to know how to manage them.

To open any panel in Animate, choose its name from the Window menu.



Individual panels float freely, and they can be combined in docks, groups, or stacks.

- A dock is a collection of panels or panel groups in a vertical column. Docks stick to the left or right edges of the user interface.
- A group is a collection of panels that can be placed within a dock or that can float freely.
- A stack is similar to a dock but can be placed anywhere in the interface.

In the default Essentials workspace, most of the panels are organized in three docks on the right side of the screen. The Timeline and Output panels are grouped at the bottom, and the Stage is on the top. However, you can move a panel to any position that is convenient for you.

- To move a panel, drag it by its tab to a new location.
- To move a panel group or stack, drag it by the area next to the tabs.

As the panel, group, or stack passes over other panels, groups, docks, or stacks, a blue highlighted drop zone will appear. If you release the mouse button while a drop zone is visible, the panel will be added to the group, dock, or stack.

- To dock a panel, drag it by its tab into a new position at the left or right edge of the screen. If you drag it over the top or bottom of an existing dock, a horizontal drop zone will show you the panel's new location. If a vertical drop zone appears, dropping the panel will create a new dock.
- To group a panel, drag its tab onto the tab of another panel or the drop zone at the top of an existing group.
- To create a stack, drag a group out of a dock or an existing stack so it floats freely. Alternatively, drag one free-floating panel onto the tab of another floating panel.

You also have the option of displaying most of the panels as icons to save space but still maintain quick access. Click the double arrowheads in the upper-right corner of a dock or stack to collapse the panels to icons. Click the double arrowheads again to expand the icons into panels.

## Using the Tools panel

The Tools panel—the long, narrow panel on the far right side of the work area—contains selection tools, drawing and type tools, painting and editing tools, navigation tools, and tool options. You'll use the Tools panel frequently to switch to tools designed for the task at hand. Most often, you'll use the Selection tool, which is the black arrow tool at the top of the Tools panel, for selecting and clicking items on the Stage or the Timeline. When you select a tool, check the options area at the bottom of the panel for more options and other settings appropriate for your task.

### Selecting and using a tool

When you select a tool, the options available at the bottom of the Tools panel and the Properties panel change. For example, when you select the Rectangle tool, the Object Drawing Mode and Snap To Objects options appear. When you select the Zoom tool, the Enlarge and Reduce options appear.

The Tools panel contains too many tools to display all at once. Some tools are arranged in hidden groups in the Tools panel; only the tool you last selected from a group is displayed. A small triangle in the lower-right corner of the tool's button indicates that there are other tools in the group. Press and hold the icon for the visible tool to see the other tools available, and then select one from the menu.

