

Adobe After Effects

2024 Release



Classroom in a Book[®]

The official training workbook from Adobe

Brie Gyncild & Lisa Fridsma

FREE SAMPLE CHAPTER |



Adobe After Effects

2024 Release



Classroom in a Book[®]

The official training workbook from Adobe

Brie Gyncild & Lisa Fridsma

Adobe After Effects Classroom in a Book 2024 Release

© 2024 Adobe. All rights reserved.

Adobe Press is an imprint of Pearson Education, Inc. For the latest on Adobe Press books, go to peachpit.com/adobeypress. To report errors, please send a note to errata@peachpit.com. For information regarding permissions, request forms and the appropriate contacts within the Pearson Education Global Rights & Permissions department, please visit www.pearson.com/permissions.

If this guide is distributed with software that includes an end user license agreement, this guide, as well as the software described in it, is furnished under license and may be used or copied only in accordance with the terms of such license. Except as permitted by any such license, no part of this guide may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, recording, or otherwise, without the prior written permission of Adobe. Please note that the content in this guide is protected under copyright law even if it is not distributed with software that includes an end user license agreement.

The content of this guide is furnished for informational use only, is subject to change without notice, and should not be construed as a commitment by Adobe. Adobe assumes no responsibility or liability for any errors or inaccuracies that may appear in the informational content contained in this guide.

Please remember that existing artwork or images that you may want to include in your project may be protected under copyright law. The unauthorized incorporation of such material into your new work could be a violation of the rights of the copyright owner. Please be sure to obtain any permission required from the copyright owner.

Any references to company names in sample files are for demonstration purposes only and are not intended to refer to any actual organization.

Adobe, the Adobe logo, Adobe Media Encoder, Adobe Premiere, Adobe Substance 3D, After Effects, Audition, Classroom in a Book, Creative Cloud, the Creative Cloud logo, Dreamweaver, Illustrator, InDesign, and Photoshop are either registered trademarks or trademarks of Adobe in the United States and/or other countries. Adobe product screenshots reprinted with permission from Adobe.

Apple, Mac OS, macOS, and Macintosh are trademarks of Apple, registered in the U.S. and other countries. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries. All other trademarks are the property of their respective owners.

Unless otherwise indicated herein, any third party trademarks that may appear in this work are the property of their respective owners and any references to third party trademarks, logos or other trade dress are for demonstrative or descriptive purposes only. Such references are not intended to imply any sponsorship, endorsement, authorization, or promotion of Pearson Education, Inc. products by the owners of such marks, or any relationship between the owner and Pearson Education, Inc. or its affiliates, authors, licensees or distributors.

Adobe Inc., 345 Park Avenue, San Jose, California 95110-2704, USA

Notice to U.S. Government End Users. The Software and Documentation are “Commercial Items,” as that term is defined at 48 C.F.R. §2.101, consisting of “Commercial Computer Software” and “Commercial Computer Software Documentation,” as such terms are used in 48 C.F.R. §12.212 or 48 C.F.R. §227.7202, as applicable. Consistent with 48 C.F.R. §12.212 or 48 C.F.R. §§227.7202-1 through 227.7202-4, as applicable, the Commercial Computer Software and Commercial Computer Software Documentation are being licensed to U.S. Government end users (a) only as Commercial Items and (b) with only those rights as are granted to all other end users pursuant to the terms and conditions herein. Unpublished-rights reserved under the copyright laws of the United States. Adobe Inc., 345 Park Avenue, San Jose, CA 95110-2704, USA. For U.S. Government End Users, Adobe agrees to comply with all applicable equal opportunity laws including, if appropriate, the provisions of Executive Order 11246, as amended, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974 (38 USC 4212), and Section 503 of the Rehabilitation Act of 1973, as amended, and the regulations at 41 CFR Parts 60-1 through 60-60, 60-250, and 60-741. The affirmative action clause and regulations contained in the preceding sentence shall be incorporated by reference.

Cover Illustration: Pes Motion Studio, behance.net/peslab

ISBN-13: 978-0-13-831648-8

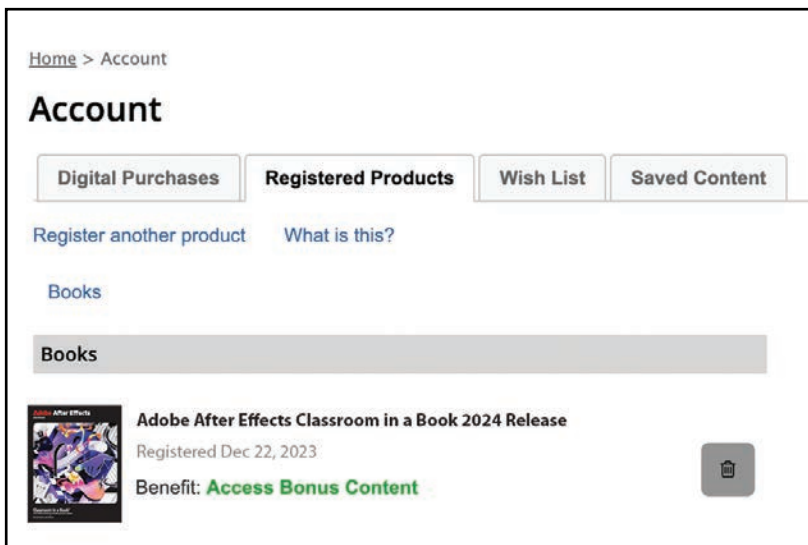
ISBN-10: 0-13-831648-1

\$PrintCode

WHERE ARE THE LESSON FILES?

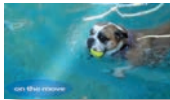
Purchase of this Classroom in a Book in any format gives you access to the lesson files you'll need to complete the exercises in the book.

- 1 Go to peachpit.com/AfterEffectsCIB2024.
 - 2 Sign in or create a new account.
 - 3 Click Submit.
- **Note:** If you encounter problems registering your product or accessing the lesson files or web edition, go to peachpit.com/support for assistance.
- 4 Answer the questions as proof of purchase.
 - 5 The lesson files can be accessed through the Registered Products tab on your Account page.
 - 6 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.



● **Note:** If you purchased a digital product directly from peachpit.com, your product will already be registered. Look for the Access Bonus Content link on the Registered Products tab in your account.

CONTENTS

WHERE ARE THE LESSON FILES?	iii
GETTING STARTED	1
About Classroom in a Book.....	1
Prerequisites.....	2
Installing After Effects, Bridge, and Media Encoder.....	2
Activating fonts.....	2
Optimizing performance.....	3
Restoring default preferences.....	3
Online content.....	4
How to use these lessons.....	6
Additional resources.....	6
Adobe Authorized Training Centers.....	7
1 GETTING TO KNOW THE WORKFLOW	8
 About the After Effects work area.....	10
Getting started.....	11
Creating a project and importing footage.....	11
Creating a composition and arranging layers.....	15
About layers.....	17
Adding effects and modifying layer properties.....	18
Animating the composition.....	22
About the Tools panel.....	24
About timecode and duration.....	26
About the Timeline panel.....	27
Previewing your work.....	30
Using the Properties panel.....	30
Optimizing performance in After Effects.....	33
Rendering and exporting your composition.....	33
Customizing workspaces.....	33
Controlling the brightness of the user interface.....	35
Collaborating in After Effects.....	36
Finding resources for using After Effects.....	36
Review questions and answers.....	37

2 CREATING A BASIC ANIMATION USING EFFECTS AND PRESETS 38



Getting started	40
Creating a new composition	40
Working with imported Illustrator layers	43
Applying effects to a layer	46
Applying and controlling effects	47
Applying an animation preset	48
Precomposing layers for a new animation	49
Previewing the effects	50
Adding transparency	51
Rendering the composition	52
Review questions and answers	55

3 ANIMATING TEXT 56



Getting started	58
About text layers	60
Installing a font using Adobe Fonts	60
Creating and formatting point text	63
Animating with scale keyframes	65
Using a text animation preset	67
About Adobe Bridge	69
Animating imported Photoshop text	71
Animating type tracking	75
Animating text opacity	77
Animating an image to replace text	77
Using a text animator group	80
About text animator groups	81
Animating a layer's position	83
Adding motion blur	85
Review questions and answers	87

4 WORKING WITH SHAPE LAYERS 88



Getting started	90
Creating the composition	90
Adding a shape layer	91
Creating a self-animating shape	93
Duplicating a shape	95

Creating custom shapes with the Pen tool	98
Positioning layers with snapping	100
Animating a shape	102
Animating using parenting	106
Using nulls to connect points	110
About parent and child layers	110
Previewing the composition	113
Animating layers to match audio	114
Review questions and answers	115

5 ANIMATING A MULTIMEDIA PRESENTATION 116



Getting started	118
Using Creative Cloud Libraries in After Effects	119
Adjusting anchor points	121
Parenting layers	123
Precomposing layers	125
Keyframing a motion path	127
Animating additional elements	131
Applying an effect	135
About solid-color layers	136
Animating precomposed layers	139
Animating the background	141
Supported audio file formats	142
Adding an audio track	143
Editing audio files in Adobe Audition	144
Review questions and answers	145

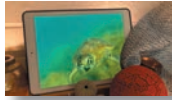
6 ANIMATING LAYERS 146



Getting started	148
Preparing layered Photoshop files	150
Simulating lighting changes	151
Duplicating an animation using the pick whip	153
About Photoshop layer styles	155
Using a track matte to confine animation	156
About expressions	156
About track mattes and traveling mattes	159

Animating using the Corner Pin effect	161
Simulating a darkening sky.....	163
Viewing render times for layers.....	167
Retiming the composition	168
Review questions and answers	179

7 WORKING WITH MASKS 180



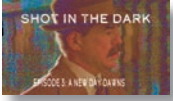


About masks	182
Getting started	182
Creating a mask with the Pen tool	184
Tips for creating masks.....	184
Editing a mask	185
About mask modes	185
Feathering the edges of a mask	188
Replacing the content of the mask	188
Creating a Bezier mask	188
Zooming and panning by touch.....	189
Adjusting the opacity	191
Adding a shadow	191
Creating a vignette	196
Using the Rectangle and Ellipse tools.....	197
Review questions and answers	199

8 DISTORTING OBJECTS WITH THE PUPPET TOOLS 200



Getting started	202
About the Puppet tools	207
Adding Position pins.....	208
Adding Advanced and Bend pins.....	210
Defining areas of overlap.....	212
Stiffening an area	213
Squash and stretch	213
Animating pin positions.....	214
Using the Puppet tools to animate video	215
Recording animation.....	216
Extra credit	218
Review questions and answers	219

9	USING THE ROTO BRUSH TOOL	220
	About rotoscoping	222
	Getting started	222
	Creating a segmentation boundary	224
	Editing Adobe Premiere Pro clips with After Effects	227
	Fine-tuning the matte	231
	Refine Soft Matte and Refine Hard Matte effects	232
	Freezing your Roto Brush tool results	234
	Changing the background	235
	Adding animated text	238
	Outputting your project	241
	Extra credit	243
	Review questions and answers	245
10	ADJUSTING COLOR AND MOOD	246
	Getting started	248
	Previewing your project on a video monitor	250
	Detecting scenes in a composition	251
	Making color enhancements	252
	Adding a colorized effect	255
	Replacing a background	257
	Color-correcting using Auto Contrast	261
	Cloning an object in a scene	261
	Darkening a scene	265
	Freezing the action	270
	Adding transitions	274
	Review questions and answers	277
11	CREATING MOTION GRAPHICS TEMPLATES	278
	Getting started	280
	Preparing a master composition	281
	Setting up a template	286
	Adding properties to the Essential Graphics panel	287
	Protecting the timing of a section	291
	Exporting the template	292
	Creating essential properties	294
	Extra credit	295
	Review questions and answers	297

12 USING 3D FEATURES 298





Getting started	300
Creating a 3D shape in After Effects.	301
Viewing the 3D ground plane	303
Using the 3D Transform Gizmo	304
Importing 3D objects	305
About importing 3D objects	306
Creating 3D text	307
Converting 2D objects to 3D	308
Using 3D views	309
Using the camera tools.....	310
Adding a background.....	312
Lighting a scene	312
Adding a camera.....	316
Using HDR images as lights	316
Animating objects in a 3D scene	318
Animating a camera	320
3D channel effects	321
Working with Cinema 4D Lite	322
Review questions and answers	323

13 WORKING WITH THE 3D CAMERA TRACKER 324



About the 3D Camera Tracker effect	326
Getting started	326
Tracking the footage.....	328
Repairing rolling shutter distortions	328
Creating a ground plane, a camera, and the initial text	329
Creating additional text elements	333
Locking an image to a plane with a solid layer	336
Adjusting the camera's depth of field	337
Tidying the composition	339
Adding a final object.....	340
Creating realistic shadows.....	341
Adding ambient light	343
Adding an effect.....	343
Previewing the composition	344
Review questions and answers	345

14	ADVANCED EDITING TECHNIQUES	346
	Getting started	348
	Stabilizing a shot	348
	Bicubic scaling	349
	Warp Stabilizer VFX settings	351
	Removing motion blur	353
	Using single-point motion tracking	356
	Moving and resizing the track points	359
	Removing unwanted objects	363
	Checking for drift	363
	Creating a particle simulation	367
	Mocha AE	367
	Understanding Particle Systems II properties	370
	About high dynamic range (HDR) footage	378
	Retiming playback using the Timewarp effect	379
	Review questions and answers	385
15	RENDERING AND OUTPUTTING	386
	Getting started	388
	About rendering and output	389
	Exporting using the Render Queue	389
	Preparing movies for mobile devices	392
	Creating templates for the Render Queue	393
	Rendering movies with Adobe Media Encoder	394
	About compression	395
	Preparing a movie for broadcast output	400
	Review questions and answers	401
	APPENDIX: TOOLS FOR TROUBLESHOOTING	402
	INDEX	403

9

USING THE ROTO BRUSH TOOL

Lesson overview

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

- Extract a foreground object from the background using the Roto Brush tool.
- Correct the segmentation boundary across a span of frames.
- Touch up a matte with the Refine Edge tool.
- Freeze a matte across a clip.
- Replace a background.
- Animate properties for creative effects.
- Track a face in footage.



This lesson will take about an hour to complete. If you haven't already done so, download the project files for this lesson from peachpit.com/AfterEffectsCIB2024, following the instructions in the Getting Started section under "Accessing the lesson files and Web Edition."



PROJECT: WEB BANNER

With the Roto Brush tool, you can quickly separate a foreground object from a background across many frames. You can achieve professional results in a fraction of the time you'd spend performing the same task with traditional rotoscoping.

About rotoscoping

When you draw or paint on the frames of a movie, you're *rotoscoping*. For example, a common use of rotoscoping is to trace an object, using the path as a mask to isolate it from the background so you can work with it separately. You could draw masks, animate the mask paths, and then use the masks to define a matte. (A *matte* is a mask used to hide part of an image so that another image can be superimposed.) While effective, this is a time-intensive, tedious process, especially if the object moves a great deal or the background is complex.

If a background or foreground object is a consistent, distinct color, you could use color keying to separate the object from the background. If the subject was shot against a green or blue background (green screen or blue screen), keying is usually much easier than rotoscoping. However, keying is less efficient when you're working with complex backgrounds.

The Roto Brush tool in After Effects, powered by an AI model, is much faster than conventional rotoscoping. You use the Roto Brush tool to define the foreground and background elements. Then After Effects creates a matte, and tracks the movement of the matte over time. The Roto Brush tool does much of the work for you, leaving only a little cleanup work to be done.

Getting started

In this lesson, you'll use the Roto Brush tool to isolate a bird and rock pool so you can replace the background. To finish up the project, you'll add an animated title.

First, you'll preview the final movie and set up your project.

- 1 Make sure the following files are in the Lessons/Lesson09 folder on your hard disk, or download them from peachpit.com now:
 - In the Assets folder: Chickadee.mov, Facetracking.mov, MillPond.mov
 - In the Sample_Movie folder: Lesson09.mp4
- 2 Open and play the Lesson09.mp4 sample movie in Windows Movies & TV or QuickTime Player to see what you will create in this lesson. When you are done, close Windows Movies & TV or QuickTime Player. You may delete the sample movie from your hard disk if you have limited storage space.

When you begin this lesson, restore the default application settings for After Effects. See “Restoring default preferences” on page 3.

- 3 Start After Effects, and then immediately hold down Ctrl+Alt+Shift (Windows) or Command+Option+Shift (macOS). In the Startup Repair Options dialog box, click Reset Preferences.

- 4 Click New Project in the Home window.

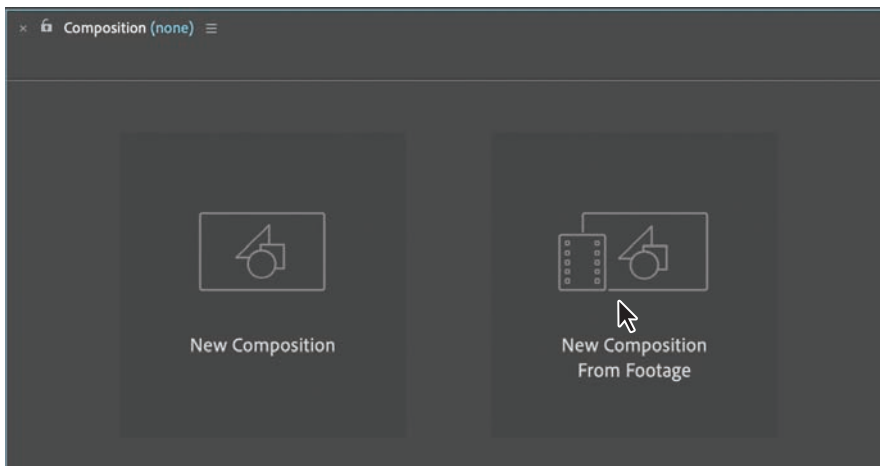
After Effects opens to display an empty, untitled project.

- 5 Choose File > Save As > Save As.
- 6 In the Save As dialog box, navigate to the Lessons/Lesson09/Finished_Project folder.
- 7 Name the project **Lesson09_Finished.aep**, and then click Save.

Creating the composition

You'll import a footage file and create a composition from it.

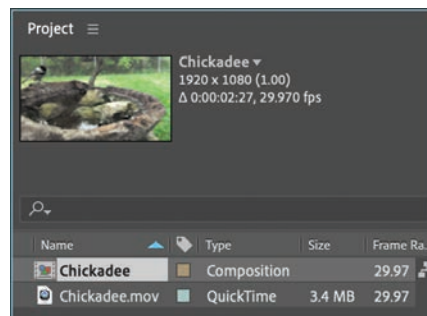
- 1 Click New Composition From Footage in the Composition panel.



- 2 Navigate to the Lessons/Lesson09/Assets folder, select the Chickadee.mov file, and then click Import or Open.

After Effects creates a composition named Chickadee, based on the settings in the Chickadee.mov file. The composition is two and one half seconds long, with a frame size of 1920 x 1080. The movie file was shot at a rate of 29.97 frames per second.

- 3 Choose File > Save to save the project so far.



Creating a segmentation boundary

You use the Roto Brush tool to specify which parts of the clip are in the foreground and which are in the background. You add strokes to distinguish the two, and then After Effects creates a segmentation boundary between the foreground and background.

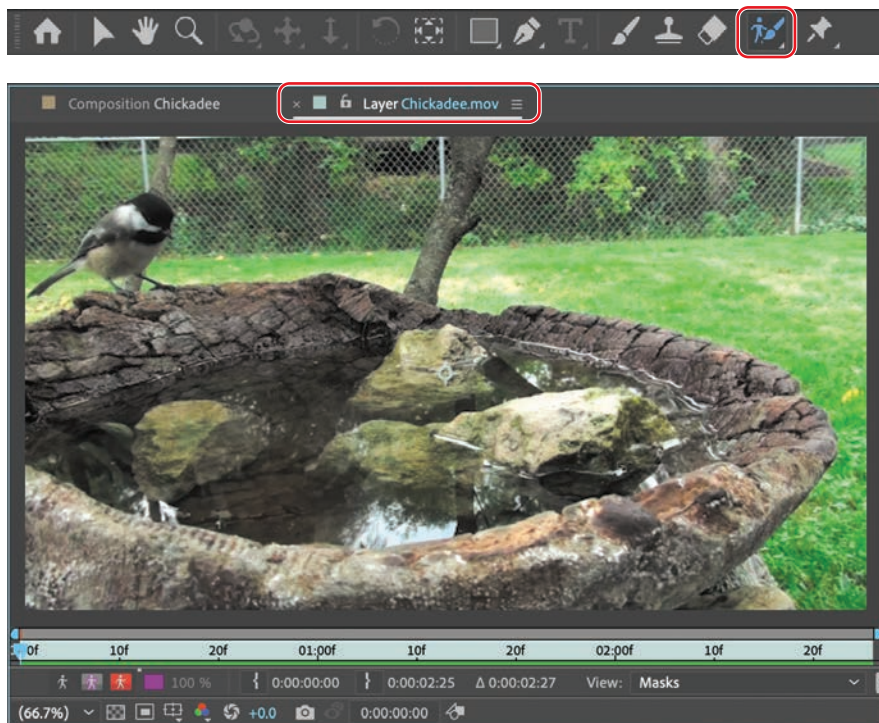
Creating a base frame

To use the Roto Brush tool to isolate a foreground object, you start by adding strokes to a base frame to identify foreground and background areas. You can start on any frame in the clip, but in this exercise, you'll use the first frame as the base frame. First, you'll add the strokes that identify the bird and the rock pool as the foreground objects.

- 1 Move the current-time indicator across the time ruler to preview the footage.
- 2 Press the Home key to move the current-time indicator to the beginning of the time ruler.
- 3 Select the Roto Brush tool (🖌️) in the Tools panel.

You use the Roto Brush tool in the Layer panel, which you'll open now.

- 4 Double-click the Chickadee.mov layer in the Timeline panel to open the clip in the Layer panel.



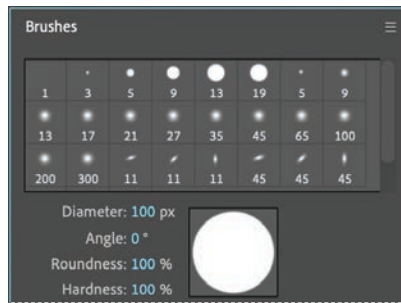
- 5 Choose Fit from the Magnification Ratio pop-up menu at the bottom of the Layer panel if you don't see the entire image clearly.

By default, the Roto Brush tool creates green foreground strokes. You'll start by adding strokes to the foreground—the rock pool and the bird. Generally, it's most efficient to start with broad strokes and then use smaller brushes to refine the border.

- 6 Choose Window > Brushes to open the Brushes panel. Set up a hard round 100-pixel brush. (You may need to resize the Brushes panel to see the options.)

When you're drawing strokes to define the foreground object, follow the skeletal structure of the subject. Unlike traditional rotoscoping, you don't need to define a precise boundary around the object. Start with broad strokes, and work down to small regions as After Effects determines where the boundary is supposed to be.

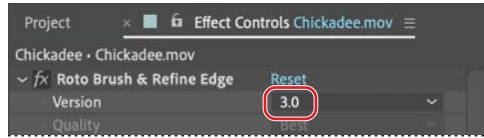
- 7 Draw a green stroke horizontally across the rock pool.



Tip: You can quickly zoom in and out of the Layer panel using the scroll wheel on your mouse, if it has one.

Roto Brush tool properties appear in the Effect Controls panel. In the Layer panel, a magenta outline identifies the boundaries After Effects created for the foreground object. After Effects recognized only about half of the pool, because you initially sampled only a small area of the subject. You'll help After Effects find the boundary by adding some more foreground strokes. First, you'll make sure you're using version 3 of the Roto Brush tool.

- 8 In the Effect Controls panel, make sure 3.0 is selected for the Version.

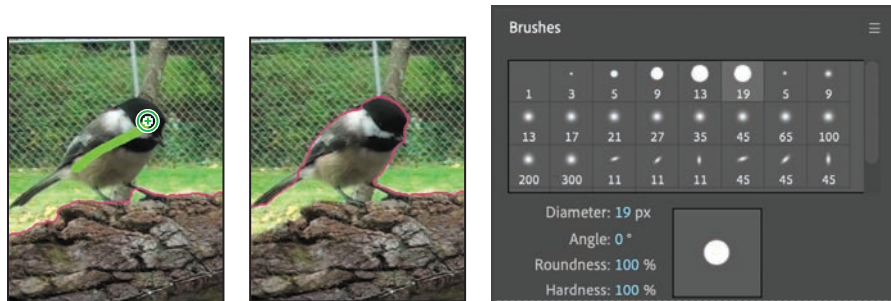


- 9 Still using a large brush, continue to draw green strokes along the inside edges of the pool. Do not include the branches directly behind the pool and the bird.



- 10 Zoom to 200% and use the Hand tool (🖱️) to pan to the bird.

- 11 Select the Roto Brush tool again. Then select a smaller brush, and draw a green stroke across the bird's body.



It can be tricky to get some areas without accidentally adding background as well. It's okay if you haven't captured every detail in the foreground. You'll use background strokes to remove any extraneous areas of the matte.

- 12 Press Alt (Windows) or Option (macOS) to switch to the red background stroke brush. Add red strokes to background areas you want to exclude from the matte.



- 13** Switch back and forth between the foreground and background brushes and brush sizes to fine-tune the matte. Don't forget to deselect the branches directly behind the bird and the pool. In some cases, one click may be all it takes to exclude an object or area from the matte.



- 14** When you're happy with the bird's matte, zoom back out and fine-tune any remaining areas that need to be addressed with the rock pool.



Editing Adobe Premiere Pro clips with After Effects

You can work with a clip in both Adobe Premiere Pro and After Effects, moving easily between the two applications as you edit your project.

To edit an Adobe Premiere Pro clip in After Effects, do the following:

- 1** Right-click or Control-click the clip in Adobe Premiere Pro, and choose Replace With After Effects Composition.

After Effects starts, and opens the Adobe Premiere Pro clip.


- 2** Save the project when you're prompted by After Effects. Then, work in the composition just as you'd work in any other After Effects project.
- 3** When you're finished, save the project, and return to Adobe Premiere Pro.

Your changes are automatically reflected in the timeline.


Don't worry about being exact about your brush strokes. Just make sure the matte is within 1 to 2 pixels of the edge of the foreground object. You'll have an opportunity to refine the matte later. However, After Effects uses the information on the base frame to adjust the matte for the rest of the span, so you want the matte to be accurate.

- 15 Click the Toggle Alpha button () at the bottom of the Layer panel. The selected area is white against a black background, so you can see the matte clearly.



- 16 Click the Toggle Alpha Overlay button () at the bottom of the Layer panel. The foreground area appears in color, and the background has a red overlay.



- 17 Click the Toggle Alpha Boundary button () at the bottom of the Layer panel to see the outline around the bird and rock pool again.



As you use the Roto Brush tool, the Alpha Boundary is the best way to see how accurate your boundary is, because you can see everything in the frame. However, the Alpha and Alpha Overlay options let you see your matte without the distraction of the background.

Refining the boundary across the span

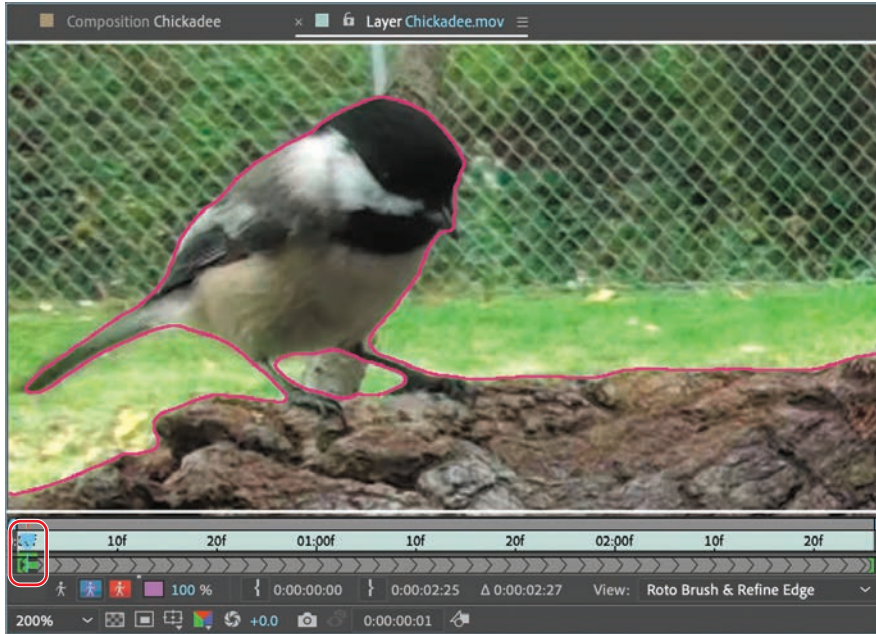
You used the Roto Brush tool to create a base frame, which includes a segmentation boundary that divides the foreground from the background. The Roto Brush span appears below the time ruler at the bottom of the Layer panel. When After Effects has propagated the current boundary for a frame, the bar beneath that frame on the time ruler is green.

As you move forward and backward through the footage, the segmentation boundary moves with the foreground object (in this case, the bird and the rock pool). You'll step through the frames in the span and make adjustments to the segmentation boundary as necessary.

Because the rock pool is stationary, its track matte is consistent throughout the span. Given that, we'll focus on the bird, which moves around a lot.

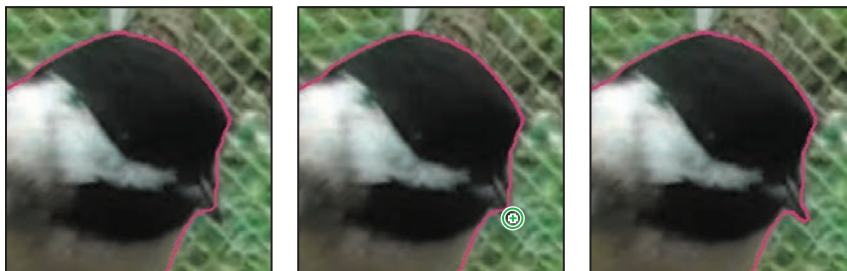
- 1 Zoom in on the bird, and then make sure the Roto Brush tool is selected in the Tools panel.
- 2 Press the 2 key on your main keyboard (not the numeric keypad) to move forward one frame.

► **Tip:** To move forward one frame, press the 2 key on your keyboard; to move back one frame, press the 1 key.



Working from the base frame, After Effects tracks the edge of the object and attempts to follow its movement. Depending on how complex your foreground and background elements are, the boundary may or may not conform exactly to the area you hoped it would.

- 3 Using the Roto Brush tool, paint foreground and background strokes to refine the matte for this frame. If the matte is accurate, you don't need to paint any strokes.



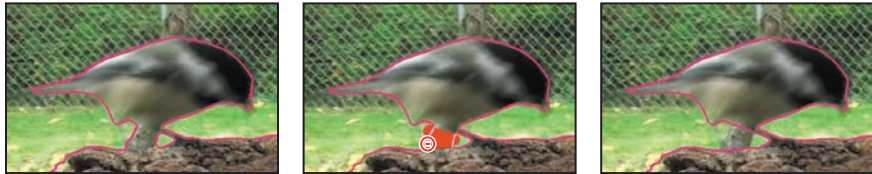
● **Note:** As it propagates the segmentation boundary for a frame, After Effects caches that frame. Cached frames have a green bar in the time ruler. If you jump ahead to a frame further along the span, After Effects may take longer to calculate the boundary.

As you progress through this clip, you'll notice changes to the segmentation boundary with the bird's beak. Likewise, you may need to refine the segmentation boundary around the feet and legs.

- 4 Press the 2 key again to move forward to the next frame.
- 5 Use the Roto Brush tool to add to the foreground or subtract from the background as necessary to refine the boundary.

If you make a stroke you don't like, you can always undo the stroke and try again. As you move through the span, each change you make affects the frames after it. The more you refine your selection, the better the overall results will be. You may find it useful to move forward a few frames to see how changes affect the boundary.

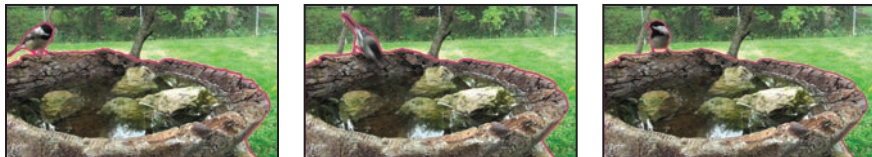
When the bird is moving quickly (such as 0:14 –0:19), you'll notice that the segmentation boundary becomes more vague, but then "catches up" once the bird slows down again. When a frame displays rapid movement, focus on removing areas that should be excluded (such as the branch behind the bird), rather than adding blurry areas of the bird.



- 6 Repeat steps 4 and 5 until you reach the end of the layer.



- 7 Once you're satisfied with the bird, zoom out to fit the entire screen, and scroll through the span, making any adjustments as needed.
- 8 When you have completed refining the segmentation boundary for the entire layer, choose File > Save to save your work so far.



Fine-tuning the matte

Roto Brush does a pretty good job, but there may be stray bits of background in the matte, or foreground areas that weren't included. You'll clean those up by refining the edge.

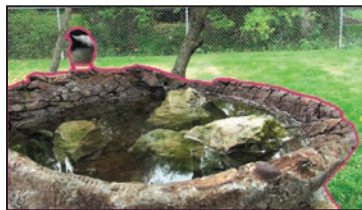
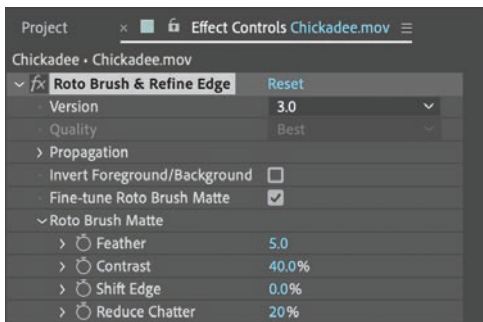
Adjusting the Roto Brush & Refine Edge effect

When you use the Roto Brush tool, After Effects applies the Roto Brush & Refine Edge effect to the layer. You can modify the effect using settings in the Effect Controls panel. You'll use those settings to further refine the edge of the matte.

- 1 Press the spacebar to play the clip in the Layer panel. Press the spacebar again to end the preview when you've seen the whole clip.

As you preview the clip, you may notice that the segmentation boundary jumps around a bit. You'll adjust the Reduce Chatter and Contrast settings to make it smoother.

- 2 In the Effect Controls panel, decrease the Contrast to **40%** and increase Reduce Chatter to **20%**.



The Reduce Chatter value determines how much influence the current frame has when performing a weighted average across adjacent frames. Contrast affects how tight the boundary is.

- 3 Preview the clip again.

Refine Soft Matte and Refine Hard Matte effects


After Effects includes two related effects for refining mattes: Refine Soft Matte and Refine Hard Matte. The Refine Soft Matte effect does the same thing as Refine Edge Matte, except it applies the effect to the entire matte at a constant width. If you need to capture subtle variations across an entire matte, use this effect.

The Refine Hard Matte effect performs the same edge refinements as the Roto Brush when Fine-Tune Roto Brush Matte is turned on in the Roto Brush & Refine Edge effect in the Effect Controls panel.

Using the Refine Edge tool

When an object isn't smooth, the Roto Brush may not pick up the nuanced edge. The Refine Edge tool lets you include fine details such as wisps of hair in designated areas of the segmentation boundary.

Though it might be tempting to use the Refine Edge tool immediately after creating the base frame, it's best to wait until you've refined the segmentation boundary across the entire clip. Because of the way After Effects propagates the segmentation boundary, using the Refine Edge tool too early results in a matte that is difficult to use.

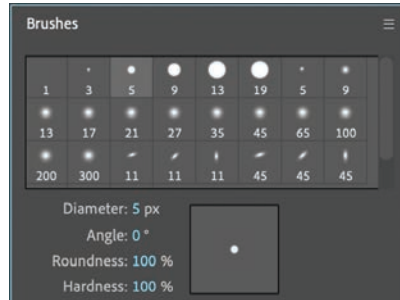
- 1 Go to the base frame, which is the first frame of the clip, and then zoom in so that you can see the edges of the bird's tail clearly. Use the Hand tool if necessary to move the layer so you can see the entire bird.
- 2 Select the Refine Edge tool () , hidden beneath the Roto Brush tool in the Tools panel.

The tail is relatively soft, so a small brush size will work well. For a fuzzier object, you might have better results with a much larger brush. The brush needs to overlap the stray edges that emerge from the object.

- 3 Change the brush size to 5 pixels.

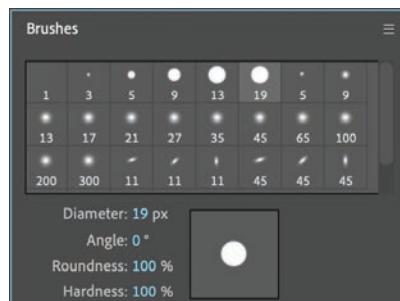
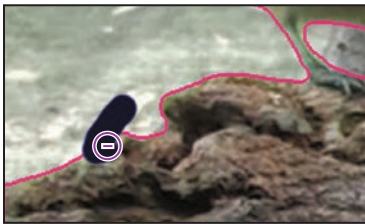
When you use the Refine Edge tool, draw strokes along the edges of the matte.

- 4 In the Layer panel, move the Refine Edge tool over the edge of the tail straddling the segmentation boundary and including the variations in the feathers. You can use multiple strokes if needed.



When you release the mouse, After Effects switches to the Refine Edge X-ray view so that you can see how the Refine Edge tool changes the matte, capturing the detail in the edges.

- 5 Move the current-time indicator across the time ruler to view the edge. At 0:15, Refine Edge breaks away from the tail as the bird moves away rapidly.
- 6 Change the brush size to **19** pixels.
- 7 At 0:15, press Alt (Windows) or Option (macOS) and erase the artifact from the Refine Edge tool, as it's no longer useful going forward.
- 8 Continue to move forward and backward through the scene, applying the Refine Edge tool wherever the matte's edge doesn't capture the fuzziness of the bird's feathers, and removing it wherever it strays from the tail.



- 9 Zoom out to see the entire scene, resize the Layer panel if you enlarged it, and then choose File > Save to save your work.


Note: Use the Refine Edge tool only after you have cleaned up the matte across the entire clip.

Freezing your Roto Brush tool results

You've put a fair amount of time and effort into creating the segmentation boundary across the entire clip. After Effects has cached the segmentation boundary so it can recall it without having to make the calculations again. To keep that data easily accessible, you'll *freeze* it. This reduces the processing demands on your system so you can work faster in After Effects.

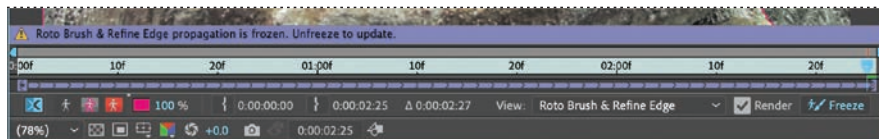
Once the segmentation is frozen, you cannot edit it unless you unfreeze it. Refreezing the segmentation is time-consuming, so it's best to refine the segmentation boundary as much as possible before freezing.

- 1 Click the Freeze button in the lower right area of the Layer panel.

 Depending on your system, this may take a while.



After Effects displays a progress bar as it freezes the Roto Brush and Refine Edge tool data. Freezing may take a few minutes, depending on your system. As After Effects freezes the information for each frame, the cache line turns blue. When it has finished freezing, a blue warning bar appears above the time ruler in the Layer panel, reminding you that the segmentation is frozen.



- 2 Click the Toggle Alpha Boundary button (■) in the Layer panel to see the matte. Then click the Toggle Transparency Grid button (■). Move the time marker across the time ruler to see the subject without the distractions of the background.



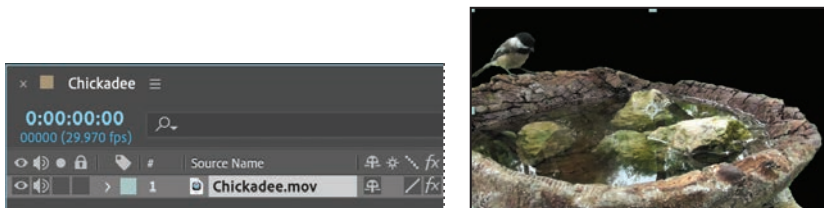
- 3 Click the Toggle Alpha Boundary button again to see the boundary.
- 4 Choose File > Save.

After Effects saves the frozen segmentation information with the project.

Changing the background

There are many reasons to isolate a foreground image from a background. You may want to replace the background entirely, moving the subject to a different setting. Or you could simply want to change the foreground or background without modifying the other. In this lesson, you'll remove the fenced in area of the background, and replace it with a different background, which you'll enhance with color correction tools.

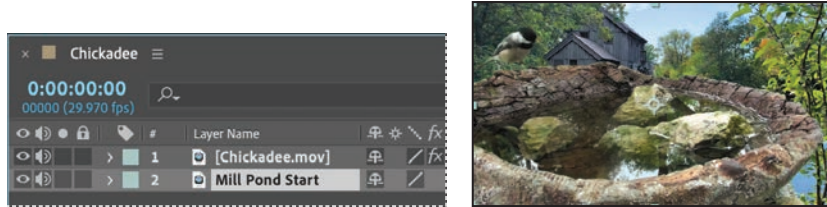
- 1 Close the Layer panel to return to the Composition panel, and then move the current-time indicator to the beginning of the timeline. Choose Fit from the Magnification Ratio pop-up menu at the bottom of the Composition panel.
- 2 Hide the properties for the Chickadee.mov layer, if they're visible.



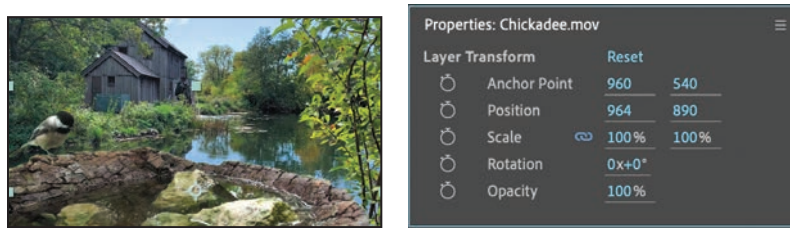
The Composition panel displays the composition, which includes only the Chickadee.mov layer, consisting only of the foreground you isolated from the clip.

- 3 Click the Project tab to display the Project panel, and double-click an empty area in the Project panel. Navigate to the Lessons/Lesson09/Assets folder, select the MillPond.mov file, and click Import or Open.

- 4 Drag the MillPond.mov clip from the Project panel to the Timeline panel, and place it below the original Chickadee.mov layer.
- 5 Click the new layer, press Enter or Return, and rename the layer **Mill Pond Start**. Then press Enter or Return again.



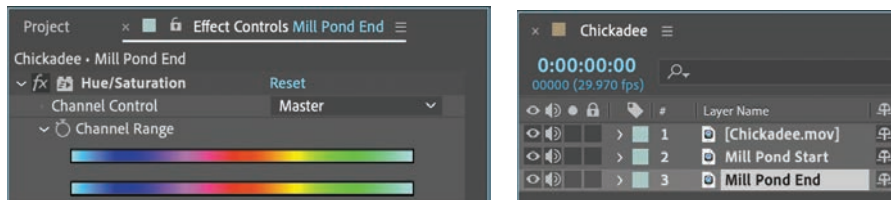
- 6 Select the Chickadee layer. Then, using the Selection tool (black arrow), drag the layer to the lower half of the Composition panel. Your values should be similar to ours.



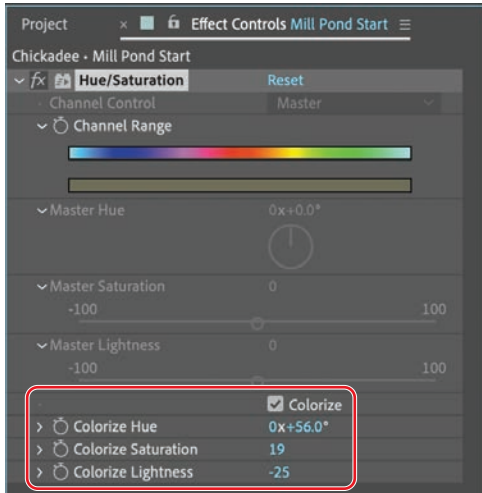
- 7 Select the Mill Pond Start layer, and choose Effect > Color Correction > Hue/Saturation.

You'll use the Hue/Saturation effect in two different ways, so you'll create a duplicate layer for the second effect.

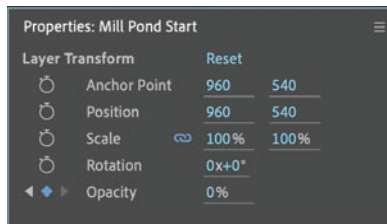
- 8 With the Mill Pond Start layer selected, choose Edit > Duplicate. Rename the bottom layer **Mill Pond End**. Then rename the top layer to remove the number 2 from the name (so that its name is Mill Pond Start).



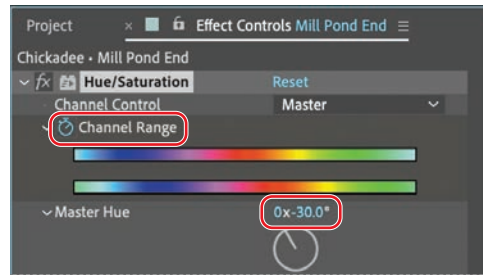
- 9 Select the Mill Pond Start layer, and then, in the Effect Controls panel, do the following:
- Select Colorize.
 - Change Colorize Hue to **56** degrees.
 - Change Colorize Saturation to **19**.
 - Change Colorize Lightness to **-25**.



- 10 In the Properties panel, click the stopwatch icon for the Opacity value to create an initial keyframe at 100%.
- 11 Go to 1:10, and change the Opacity to 0.



- 12 Still at 1:10, select the Mill Pond End layer.
- 13 In the Effect Controls panel, click the stopwatch icon for the Channel Range property to create an initial keyframe.
- 14 Go to the end of the footage (2:25), and change the Master Hue to -30.



- 15 Press the spacebar to preview the project. Press the spacebar again when you've finished.



The background transitions from a monochromatic dusk to a full summer day and then again to the beginning of fall as the leaves change.

- 16 Choose File > Increment And Save.

If you save incrementally, you can return to earlier versions of your project to make adjustments later. This can be very useful if you're experimenting or want to try alternative effects. The Increment And Save feature preserves the previously saved version of the project and creates a new project with the same name, with an increasing number added to the filename.

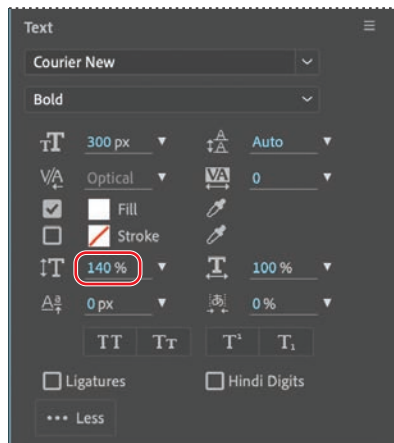
Adding animated text

You're nearly done. All you need to do is to add the animated title between the bird and the background.

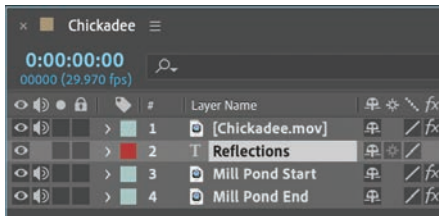
- 1 Deselect all layers, and then move the current-time indicator to the beginning of the time ruler.
- 2 Select the Type tool (T), and then type **Reflections** in the Composition panel.

A new text layer named Reflections appears in the Timeline panel at the top of the layer stack.

- 3 Select the Reflections layer, and then do the following in the Text section of the Properties panel:
 - Choose Courier New for the font.
 - Choose Bold for the font style.
 - Type **300 px** for the font size.
 - Choose Optical from the Kerning menu.
 - Select white for the Fill color.
 - Deselect the Stroke checkbox.
- 4 Click the More button, and then type **140%** for the vertical scale.

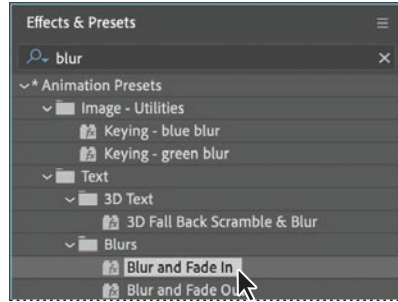
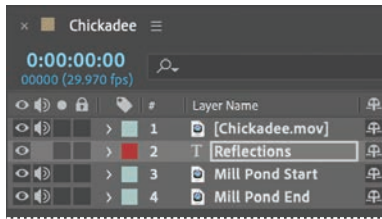


- 5 Use the Selection tool (▶) to reposition the text to rest along the top edge of the rock pool, and then move the Reflections layer below the Chickadee layer.



You'll animate the text so that it appears on the screen in a liquid motion.

- 6 Make sure you're at the beginning of the timeline and the Reflections layer is selected. In the Effects & Presets panel, type **blur** in the search box. Under Text, double-click the Blur And Fade In preset.



- 7 Deselect all layers in the Timeline panel, and move the current-time indicator to the beginning of the time ruler. Press the spacebar to preview the clip.

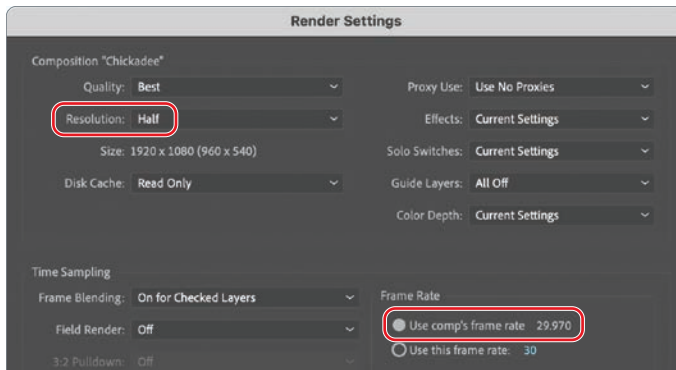


- 8 Choose File > Save to save your work.

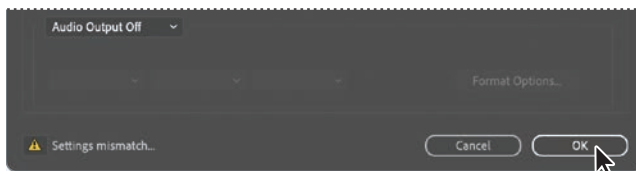
Outputting your project

You'll render your movie to complete the project.

- 1 Choose File > Export > Add To Render Queue.
- 2 In the Render Queue panel, click the blue words *Best Settings*.
- 3 In the Render Settings dialog box, choose Half from the Resolution menu, and make sure Use Comp's Frame Rate is selected in the Frame Rate area. Then click OK.

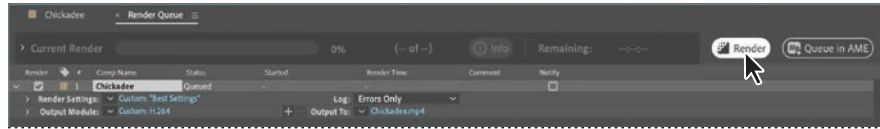


- 4 Click the blue text next to Output Module. Then, at the bottom of the Output Module Settings dialog box, choose Audio Output Off, and click OK.



- 5 Click the blue text next to Output To. In the Output Movie To dialog box, navigate to the Lessons/Lesson09/Finished_Project folder, and click Save.

- 6 Click Render in the top right corner of the Render Queue panel.



- 7 When the project has rendered, save and close it.

Congratulations! You've separated a foreground object from the background, replaced and modified the background, and animated some text to complete the movie. You're ready to use the Roto Brush tool on your own projects.

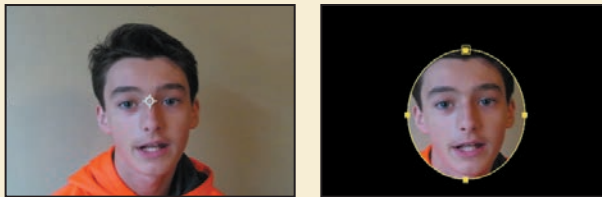
Extra credit

Tracking faces

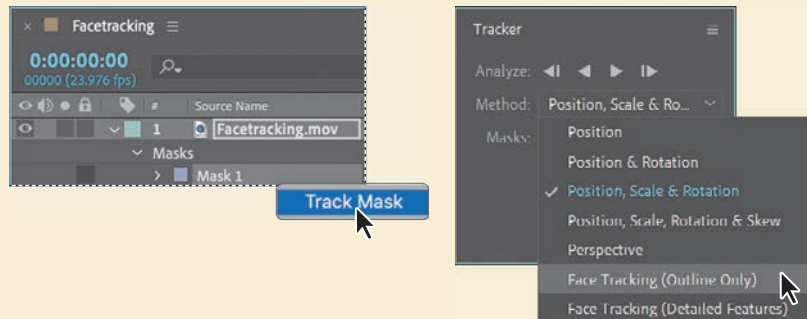
The face-tracking feature in After Effects makes it easier to track a face or specific facial features, such as lips or eyes. Previously, tracking a face required roto brushing or complex keying.

● **Note:** If you open the Lesson09_extra_credit.aep file, you may need to relink the Facetracking.mov asset.

- 1 Choose File > New > New Project.
- 2 Click the New Composition From Footage button in the Composition panel, and then navigate to the Lessons/Lesson09/Assets folder. Select the Facetracking.mov file, and click Import or Open.
- 3 Select the Facetracking.mov layer in the Timeline panel. Then, select the Ellipse tool, hidden by the Rectangle tool in the Tools panel.
- 4 Drag an elliptical mask roughly covering the face.



- 5 Right-click the Mask 1 layer, and choose Track Mask.
- 6 In the Tracker panel, choose Face Tracking (Outline Only) from the Method menu.



The Face Tracking (Outline Only) option tracks the entire face. The Face Tracking (Detailed Features) option tracks the outline plus the lips, eyes, and other distinctive facial features. You can export detailed facial data for use in Character Animator, or you can use it in After Effects to apply effects or to match it with another layer, such as an eye patch or a hat.

(continued on next page)

Extra credit (continued)

- Click the Track Forward button in the Tracker panel.

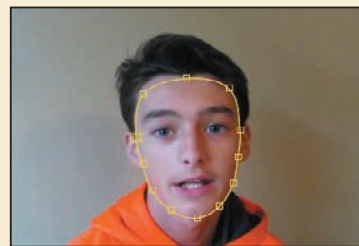
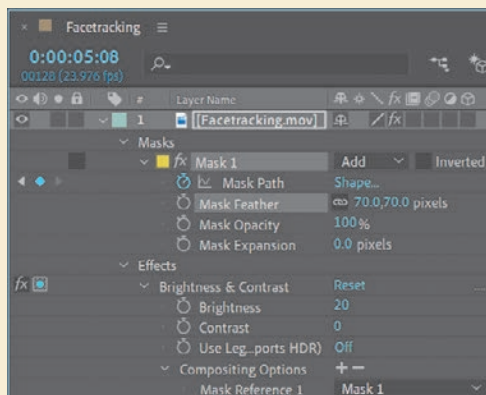


The Tracker tracks the face, changing the mask's shape and position as the face moves.

- Press the Home key to return to the beginning of the timeline, and then move the current-time indicator across the time ruler to see how the mask moves with the face.
- In the Effects & Presets panel, search for **Bright**. Then drag the Brightness & Contrast effect onto the Facetracking.mov layer in the Timeline panel.
- Expand Effects > Brightness & Contrast > Compositing Options in the Timeline panel.
- Click the + icon next to Compositing Options. Choose Mask 1 from the Mask Reference 1 menu, and increase Brightness to **50**.

The masked area of the face brightens, but nothing else does. This setting is too bright, and the edge of the mask is too abrupt. You'll make it more subtle.

- Reduce the Brightness to **20**.
- Expand the Mask 1 properties. Change the Mask Feather property to **70, 70** pixels.



- Save the project to the Lessons/Lesson09/Finished_Project folder. Then close the file.

You can use the face tracker to blur a face, brighten it, or add any other effect. You can also invert the mask to affect everything but the face.

Review questions

- 1 When should you use the Roto Brush tool?
- 2 What is the segmentation boundary?
- 3 When should you use the Refine Edge tool?

Review answers

- 1 Use the Roto Brush tool any time you would have used traditional rotoscoping. It's particularly useful for removing a foreground element from the background.
- 2 The segmentation boundary is the boundary between the foreground and background. The Roto Brush tool adjusts the segmentation boundary as you progress through the frames in the Roto Brush span.
- 3 Use the Refine Edge tool when you need to rotoscope objects with fuzzy or wispy edges. The Refine Edge tool creates partial transparency for areas of fine detail, such as hair. Use the Refine Edge tool only after you've adjusted the segmentation boundary across the entire clip.

INDEX

SYMBOLS

3D

- adjusting depth of field 337
 - cameras 316–317, 329–330
 - camera tools 310
 - channel effects 321
 - features 298–323
 - ground plane 303
 - layers 300, 302
 - light layers 312
 - point of interest 318
 - Real-time Draft 3D preview mode 303
 - Rotation properties 302
 - using HDR images as lights 316
 - views 308–309
- 3D Camera Tracker effect 326–344
- 3D models, importing 305–306
- 3D shapes
- creating 301–302
 - extruding 303
- 3D text
- creating 307
 - extruding 308
- 3D Transform Gizmo 302, 304

.mogrt files

- opening in After Effects 292
- opening in Premiere Pro 295–296

A

- action-safe zones 24
- activating fonts in
Adobe Fonts 2, 60–62
- adjustment layers 47, 140, 285
- Adobe After Effects application
- installing 2
 - optimizing performance in 3
 - workspace 10
- Adobe After Effects Classroom in a Book 2024 Release*
- downloading lesson files 4
 - prerequisites 2
- Adobe After Effects Help 36
- Adobe Audition 144
- Adobe Bridge
- about 69
 - browsing animation presets in 68
 - importing files with 69
 - installing 2
- Adobe Character Animator 218

- Adobe Fonts 2, 60–86
- Adobe Illustrator files, importing 43
- Adobe Media Encoder
 - creating presets for 397–400
 - encoding presets in 396
 - installing 2
 - rendering output with 394–399
- Adobe Photoshop files
 - importing 14, 150
 - importing layer styles from 155
 - importing text from 71
 - layered 149
- Adobe Premiere Pro
 - Motion Graphics templates in 295
 - using with After Effects 227
- Adobe Stock 119
- Advanced 3D renderer 302
- Advanced pins
 - about 208
 - animating 214
 - placing 210
 - using to animate video 215–216
- alpha track mattes. *See* track mattes
- ambient lights, adding 343
- Analyze Forward button 361
- anchor points
 - adjusting 121
 - centering in shape layers 92
- animating
 - cameras 320
 - facial expressions 218
 - fill color 105
 - layers 146–179
 - layers to match audio 114
 - lighting 151–152, 163–167
 - on a path 129
 - opacity 77
 - position 83–85, 103
 - precomposed layers 139
 - Puppet tool pins 216
 - scale 65, 103
 - text 58–87, 71, 81, 238
 - video with Puppet tools 215–216
- animation presets
 - applying 25–26, 48, 50
 - Bad TV 3 - weak 286
 - browsing in Adobe Bridge 68
 - customizing 70
 - Explosion 2 284
 - Fade Out By Character 79
 - Fade Up Words 25
 - Fly in with a Twist 205
 - Increase Tracking 75
- Raining Characters In 73
- Ripple 68
- Slow Fade On 206
- text 67
- Typewriter 284
- animations
 - about 22
 - creating with Character Animator 218
 - duplicating using pick whips 153
 - easing 67
 - linking through expressions 156
 - repeating 133
- animator properties in text animator groups 81
- application window 10
- assets, importing 13
- audio
 - adding tracks 143
 - animating layers to match 114
 - editing files in Adobe Audition 144
 - file formats supported 142
- Audio/Video Switches in the Timeline panel 27
- Audition. *See* Adobe Audition
- Auto Contrast effect 19–20, 254–255, 261

B

- background,
 - replacing 235, 257–260
- background strokes,
 - creating with the Roto Brush tool 226–227
- Bad TV 3 - weak animation preset 286
- base frames, creating with the Roto Brush tool 224–225
- Bend pins
 - about 208
 - animating 214
 - placing 210
- Bezier curves
 - in a motion path 130
 - in masks 186
- Bezier masks, creating 188
- bicubic scaling 349
- bilinear sampling 349
- Black Clip 261
- blending modes
 - about 196
 - applying 196
 - for masks 185, 258
- blur, adding.
 - See* motion blur, adding
- Bridge. *See* Adobe Bridge
- Brightness and Contrast effect 268–269

- brightness, changing
 - in the user interface 35
- Browse Presets command 68
- Bullet Train animation preset 48

C

- cached frames, using Roto Brush tool 229
- Cache Frames When Idle 32
- cameras
 - adding to a 3D scene 316–317
 - animating 320
- CC Light Sweep effect 21–22
- CC Particle Systems II effect 367–378
- Center Anchor Point In New Shape Layers 92
- Channel Blur effect 28–29
- Character Animator 218
- Character panel 25, 44, 63
- child layers 110
- Cinema 4D Lite 322
- circles, drawing 197
- cloning objects 261–265
- codecs 395
- collaboration tools 36

color

- animating 105
- changing for a shape 92
- correcting 248–276
 - correcting using Auto Contrast 261
- grading 248
- keying 222
 - previewing accurately 250
- Color Emboss effect 47
- Colorizing an image 255–257
- Composition Navigator bar 23
- Composition panel
 - about 15
 - typing in 63
- Composition Profiler 167
- compositions
 - about 15
 - adding footage to 16, 42
 - creating 15, 40–41, 59, 281
 - creating from footage 90
 - defined 12
 - duration of 41
 - fitting layers to 42
 - importing 13
 - nesting 16
 - rendering 52
 - retiming 168–177
- Composition Settings dialog box 16–17, 41

- compression 395
 - Content-Aware Fill 363–367
 - contrast, adjusting 254–255
 - Convert To Editable Text
 - command 24, 72, 205
 - Convert Vertex tool 187–188
 - copying. *See* duplicating
 - Corner Pin effect 161–162
 - Create Nulls From Paths panel
 - 110–111
 - Create Text And Camera
 - command 330
 - Creative Cloud Libraries
 - about 119
 - sharing Motion Graphics
 - templates in 292–293
 - current-time indicator 27
 - customizing
 - brightness of the user
 - interface 35
 - workspaces 34
 - custom shapes,
 - drawing 98–100
 - Custom View 1,
 - in 3D views 310
- D**
- default preferences 3, 11
 - deforming video with Puppet
 - tools 215–216
 - Deform pins. *See* Puppet tools
 - Density value for Puppet
 - tools 212
 - dependencies, finding
 - missing 14
 - depth of field,
 - adjusting 337–338
 - Directional Blur effect 137
 - Dissolve-Ripple effect 343
 - distortions, rolling
 - shutter 328
 - docking panels 10
 - Dolly controls 310
 - downloading lesson files 4
 - drawing
 - circles 373
 - custom shapes 98
 - ellipses 197
 - rounded rectangles 100
 - shapes 91
 - stars 92
 - with the Pen tool 106
 - drift, in motion tracking 363
 - Drop Shadow effect 46
 - drop zone 10
 - duotones, creating 255–257
 - duplicating
 - animations 133
 - animations using pick
 - whips 153
 - shape layers 95
 - videos 135
 - duration
 - about 26
 - setting for composition 41
- E**
- Easy Ease
 - adding 67
 - in the Graph Editor 383
 - editing
 - masks 185
 - Premiere Pro clips in After
 - Effects 227
 - segmentation
 - boundaries 228–231
 - text 25, 44–45, 72
 - Effect Controls panel
 - about 46
 - hiding properties in 22
 - effects
 - about 18
 - applying 47, 136
 - Auto Contrast 19–20, 261
 - Brightness and
 - Contrast 268–269
 - CC Light Sweep 21–22
 - CC Particle
 - Systems II 367–378
 - Channel Blur 28–29
 - Color Emboss 47
 - controlling 47
 - Corner Pin 161–162
 - Directional Blur 137
 - disabling third-party 402
 - Dissolve-Ripple 343
 - Dissolve - Vapor animation
 - preset 50–51
 - Drop Shadow 46
 - Fade Up Words 26
 - finding 20

- Fractal Noise 137
 - Gaussian Blur 372
 - Hue/Saturation 236, 252–254, 255–257
 - Lens Flare 376
 - missing 14
 - motion blur 85
 - Ramp 375
 - Refine Hard Matte 232
 - Refine Soft Matte 232
 - Timewarp 379
 - Wave Warp 140
- Effects & Presets panel 20
- Ellipse tool
- creating a vignette with 197
 - using to create a mask 197, 373
- encoding presets in Adobe Media Encoder 396
- Essential Graphics panel
- about 280, 286
 - adding properties to 287–292
 - editing source text in 287
 - exporting templates from 292–293
 - grouping properties in 289
 - in Premiere Pro 295
 - organizing 289
 - viewing supported properties 288
- Essential Graphics workspace 287
- essential properties 294
- exporting
- Motion Graphics templates 292–293
 - movies with Adobe Media Encoder 394–400
- expressions 156, 264
- extruding
- 3D shapes 303
 - text 308
- F**
- face tracking 243
- Fade Out By Character animation preset 79
- Fade Up Words animation preset 26
- files, importing 11
- fills 92
- filtering in Adobe Fonts 61
- finding missing footage, fonts, or effects 14
- Fit To Comp command 42
- Fit To Comp Width command 64
- Fly in with a Twist animation preset 205
- fonts
- finding missing 14
 - installing from Adobe Fonts 2, 60–62
 - selecting 63
- footage
- about 13
 - finding missing 14, 402
 - importing 12, 14, 148
 - tracking 328
- foreground strokes, creating with the Roto Brush tool 225–226
- formatting text 63–64
- Fractal Noise effect 137
- freezing
- frames 270, 273–274
 - Roto Brush tool results 234
- G**
- Gaussian Blur effect 372
- gradient fills 92
- Graph Editor
- about 172
 - using to remap time 173–177, 383
- grids
- displaying and hiding 45, 65
 - snapping to 65
- ground plane
- creating with 3D Camera Tracker effect 329
 - viewing in 3D projects 303
- grouping properties in the Essential Graphics panel 289
- guides, showing 45

H

HDR (high dynamic range)
footage 378

HDR images as lights 316

hiding properties 22

Home key 25

Home window 11, 36

Horizontal Type
tool 25, 44, 75

Hue/Saturation effect
236, 252–254, 255–257

I

Illustrator files,
importing 42–43

images

adding to 3D scenes with
3D Camera Tracker 336

replacing in motion
graphics templates 290

importing

3D objects 305

footage 12, 13, 14, 148

layered Illustrator
files 42–43

layered Photoshop files as
compositions 13, 23,
148–150

multiple files 13

Photoshop files 13, 71, 150

text 71–72

Increase Tracking animation
preset 75

Increment And Save
command 238

In points, setting 27, 141

installing

After Effects 2

fonts 60–62

interpolation between
keyframes 28

J

JavaScript in expressions 156

K

keyframes

about 28, 29

adding 127

labels 132

keying 222

L

labeling keyframes 132

layers

about 15, 17

adjustment 140

animating 146–179, 149

animating to match
audio 114

child 110, 123

converting to 3D 302

copying 127

expanding in the Timeline
panel 19

fitting to compositions 42

importing in Photoshop
files 149

isolating 161

locking 204

making visible in the
Timeline panel 30

naming in Photoshop 150

naming text 44

nesting 49

parenting 109, 110, 123

precomposing
49, 98, 125, 270–271

rearranging in the
Timeline panel 18

renaming 73

scaling 206

setting In points for 141

shape 88–115, 91

shortening 141

snapping 100

solid 136, 165

soloing 161

splitting with Scene Edit
Detection 251–252

text 60

Transform properties 18–19

trimming 141, 285

layer styles 155

Layer switches in the Timeline
panel 27

learning resources for Adobe
After Effects 6

Learn panel 36

- length of composition 41
- Lens Flare effect 376
- lesson files, downloading 4
- Libraries panel 119
- lighting, simulating changes
 - in 151–152, 163–167
- lights
 - adding 3D 312
 - using HDR images as 316
- Light Settings dialog box 313
- linked assets 14
- linking animations through expressions 156
- locking layers 204

M

- Mask Feather tool 194
- masks
 - about 182
 - Bezier 186, 188
 - creating 364–365
 - creating with the Pen tool 163–164, 184
 - curved 186
 - drawing with shape tools 197
 - editing 185
 - feathering 194
 - inverting 185
 - modes 165, 185, 258–259
 - modifying with the Convert Vertex tool 187

- properties, displaying 185
- replacing content of 188
- segments 182
- tips for creating 184
- tracking 257
- tracking faces 243
- vertices 182
- working with 180

- mask tracker 257–259

- Material Options
 - properties 315

- mattes
 - about 222
 - adjusting with the Refine Edge tool 232–233
 - track 156–159, 159
 - traveling 159
 - viewing against black 228
 - viewing with red overlay 228

- Maxon Cinema 4D
 - Lite 322–323

- Media Encoder.
 - See* Adobe Media Encoder

- meshes
 - adjusting the Density value 212
 - changing the color of 211
 - used with Puppet tools 208

- missing fonts, effects,
 - or footage 14, 402

- mobile devices, preparing compositions for 392

- Mocha AE plug-in 367

- modes, mask 185
- motion blur, adding 85, 160
- Motion Graphics templates
 - about 280
 - creating 278–297
 - exporting 292–293
 - grouping properties in 289
 - making source text editable in 287
 - opening in After Effects 292
 - replacing images in 290
 - sharing 280
 - specifying master compositions for 286
 - using in Premiere Pro 295
- motion paths, customizing 129
- Motion Source 360
- Motion Target 360
- motion tracking
 - analyzing and applying 361
 - managing drift when 363
 - single-point 356–362

N

- nesting compositions 16, 49
- New Composition button 281
- New Composition from Footage button 90
- NTSC D1 preset 41
- null objects 110–111

O

- Offset Paths in shape layers 97
- opacity
 - animating 77, 191
 - modifying 51
- optimizing performance in After Effects 3, 33
- Orbit tools 310
- Out point 27
- output modules in the Render Queue panel 53
- outputting projects 386–401
- overlap, defining areas of 212
- Overlap pins 208
- overscan 24

P

- Pan Behind tool 122
- panels
 - docking and arranging 10
 - maximizing 12
 - menus 27
- panning with touch gestures 189
- Pan tools 310
- paragraph text 60
- parenting
 - about 110
 - layers 109, 123
 - layers to null objects 110–111

- particle systems, creating 367–378
- path operations
 - about 102
 - Pucker & Bloat 102
 - Wiggle Paths 93
- Pen tool 98, 106, 184
- performance, optimizing 3, 33
- Photoshop.
 - See* Adobe Photoshop files
- pick whip 153
- pixel aspect ratio 400
- point of interest 318
- point text 63
- position, animating 83, 103
- positioning objects using ruler guides 45
- Position pins
 - adding 208–210
 - animating 214
- Position property 19
- Pre-compose dialog box 49, 125
- precomposed layers, animating 139
- precomposing layers 49, 98, 125, 169–170, 270–271
- preferences
 - Center Anchor Point In New Shape Layers 92
 - location of files 3

- restoring defaults 3, 402
- restoring defaults in Windows 11

Premiere Pro.
See Adobe Premiere Pro

- presets
 - browsing in Adobe Bridge 68
 - creating for Adobe Media Encoder 397–400
 - finding 20
- previewing
 - compositions 30
 - in real time 32
 - manually 48

Preview panel 30

- Project panel
 - about 14
 - opening 53

- projects
 - about 12
 - saving 15

- properties
 - grouping in the Essential Graphics panel 289
 - hiding in the Timeline panel 22

- Properties panel
 - about 30
 - essential properties in 294
 - formatting text in 63
 - shape settings in 99

Pucker & Bloat 102–103

Puppet tools
 about 207
 distorting objects
 with 200–219
 Puppet Advanced Pin
 tool 208, 210–211
 Puppet Bend Pin
 tool 208, 210
 Puppet Overlap Pin
 tool 208, 212
 Puppet Position Pin
 tool 208
 Puppet Sketch
 tool 216–217
 Puppet Starch Pin
 tool 208, 213–217
 recording animation
 with 216
 using the mesh 208

Q

QuickTime 2

R

Raining Characters
 In animation preset 73
Ramp effect 375
recording puppet pin
 animation 216
Rectangle tool 197
red overlay in matte
 preview 228
Reduce Chatter value 231
Refine Edge tool 232–233

Refine Hard Matte effect 232
Refine Soft Matte effect 232
reflections, adding 191
remap-time marker in the
 Source Time ruler 171
removing objects from
 footage 363–367
rendering
 compositions 52–54
 default settings for 53
 for mobile devices 392
 movies 386–401
 templates 393
 using compression in 395
 using the Render Queue
 panel 242, 389–395
 with Adobe Media
 Encoder 394–399
Render Queue
 panel 241, 393–400
 adding compositions to 53
Render Settings options 53
render-settings
 templates 393–397
render times, by layer 167, 402
replacing
 backgrounds 257–260
 content using a mask 188
 content with content-
 aware fill 363–367
resetting preferences 402
resizing layers 206

resources for using
 After Effects 36
Responsive Design -
 Time 291–292
restoring default
 preferences 3, 11
retiming compositions
 168–177, 379
Ripple animation preset 68
rolling shutter distortions,
 repairing 328
Roto Brush & Refine Edge
 effect 231
Roto Brush tool
 creating background
 strokes 226–227
 creating foreground
 strokes 224–225
 freezing results 234
 refining a segmentation
 boundary 228–231
 using 220–245
rotoscoping 222
Rounded Rectangle tool 100
rulers, showing 45

S

Safe Mode 402
safe zones 25
sample text, using
 in Adobe Fonts 61
sampling algorithms 349

- saturation, adjusting 252–254
 - saving projects 15
 - scale
 - animating 65, 103
 - modifying 206
 - Scene Edit Detection 251–252
 - segmentation boundary 224–227
 - segments in a mask 182
 - selectors in text animator groups 81
 - Select View Layout pop-up menu 309
 - separating background from foreground 222–245
 - Sequence Layers command 275
 - shadow catcher 343
 - shadows
 - adding to a 3D scene 315
 - creating with the 3D Camera Tracker effect 341
 - simulating 191
 - shape layers
 - 3D 301–302
 - about 88, 90
 - applying fills and strokes to 92
 - centering anchor points in 92
 - creating 91
 - duplicating 95
 - settings in Properties panel 99
 - shapes
 - custom 98–100
 - drawing 91, 98
 - self-animating 93
 - shared projects 36
 - Shutter Angle 160
 - Shutter Phase 160
 - Slow Fade On animation preset 206
 - snapping layers 100–104
 - Snap to Grid command 65
 - solid layers
 - creating 136, 165
 - using to create particle systems 369
 - using with 3D Camera Tracker 336–337
 - soloing layers 161
 - Solo Supported Properties in the Essential Graphics panel 288
 - soundtrack, adding 143
 - Source Text property 287
 - Source Time ruler in time remapping 171
 - Specular Intensity 315
 - Specular Shininess 315
 - split layers by scene 251
 - squares, drawing 197
 - squash and stretch animation 213
 - stabilizing video 348–355
 - stacked panels 10
 - Starch pins
 - about 208
 - adding 213
 - Star tool 92
 - Startup Repair Options dialog box 402
 - Stock images in Libraries panel 119
 - strokes 93
 - tapering 107
 - Sync Selected Fonts 62
- ## T
- team projects 36
 - templates
 - for rendering 393–397
 - Motion Graphics 286–287
 - text
 - 3D 307–308
 - adding 60–65, 282
 - animating 58–87, 71, 81, 238–240, 282–284
 - animating tracking in 75
 - animation presets for 25–26, 67
 - converting to editable 23–24, 72, 205
 - creating 44
 - editing 44, 72
 - editing imported 205
 - entering in the Composition panel 63
 - formatting 63–64, 282

- imported from Photoshop 71
 - layers 60
 - making editable in Motion Graphics templates 287
 - naming layers 44
 - point 63
 - positioning 64
 - settings in the Properties panel 63, 307
 - text animator groups 80
 - time. *See* Timewarp effect
 - current-time field 27
 - current-time indicator 27
 - duration 26
 - freezing frames 273–274
 - protecting duration 291–292
 - remapping 170–174
 - ruler 27
 - timecode 26
 - time graph 27
 - time-lapse simulation, creating 168
 - Timeline panel
 - about 27
 - expanding layers in 19
 - renaming layers in 73
 - Time Remap keyframes 173
 - Timewarp effect 379–384
 - title-safe zones 24
 - Toggle Alpha Boundary button 228
 - Toggle Alpha button 228
 - Toggle Alpha Overlay button 228
 - Toggle Transparency Grid button 235
 - tools
 - about 24
 - Clone Stamp 262–264
 - drawing 91
 - Ellipse 197
 - Pan Behind 122
 - Puppet 207
 - Rectangle 197
 - Tools panel 24
 - touch gestures 189
 - Track Camera command 329
 - Tracker panel 259
 - tracking in type, animating 75
 - tracking motion
 - faces 243
 - single-point 356–362
 - using Mocha AE 367
 - using the 3D Camera Tracker 328–329
 - with masks 364–365
 - tracking presets 76
 - track mattes 156–159
 - track points
 - for 3D Camera Tracker 329
 - moving and resizing 359
 - positioning 358–360
 - training, Adobe product 7
 - Transform properties 19
 - transitions between scenes 274–275
 - transparency 51. *See also* opacity
 - traveling mattes 159
 - trimming layers 141, 285
 - tutorials, accessing 6, 36
 - type. *See* text
 - Typewriter animation preset 284
- ## U
- U key 74
 - undocking panels 10
 - Use Dimensions From menu 16
 - user interface
 - about 10
 - customizing brightness 35
- ## V
- vertices
 - converting 187
 - in a mask 182
 - Video switch 30, 50
 - views, 3D 308
 - vignettes, adding 196, 267

W

Warp Stabilizer VFX 348–355

Wave Warp effect 140

Web Edition 4

White Clip 261

Wiggle Paths 93

work area

brackets 27

introduction to 10

workflow 11

workspaces

about 10

customizing 10, 34

Essential Graphics 287

Learn 36

predefined 34

X

x axis in the 3D Transform
Gizmo 302

Y

y axis in the 3D Transform
Gizmo 302

Z

z axis in the 3D Transform
Gizmo 302

zooming with touch gestures
189