

Making Everything Easier!™

Nikon® D3100™

FOR
DUMMIES®

Learn to:

- Take creative control of exposure, focus, and color
- Step up from Auto mode to advanced photography options
- Shoot full HD videos

IN FULL COLOR!

Julie Adair King

Bestselling author of Nikon D90 For Dummies and Nikon D5000 For Dummies



Get More and Do More at Dummies.com®



Start with **FREE** Cheat Sheets

Cheat Sheets include

- Checklists
- Charts
- Common Instructions
- And Other Good Stuff!

To access the Cheat Sheet created specifically for this book, go to
www.dummies.com/cheatsheet/nikond3100

Get Smart at Dummies.com

Dummies.com makes your life easier with 1,000s of answers on everything from removing wallpaper to using the latest version of Windows.

Check out our

- Videos
- Illustrated Articles
- Step-by-Step Instructions

Plus, each month you can win valuable prizes by entering our Dummies.com sweepstakes.*

Want a weekly dose of Dummies? Sign up for Newsletters on

- Digital Photography
- Microsoft Windows & Office
- Personal Finance & Investing
- Health & Wellness
- Computing, iPods & Cell Phones
- eBay
- Internet
- Food, Home & Garden

Find out "HOW" at Dummies.com

*Sweepstakes not currently available in all countries; visit Dummies.com for official rules.



Nikon® D3100™

FOR

DUMMIES®

Nikon[®] ***D3100***[™]
FOR
DUMMIES[®]

by Julie Adair King



WILEY

Wiley Publishing, Inc.

Nikon® D3100™ For Dummies®

Published by
Wiley Publishing, Inc.
111 River Street
Hoboken, NJ 07030-5774

www.wiley.com

Copyright © 2011 by Wiley Publishing, Inc., Indianapolis, Indiana

Published by Wiley Publishing, Inc., Indianapolis, Indiana

Published simultaneously in Canada

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

Trademarks: Wiley, the Wiley Publishing logo, For Dummies, the Dummies Man logo, A Reference for the Rest of Us!, The Dummies Way, Dummies Daily, The Fun and Easy Way, Dummies.com, Making Everything Easier, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc. and/or its affiliates in the United States and other countries, and may not be used without written permission. Nikon and D3100 are trademarks of Nikon Corporation. All other trademarks are the property of their respective owners. Wiley Publishing, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: THE PUBLISHER AND THE AUTHOR MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS WORK AND SPECIFICALLY DISCLAIM ALL WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES OR PROMOTIONAL MATERIALS. THE ADVICE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR EVERY SITUATION. THIS WORK IS SOLD WITH THE UNDERSTANDING THAT THE PUBLISHER IS NOT ENGAGED IN RENDERING LEGAL, ACCOUNTING, OR OTHER PROFESSIONAL SERVICES. IF PROFESSIONAL ASSISTANCE IS REQUIRED, THE SERVICES OF A COMPETENT PROFESSIONAL PERSON SHOULD BE SOUGHT. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR DAMAGES ARISING HEREFROM. THE FACT THAT AN ORGANIZATION OR WEBSITE IS REFERRED TO IN THIS WORK AS A CITATION AND/OR A POTENTIAL SOURCE OF FURTHER INFORMATION DOES NOT MEAN THAT THE AUTHOR OR THE PUBLISHER ENDORSES THE INFORMATION THE ORGANIZATION OR WEBSITE MAY PROVIDE OR RECOMMENDATIONS IT MAY MAKE. FURTHER, READERS SHOULD BE AWARE THAT INTERNET WEBSITES LISTED IN THIS WORK MAY HAVE CHANGED OR DISAPPEARED BETWEEN WHEN THIS WORK WAS WRITTEN AND WHEN IT IS READ.

For general information on our other products and services, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

For technical support, please visit www.wiley.com/techsupport.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Library of Congress Control Number: 2010941211

ISBN: 978-1-118-00472-2

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1



About the Author

Julie Adair King is the author of many books about digital photography and imaging, including the best-selling *Digital Photography For Dummies*. Her most recent titles include a series of *For Dummies* guides to popular digital SLR cameras, including the *Canon EOS Rebel T2i/550D, T1i/500D, XSi/450D, XS/1000D*, and *XTi/400D*, and *Nikon D5000, D3000, D300s, D90, D60*, and *D40/D40x*. Other works include *Digital Photography Before & After Makeovers*, *Digital Photo Projects For Dummies*, *Julie King's Everyday Photoshop For Photographers*, *Julie King's Everyday Photoshop Elements*, and *Shoot Like a Pro!: Digital Photography Techniques*. When not writing, King teaches digital photography at such locations as the Palm Beach Photographic Centre. A graduate of Purdue University, she resides in Indianapolis, Indiana.

Author's Acknowledgments

I am deeply grateful for the chance to work once again with the wonderful publishing team at John Wiley and Sons. Kim Darosett, Jennifer Webb, Steve Hayes, Jen Riggs, and Katie Crocker are just some of the talented editors and designers who helped make this book possible. And finally, I am also indebted to technical editor Dave Hall, without whose insights and expertise this book would not have been the same.

Publisher's Acknowledgments

We're proud of this book; please send us your comments at <http://dummies.custhelp.com>. For other comments, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

Some of the people who helped bring this book to market include the following:

Acquisitions and Editorial

Project Editor: Kim Darosett

Executive Editor: Steven Hayes

Copy Editor: Jennifer Riggs

Technical Editor: David Hall

Editorial Manager: Leah Cameron

Editorial Assistant: Amanda Graham

Sr. Editorial Assistant: Cherie Case

Cartoons: Rich Tennant
(www.the5thwave.com)

Composition Services

Project Coordinator: Katherine Crocker

Layout and Graphics: Samantha K. Cherolis

Proofreaders: Susan Hobbs, Jessica Kramer

Indexer: Sherry Massey

Publishing and Editorial for Technology Dummies

Richard Swadley, Vice President and Executive Group Publisher

Andy Cummings, Vice President and Publisher

Mary Bednarek, Executive Acquisitions Director

Mary C. Corder, Editorial Director

Publishing for Consumer Dummies

Diane Graves Steele, Vice President and Publisher

Composition Services

Debbie Stailey, Director of Composition Services

Contents at a Glance

<i>Introduction</i>	1
<i>Part I: Fast Track to Super Snaps</i>	5
Chapter 1: Getting the Lay of the Land	7
Chapter 2: Choosing Basic Picture Settings	45
Chapter 3: Taking Great Pictures, Automatically	71
Chapter 4: Exploring Live View and Movie Making	91
<i>Part II: Working with Picture Files</i>	119
Chapter 5: Playback Mode: Viewing, Erasing, and Protecting Photos	121
Chapter 6: Downloading, Printing, and Sharing Your Photos	157
<i>Part III: Taking Creative Control</i>	195
Chapter 7: Getting Creative with Exposure and Lighting	197
Chapter 8: Manipulating Focus and Color	243
Chapter 9: Putting It All Together.....	283
<i>Part IV: The Part of Tens</i>	305
Chapter 10: Ten Fun and Practical Retouch Menu Features	307
Chapter 11: Ten Special-Purpose Features to Explore on a Rainy Day.....	329
<i>Index</i>	349

Table of Contents

Introduction	1
A Quick Look at What's Ahead	1
Icons and Other Stuff to Note	2
eCheat Sheet.....	4
Practice, Be Patient, and Have Fun!.....	4
Part 1: Fast Track to Super Snaps	5
Chapter 1: Getting the Lay of the Land	7
Getting Comfortable with Your Lens	8
Attaching a lens.....	8
Removing a lens	10
Setting the focus mode (auto or manual).....	10
Zooming in and out.....	12
Using a VR (Vibration Reduction) lens	12
Adjusting the Viewfinder Focus.....	13
Working with Memory Cards	14
Exploring External Camera Controls.....	17
Topside controls.....	17
Back-of-the-body controls.....	19
Front-left buttons	22
Hidden connections.....	23
Ordering from Camera Menus	24
Using the guided menus.....	25
Ordering off the main menus.....	29
Monitoring Shooting Settings.....	31
Using the Quick Settings Screen.....	33
Displaying Help Screens	34
Customizing Your Camera: Setup Menu Options	35
Restoring Default Settings	42
Chapter 2 : Choosing Basic Picture Settings	45
Choosing an Exposure Mode	46
Choosing the (Shutter Button) Release Mode	48
Adding Flash.....	51
Enabling flash	52
Setting the Flash mode.....	53

Choosing the Right Quality Settings	55
Diagnosing quality problems.....	56
Considering image size: How many pixels are enough?	58
Understanding Image Quality options (JPEG or Raw)	61
My take: Choose JPEG Fine or Raw (NEF).....	67
Setting Image Size and Quality.....	67

Chapter 3: Taking Great Pictures, Automatically 71

Setting Up for Automatic Success	72
As Easy As It Gets: Auto and Auto Flash Off	75
Taking Advantage of Scene Modes.....	79
Portrait and Child modes.....	80
Landscape mode	82
Sports mode	83
Close Up mode	84
Night Portrait mode.....	85
Getting More Creative with Guide Mode	86

Chapter 4: Exploring Live View and Movie Making 91

Using Your Monitor as a Viewfinder	92
Live View safety tips.....	93
Customizing the Live View display.....	96
Exploring Your Focusing Options	97
Choosing the right focusing pairs.....	102
Autofocusing in Live View and movie mode	102
Manual focusing in Live View and movie mode.....	105
Shooting Still Pictures in Live View Mode.....	106
Shooting Digital Movies	109
Setting recording options	109
Starting and stopping recording.....	112
Screening Your Movies	113
Trimming movies	115
Saving a movie frame as a still image.....	116

Part II: Working with Picture Files 119

Chapter 5: Playback Mode: Viewing, Erasing, and Protecting Photos 121

Setting Playback Timing Preferences.....	122
Adjusting playback timing	122
Adjusting and disabling instant review.....	124
Enabling Automatic Picture Rotation	124

Viewing Images in Playback Mode	126
Viewing multiple images at a time	128
Displaying photos in Calendar view	130
Zooming in for a closer view	131
Viewing Picture Data	133
File Information mode	135
RGB Histogram mode	137
Highlights display mode	140
Shooting Data display mode	141
Overview Data mode	142
Deleting Photos	144
Deleting images one at a time	145
Deleting all photos	145
Deleting a batch of selected photos	146
Protecting Photos	149
Creating a Digital Slide Show	150
Viewing Your Photos on a Television	153

Chapter 6: Downloading, Printing, and Sharing Your Photos 157

Choosing the Right Photo Software	157
Three free photo programs	158
Advanced photo programs	159
Sending Pictures to the Computer	162
Connecting the camera and computer for picture download	163
Starting the transfer process	164
Downloading photos with Nikon ViewNX 2	167
Processing Raw (NEF) Files	172
Processing Raw images in the camera	173
Processing Raw files in ViewNX 2	176
Planning for Perfect Prints	180
Check the pixel count before you print	180
Allow for different print proportions	183
Get print and monitor colors in sync	184
Preparing Pictures for E-Mail and Online Sharing	187
Resizing a single photo	191
Resizing a batch of images	192

Part III: Taking Creative Control..... 195

Chapter 7: Getting Creative with Exposure and Lighting 197

Introducing the Exposure Trio: Aperture, Shutter Speed, and ISO	198
Understanding exposure-setting side effects	200
Doing the exposure balancing act	206

Exploring the Advanced Exposure Modes	208
Reading (And Adjusting) the Meter	209
Setting ISO, Aperture, and Shutter Speed.....	212
Adjusting aperture and shutter speed	212
Controlling ISO	214
Choosing an Exposure Metering Mode.....	218
Applying Exposure Compensation	221
Using Autoexposure Lock.....	225
Expanding Tonal Range with Active D-Lighting.....	227
Investigating Advanced Flash Options	229
Enabling flash in P, S, A, and M modes.....	230
Choosing the right Flash mode	231
Adjusting flash output	237
Controlling Flash Output Manually	241
Chapter 8: Manipulating Focus and Color	243
Mastering the Autofocus System.....	244
Reviewing autofocus basics	244
Understanding the AF-area mode setting	246
Changing the Focus mode setting.....	251
Choosing the right autofocus combo	252
Using autofocus lock	253
Focusing Manually.....	254
Manipulating Depth of Field	257
Controlling Color	264
Correcting colors with white balance.....	264
Changing the White Balance setting.....	266
Fine-tuning White Balance settings	269
Creating white balance presets.....	271
Choosing a Color Space: sRGB versus Adobe RGB	274
Taking a Quick Look at Picture Controls.....	276
Chapter 9: Putting It All Together	283
Recapping Basic Picture Settings	284
Setting Up for Specific Scenes	284
Shooting still portraits	285
Capturing action	292
Capturing scenic vistas.....	295
Capturing dynamic close-ups.....	299
Coping with Special Situations	301

Part IV: The Part of Tens..... 305**Chapter 10: Ten Fun and Practical Retouch Menu Features 307**

Applying the Retouch Menu Filters.....	308
Removing Red-Eye.....	310
Shadow Recovery with D-Lighting.....	312
Boosting Shadows, Contrast, and Saturation Together	313
Tweaking Color in Two Ways.....	315
Applying digital lens filters	315
Manipulating color balance.....	317
Creating Monochrome Photos.....	318
Straightening Tilting Horizon Lines.....	320
Removing (Or Creating) Lens Distortion.....	322
Correcting Perspective	324
Cropping (Trimming) Your Photo.....	326

**Chapter 11: Ten Special-Purpose Features
to Explore on a Rainy Day 329**

Annotating Your Images	329
Creating Custom Image Folders.....	332
Changing the Function Button's Function.....	334
Customizing the AE-L/AF-L Button	336
Using the Shutter Button to Lock Exposure and Focus.....	337
Adding a Starburst Effect.....	338
Creating a Color Outline	340
Softening Focus for a Dreamy Effect	341
Creating a Miniature Effect.....	343
Combining Two Photos with Image Overlay.....	344

Index..... 349

Introduction

Once upon a time, making the move from a point-and-shoot digital camera to an SLR model required boatloads of cash and the willingness to cart around a bulky, heavy piece of equipment. All that changed a few years ago when Nikon introduced the D40, a digital SLR that offered a compact size *and* an equally compact price.

With the D3100, Nikon proves once again that you don't have to give an arm and a leg — or strain your back and neck — to enjoy dSLR photography. Yet despite its diminutive size, the D3100 doesn't skimp on power or performance, offering a great set of features to help you take your photography to the next level.

In fact, the D3100 offers so *many* features that sorting them all out can be more than a little confusing, especially if you're new to digital photography, SLR photography, or both. For starters, you may not even be sure what SLR means or how it affects your picture taking, let alone have a clue as to all the other techie terms you encounter in your camera manual — *resolution*, *aperture*, *white balance*, and so on. And if you're like many people, you may be so overwhelmed by all the controls on your camera that you haven't yet ventured beyond fully automatic picture-taking mode. Which is a shame because it's sort of like buying a Porsche 911 and never heading out for the open road.

Therein lies the point of *Nikon D3100 For Dummies*. Through this book, you can discover not just what each bell and whistle on your camera does, but also when, where, why, and how to put it to best use. Unlike many photography books, this one doesn't require any previous knowledge of photography or digital imaging to make sense of things, either. In classic *For Dummies* style, everything is explained in easy-to-understand language, with lots of illustrations to help clear up any confusion.

In short, what you have in your hands is the paperback version of an in-depth photography workshop tailored specifically to your Nikon picture-taking powerhouse.

A Quick Look at What's Ahead

This book is organized into four parts, each devoted to a different aspect of using your camera. Although chapters flow in a sequence that's designed to take you from absolute beginner to experienced user, I've also tried to make each chapter as self-standing as possible so that you can explore the topics that interest you in any order you please.

Here's a brief preview of what you can find in each part of the book:

- ✔ **Part I: Fast Track to Super Snaps:** Part I contains four chapters to help you get up and running. Chapter 1 offers a tour of the external controls on your camera, shows you how to navigate camera menus to access internal options, and walks you through initial camera setup. Chapter 2 explains basic picture-taking options, such as shutter-release mode and image quality settings, and Chapter 3 shows you how to use the camera's fully automatic exposure modes. Chapter 4 explains the ins and outs of using *Live View*, the feature that lets you compose pictures on the monitor, and also covers movie recording.
- ✔ **Part II: Working with Picture Files:** This part offers two chapters, both dedicated to after-the-shot topics. Chapter 5 explains how to review your pictures on the camera monitor, delete unwanted images, and protect your favorites from accidental erasure. Chapter 6 guides you through the process of downloading pictures to your computer, preparing photos for printing, and sharing images online.
- ✔ **Part III: Taking Creative Control:** Chapters in this part help you unleash the full creative power of your camera by moving into the advanced shooting modes (P, S, A, and M). Chapter 7 covers the critical topic of exposure, and Chapter 8 explains how to manipulate focus and color. Chapter 9 summarizes all the techniques explained in earlier chapters, providing a quick-reference guide to the camera settings and shooting strategies that produce the best results for portraits, action shots, landscape scenes, and close-ups.
- ✔ **Part IV: The Part of Tens:** In famous *For Dummies* tradition, the book concludes with two “top ten” lists containing additional bits of information and advice. Chapter 10 covers features found on the camera's Retouch menu, including tools that enable you to crop your photo, adjust color and exposure, and make other picture adjustments right in the camera. Chapter 11 wraps up the book by detailing some camera features that, while not found on most “Top Ten Reasons I Bought My Nikon D3100” lists, are nonetheless interesting, useful on occasion, or a bit of both.

Icons and Other Stuff to Note

If this isn't your first *For Dummies* book, you may be familiar with the large, round icons that decorate its margins. If not, here's your very own icon-decoder ring:



A Tip icon flags information that will save you time, effort, money, or some other valuable resource, including your sanity. Tips also point out techniques that help you get the best results from specific camera features.



When you see this icon, look alive. It indicates a potential danger zone that can result in much wailing and teeth-gnashing if ignored. In other words, this is stuff that you really don't want to learn the hard way.



Lots of information in this book is of a technical nature — digital photography is a technical animal, after all. But if I present a detail that is useful mainly for impressing your technology-geek friends, I mark it with this icon.



I apply this icon either to introduce information that is especially worth storing in your brain's long-term memory or to remind you of a fact that may have been displaced from that memory by some other pressing fact.

Additionally, I need to point out three details that will help you use this book:

- **Other margin art:** Replicas of some of your camera's buttons and onscreen symbols also appear in the margins of some paragraphs. I include these to provide a quick reminder of the appearance of the button or feature being discussed.
- **Software menu commands:** In sections that cover software, a series of words connected by an arrow indicates commands that you choose from the program menus. For example, if a step tells you to "Choose File→Convert Files," click the File menu to unfurl it and then click the Convert Files command on the menu.
- **Camera firmware:** *Firmware* is the internal software that controls many of your camera's operations. The D3100 firmware consists of parts called A, B, and L. At the time this book was written, both A and B were version 1.00, and L was version 1.002.

Occasionally, Nikon releases firmware updates, and it's a good idea to check out the Nikon Web site (www.nikon.com) periodically to find out whether any updates are available. (Chapter 1 tells you how to determine which firmware version your camera is running.) Firmware updates typically don't carry major feature changes — they're mostly used to solve technical glitches in existing features — but if you do download an update, be sure to read the accompanying description of what it accomplishes so that you can adapt my instructions as necessary.

eCheat Sheet

As a little added bonus, you can find an electronic version of the famous *For Dummies* Cheat Sheet at www.dummies.com/cheatsheet/nikond3100. The Cheat Sheet contains a quick-reference guide to all the buttons, dials, switches, and exposure modes on your D3100. Log on, print it, and tuck it in your camera bag for times when you don't want to carry this book with you.

Practice, Be Patient, and Have Fun!

To wrap up this preamble, I want to stress that if you initially think that digital photography is too confusing or too technical for you, you're in very good company. *Everyone* finds this stuff a little mind-boggling at first. So take it slowly, experimenting with just one or two new camera settings or techniques at first. Then, each time you go on a photo outing, make it a point to add one or two more shooting skills to your repertoire.

I know that it's hard to believe when you're just starting out, but it really won't be long before everything starts to come together. With some time, patience, and practice, you'll soon wield your camera like a pro, dialing in the necessary settings to capture your creative vision almost instinctively.

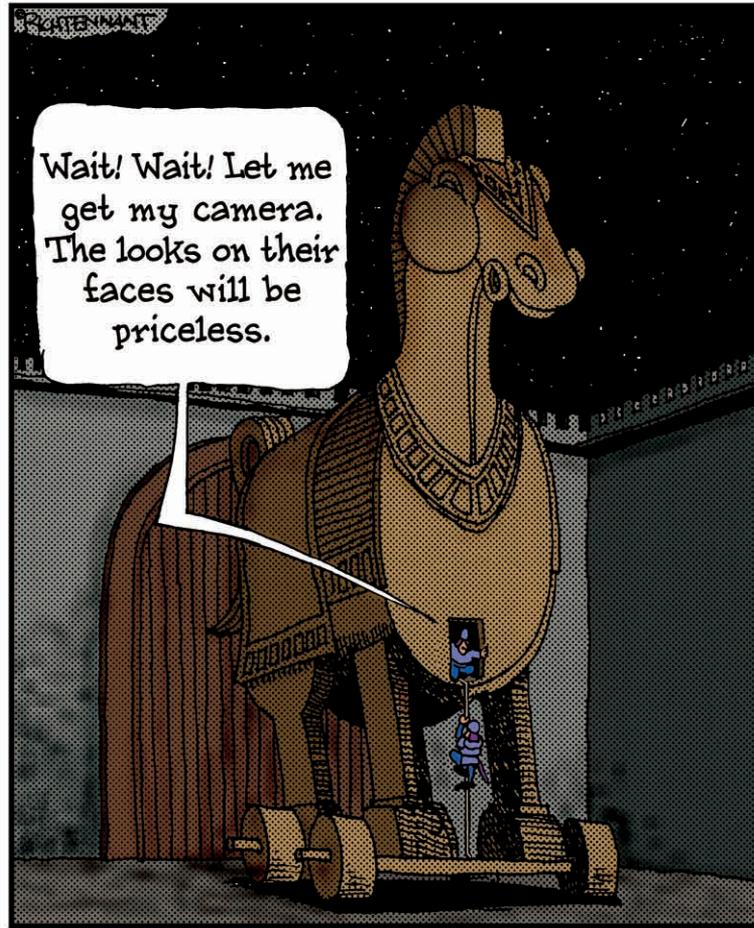
So without further ado, I invite you to grab your camera, a cup of whatever it is you prefer to sip while you read, and start exploring the rest of this book. Your D3100 is the perfect partner for your photographic journey, and I thank you for allowing me, through this book, to serve as your tour guide.

Part I

Fast Track to Super Snaps

The 5th Wave

By Rich Tennant



In this part . . .

Making sense of all the controls on your D3100 isn't something you can do in an afternoon — heck, in a week, or maybe even a month. But that doesn't mean that you can't take great pictures today. By using your camera's point-and-shoot automatic modes, you can capture terrific images with very little effort. All you do is compose the scene, and the camera takes care of almost everything else.

This part shows you how to take best advantage of your camera's automatic features and also addresses some basic setup steps, such as adjusting the viewfinder to your eyesight and getting familiar with the camera menus, buttons, and other controls. In addition, chapters in this part explain how to obtain the very best picture quality, whether you shoot in an automatic or manual mode, and how to use your camera's Live View and movie-making features.



Getting the Lay of the Land

In This Chapter

- ▶ Attaching and using an SLR lens
 - ▶ Adjusting the viewfinder to your eyesight
 - ▶ Working with memory cards
 - ▶ Exploring the camera controls
 - ▶ Selecting from menus
 - ▶ Using the Shooting Information, Quick Settings, and help screens
 - ▶ Customizing basic operations
 - ▶ Restoring default settings
-

I still remember the day that I bought my first single-lens reflex (SLR) film camera. I was excited to finally move up from my one-button point-and-shoot camera, but I was a little anxious, too. My new pride and joy sported several unfamiliar buttons and dials, and the explanations in the camera manual clearly were written for someone with an engineering degree. And then there was the whole business of attaching the lens to the camera, an entirely new task for me. I saved up my pennies a long time for that camera — what if my inexperience caused me to damage the thing before I even shot my first pictures?

You may be feeling similarly insecure if your Nikon D3100 is your first SLR, although some of the buttons on the camera back may look familiar if you've previously used a digital point-and-shoot camera. If your D3100 is both your first SLR and first digital camera, you may be doubly intimidated.



Trust me, though, that your camera isn't nearly as complicated as its exterior makes it appear. With a little practice and the help of this chapter, which introduces you to each external control, you can become as comfortable with your camera's buttons and dials as you are with the ones on your car's dashboard. This chapter also guides you through the process of mounting and using an SLR lens, working with memory cards, navigating your camera's menus, and customizing basic camera operations.

Getting Comfortable with Your Lens

One of the biggest differences between a point-and-shoot camera and an SLR camera is the lens. With an SLR, you can swap out lenses to suit different photographic needs, going from a *macro lens*, which enables you to shoot extreme close-ups, to a *telephoto lens*, which lets you photograph subjects from a distance, for example. In addition, an SLR lens has a movable focusing ring that lets you focus manually instead of relying on the camera's autofocus mechanism.

Of course, those added capabilities mean that you need a little information to take full advantage of your lens. To that end, the next several sections explain the process of attaching, removing, and using this critical part of your camera.

Attaching a lens



Your camera can autofocus only with a type of lens that carries the specification *AF-S*. (Well, technically speaking, the camera can autofocus with *AF-I* lenses also. But because those are high-end, very expensive lenses that are no longer made, this is the only mention of *AF-I* lenses in this book.) You can use other types of lenses, as long as they're compatible with the camera's lens mount, but you have to focus manually.

Whatever lens you choose, follow these steps to attach it to the camera body:

1. **Turn the camera off and remove the cap that covers the lens mount on the front of the camera.**
2. **Remove the cap that covers the back of the lens.**
3. **Hold the lens in front of the camera so that the little white dot on the lens aligns with the matching dot on the camera body.**

Official photography lingo uses the term *mounting index* instead of *little white dot*. Either way, you can see the markings in question in Figure 1-1.

Note that the figure (and others in this book) shows the D3100 with its so-called *kit lens* — the 18–55mm AF-S Vibration Reduction (VR) zoom lens that Nikon sells as a unit with the body. If you buy a lens from a manufacturer other than Nikon, your dot may be red or some other color, so check the lens instruction manual.

4. **Keeping the dots aligned, position the lens on the camera's lens mount, as shown in Figure 1-1.**

When you do so, grip the lens by its back collar, not the movable, forward end of the lens barrel.

5. **Turn the lens in a counterclockwise direction until the lens clicks into place.**

To put it another way, turn the lens toward the side of the camera that sports the shutter button, as indicated by the red arrow in the figure.

6. **On a lens that has an aperture ring, set and lock the ring so the aperture is set at the highest f-stop number.**

Check your lens manual to find out whether your lens sports an aperture ring and how to adjust it. (The D3100 kit lens doesn't.) To find out more about apertures and f-stops, see Chapter 7.



Figure 1-1: When attaching the lens, align the index markers as shown here.



Even though the D3100 is equipped with a dust reduction system, always attach (or switch) lenses in a clean environment to reduce the risk of getting dust, dirt, and other contaminants inside the camera or lens. Changing lenses on a sandy beach, for example, isn't a good idea. For added safety, point the camera body slightly down when performing this maneuver; doing so helps prevent any flotsam in the air from being drawn into the camera by gravity.

Removing a lens

To detach a lens from the camera body, take these steps:

1. **Turn off the camera and then locate the lens-release button, labeled in Figure 1-1.**
2. **Press the lens-release button while turning the lens clockwise (toward the button) until the mounting index on the lens is aligned with the index on the camera body.**

The mounting indexes are the little guide dots labeled in Figure 1-1. When the dots line up, the lens detaches from the mount.

3. **Place the rear protective cap onto the back of the lens.**

If you aren't putting another lens on the camera, cover the lens mount with the protective cap that came with your camera, too.

Setting the focus mode (auto or manual)

Again, the option to switch between autofocus and manual focusing depends on matching the D3100 with a fully compatible lens, as I explain in the earlier section, "Attaching a lens." With the kit lens, as well as with other AF-S lenses, you can enjoy autofocus as well as manual focusing.



The AF stands for *autofocus*, as you may have guessed. The S stands for *silent wave*, a Nikon autofocus technology.

For times when you attach a lens that doesn't support autofocus or the autofocus system has trouble locking on your subject, you can focus manually by twisting a focusing ring on the lens barrel. The placement and appearance of the focusing ring depend on the lens; Figure 1-2 shows you the one on the kit lens.

To focus manually with the kit lens, take these steps:

1. **Set the focus mode switch on the lens to the M (manual) position.**
Figure 1-2 gives you a look at the switch.
2. **While looking through the viewfinder, twist the focusing ring to adjust focus.**



If you have trouble focusing, you may be too close to your subject; every lens has a minimum focusing distance. You may also need to adjust the viewfinder to accommodate your eyesight; you can get help with the process a few paragraphs from here.



Figure 1-2: On the 18–55mm kit lens, the manual-focusing ring is set near the front of the lens, as shown here.

If you use a lens other than the kit lens, check the lens instruction guide for details about focusing manually; your lens may or may not have a switch similar to the one on the kit lens. Also see the Chapter 8 section related to the Focus mode option on the Shooting menu, which should be set to MF for manual focusing. (With the kit lens and some other lenses, the camera automatically chooses the MF setting for you.)



By the way, even when you focus manually, the camera provides some feedback to help you determine whether focus is set correctly. Look in the Chapter 8 section that's devoted to manual focusing for details.

Zooming in and out

If you bought a zoom lens, it has a movable zoom barrel. The location of the zoom barrel on the D3100 kit lens is shown in Figure 1-2. To zoom in or out, just rotate that zoom barrel.

The numbers on the zoom barrel, by the way, represent *focal lengths*. I explain focal lengths in Chapter 8. In the meantime, just note that when the lens is mounted on the camera, the number that's aligned with the lens mounting index (the white dot) represents the current focal length. In Figure 1-2, for example, the focal length is 35mm.

Using a VR (Vibration Reduction) lens

If you purchased the D3100 kit — the body-and-lens combination put together by Nikon — your lens offers *Vibration Reduction*. On Nikon lenses, this feature is indicated by the initials *VR* in the lens name.

Vibration Reduction attempts to compensate for small amounts of camera shake that are common when photographers handhold their cameras and use a slow shutter speed, a lens with a long focal length, or both. That camera movement during the exposure can produce blurry images. Although Vibration Reduction can't work miracles, it enables most people to capture sharper handheld shots in many situations than they otherwise could.

Here's what you need to know about taking best advantage of this feature with your D3100:

- ✓ **Turn Vibration Reduction on or off by using the VR switch, labeled in Figure 1-3.** The switch is located on the lens, directly underneath the Auto/Manual focus switch.
- ✓ **Vibration Reduction is initiated when you depress the shutter button halfway (which also initiates autofocus and exposure metering).** If you pay close



Vibration Reduction switch

Figure 1-3: Turn off Vibration Reduction when you use a tripod.