

Bread Making





More than 85 recipes from around the globe

Tips, tricks, and secrets to bake sourdough or yeast breads

Healthier breads baked with rye and whole-grain flours

Wendy Jo Peterson, MS, RDN

Co-author of *Instant Pot Cookbook*For Dummies



Bread Making

by Wendy Jo Peterson



Bread Making For Dummies®

Published by: John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030-5774, www.wiley.com

Copyright © 2021 by John Wiley & Sons, Inc., Hoboken, New Jersey

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 the prior written permission of the Publisher. 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, For Dummies, the Dummies Man logo, Dummies.com, Making Everything Easier, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc., and may not be used without written permission. Instant Pot is a registered trademark of Instant Brands, Inc. All other trademarks are the property of their respective owners. John Wiley & Sons, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: WHILE THE PUBLISHER AND AUTHOR HAVE USED THEIR BEST EFFORTS IN PREPARING THIS BOOK, THEY MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS BOOK AND SPECIFICALLY DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES REPRESENTATIVES OR WRITTEN SALES MATERIALS. THE ADVISE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR YOUR SITUATION. YOU SHOULD CONSULT WITH A PROFESSIONAL WHERE APPROPRIATE. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR DAMAGES ARISING HEREFROM.

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 https://hub.wiley.com/community/support/dummies.

Wiley publishes in a variety of print and electronic formats and by print-on-demand. Some material included with standard print versions of this book may not be included in e-books or in print-on-demand. If this book refers to media such as a CD or DVD that is not included in the version you purchased, you may download this material at http://booksupport.wiley.com. For more information about Wiley products, visit www.wiley.com.

Library of Congress Control Number: 2020945961

ISBN 978-1-119-75809-9 (pbk); ISBN 978-1-119-75810-5 (ebk); ISBN 978-1-119-75811-2 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

Contents at a Glance

Introduction	1
Part 1: Getting Started with Bread Making	5
CHAPTER 1: Understanding the Basics of Bread Making	
CHAPTER 2: Digging into the Ingredients	
CHAPTER 3: Mastering Basic Bread-Making Techniques	
CHAPTER 4: Uncovering the Secrets of Sourdough	25
CHAPTER 5: Stocking Your Kitchen	41
Part 2: Baking Scrumptious Breads	49
CHAPTER 6: Bread Basics	51
CHAPTER 7: Sourdough Breads	73
CHAPTER 8: Savory Breads	89
CHAPTER 9: Shaped Breads	111
CHAPTER 10: Going Global	133
CHAPTER 11: Sweet Treats	159
CHAPTER 12: Hearty Stuffed Breads	181
CHAPTER 13: Sourdough Discard Recipes	199
CHAPTER 14: Dip It, Spread It, Top It	215
Part 3: The Part of Tens	229
CHAPTER 15: Ten Tips for Successful Bread Making	231
CHAPTER 16: Ten (Or So) Common Sourdough Questions	237
CHAPTER 17: Ten Trendy Sandwiches	241
CHAPTER 18: Ten Ways to Upcycle Stale Bread	249
Part 4: Appendixes	257
APPENDIX A: Metric Conversion Guide	259
APPENDIX B: Grain Mill Guide	263
APPENDIX C: Glossary	
Index	267

Recipes at a Glance

Sourdough	
	201
⊗ Beer-Battered Vegetable Tempura	210
	212
© California Fruit and Nut Sourdough	
© Cheesy Kinder Crackers	206
⊙ Ciabatta	
	114
	204
	147
	136
Golden Honey Wheat Sourdough	
	200
	144
	74
Salted Dark Chocolate Brownies	
Savory Bacon and Cheddar Scones	
Sourdough Flatbread	
Sourdough Spelt and Sesame Bagels	
⊙ Spelt Baguettes	
	150
Whole Grains	
	162
⊙ Dark Rye Bread	
	180
	136
Golden Honey Wheat Sourdough	
	60
	142
⑤ Oatmeal Bread	70
Seedy Sourdough	82

	6
	8
	8
Sandwich Breads	
	8
© Ciabatta	
© Crusty Overnight Bread	
⑤ Dark Rye Bread	
	4
	8
	7
⑤ Golden Egg Bread	2
	6
⑤ Grandma's White Bread56	6
	0
∀ Hot Dog Buns	
⑤ Japanese Milk Bread152	
↑ Meme's Swedish Brown Bread	
○ Nordic Sunflower Bread14	
↑ Pumpkin Seed Bread98	
Sahar's Yemeni Roti	
Seedy Sourdough	
Sharon's Challah Bread	
○ Sourdough Spelt and Sesame Bagels	
♥ Spelt Baguettes	
Summer Beet Bread108	
Sun-Dried Tomato and Olive Bread	
Swabian Farmhouse Bread14	
Wheat Sandwich Bread	8

Vegetarian

	164
Baked Dutch Oven Pancakes	201
Bakery Sandwich Rolls	
	210
	212
Buttery Dinner Rolls	112
	162
	206
♂ Chia Apricot Jam	226
	227
	170
♂ Ciabatta	78
♂ Cinnamon Raisin Bread	166
	216
♂ Cottage Cheese and Dill Bread	92
♂ Croissants	120
	54
	114
♂ Dark Rye Bread	68
♂ Diana's Babkallah	160
	124
⊴ European Muesli Bread	180
	64
♂ Fluffy Biscuits	
	130
♂ French Baguettes	134
Garlic and Herbed Bread	90
	140
	138
	147
⊙ German Potato Pie	
	136
	178
⊙ Golden Egg Bread	62
Golden Honey Wheat Sourdough	76
♂ Grandma's White Bread	56
	200
	60

⑤ Jalapeño Bread94
⑤ Japanese Milk Bread152
Mashed Avocado Spread
Meme's Swedish Brown Bread
Monkey Bread
Nordic Sunflower Bread
⑤ Oatmeal Bread
○ Olive and Pine Nut Spread221
Onion Bread96
⑤ Peach Kolaches 172
⑤ Quick Pizza Margherita 188
S Rustic Sourdough
Sahar's Yemeni Roti
Salted Dark Chocolate Brownies
Salted Pecan Cinnamon Rolls
Seedy Sourdough
Sharon's Challah Bread
Sourdough Flatbread
Sourdough Spelt and Sesame Bagels
Southwestern Cilantro Bread
Spelt Baguettes
Spinach and Artichoke Stuffed Bread
Summer Beet Bread
Sun-Dried Tomato and Olive Bread
Sun-Dried Tomato Hummus219
Sweet Potato and Pumpkin Seed Spread217
Swiss Gruyère Bread

	126
	128
	58
	154
Breakfast	
	164
	212
	170
	166
	120
	54
	114
⑤ Dark Rye Bread	68
⑤ Diana's Babkallah	160
	124
⊙ European Muesli Bread	180
♥ Fluffy Biscuits	204
	130
	140
	178
⊙ Golden Egg Bread	
○ Golden Honey Wheat Sourdough	
Griddle Pancakes	
Ham and Cheese Rolled Bread	
Josh's Texas Klobasneks	
Mashed Avocado Spread Mashed Avocado Spread ■ Mashed Avocado Spread	
Monkey Bread	
↑ Nordic Sunflower Bread	144

⑤ Oatmeal Bread
Sosemary Bread
Salted Pecan Cinnamon Rolls
Savory Bacon and Cheddar Scones
Seedy Sourdough
Sharon's Challah Bread
Smoked Salmon Spread223
Sourdough Spelt and Sesame Bagels
Sweet Potato and Pumpkin Seed Spread
⑤ YiaYia's Holiday Bread
Lunch
© Bakery Sandwich Rolls
© Cheesy Kinder Crackers
© Ciabatta
© Cottage Cheese and Dill Bread92
© Croissants
© Crusty Overnight Bread
© Crusty Overnight Breau
○ Crusty Sourdough Rolls
 ○ Dark Rye Bread
Flammkuchen (German Pizza)
♥ Franzi's Pretzels (Brezeln)130
© French Baguettes
© Garlic and Herbed Bread
© German Everyday Rolls
© German Potato Bread
© German Potato Pie
German Twisted Baguettes
© Golden Egg Bread
© Golden Honey Wheat Sourdough
© Grandma's White Bread
Ham and Cheese Rolled Bread
 Hearty Whole-Wheat Bread
\sim Healty viriole-villeat bread

	为 Hot Dog Buns
	్ర్ Indian Spiced Lentil Dip
(🖱 Italian Focaccia148
(③ Jalapeño Bread94
(③ Japanese Milk Bread152
	Josh's Texas Klobasneks186
	్ర్ Mashed Avocado Spread218
(Meme's Swedish Brown Bread142
(్ర్ Nordic Sunflower Bread144
(⑤ Oatmeal Bread70
(్తో Olive and Pine Nut Spread
(⑤ Onion Bread
	Pepperoni and Cheese Calzones
	③ Potato Bread
(్త Pumpkin Seed Bread
(్త Quick Pizza Margherita
(ో Roasted Garlic and Lemon Dip222
	ో Roasted Tomato Pizza Sauce
(ో Rosemary Bread
(S Rustic Sourdough
(🖱 Sahar's Yemeni Roti
	Savory Bacon and Cheddar Scones
	్త Seedy Sourdough
(🖱 Sharon's Challah Bread
	Smoked Salmon Spread223
(≶ Sourdough Flatbread
(్తో Sourdough Spelt and Sesame Bagels
	Southern Sausage Bread
(్ర Southwestern Cilantro Bread
	్ర Spelt Baguettes
	ొ Spinach and Artichoke Stuffed Bread
(≶ Summer Beet Bread108
(్ర్ Sun-Dried Tomato and Olive Bread104
(🖱 Sun-Dried Tomato Hummus
	🖱 Swabian Farmhouse Bread
(ొ Sweet Potato and Pumpkin Seed Spread
	్ర్ Swiss Gruyère Bread106
	う Turkish Flatbread150
	う Wheat Bagels128
(🖱 Wheat Sandwich Bread

Dinner
⑤ Bakery Sandwich Rolls
© Beer-Battered Vegetable Tempura
♦ Buttery Dinner Rolls
© Ciabatta
© Compound Herbed Butter
© Cottage Cheese and Dill Bread
© Croissants
© Crusty Overnight Bread
© Crusty Sourdough Rolls
© Dark Rye Bread
Flammkuchen (German Pizza)
↑ Fluffy Biscuits
↑ French Baguettes
© Garlic and Herbed Bread
© German Potato Bread
© German Potato Pie
⑤ German Twisted Baguettes.136⑤ Golden Egg Bread.62
© Golden Egg Bread
Ham and Cheese Rolled Bread
S Indian Spiced Lentil Dip
∜ Italian Focaccia
S Japanese Milk Bread
Josh's Texas Klobasneks
○ Olive and Pine Nut Spread
S Onion Bread
Pepperoni and Cheese Calzones
♥ Potato Bread
S Pumpkin Seed Bread
© Quick Pizza Margherita
⊗ Roasted Garlic and Lemon Dip
Sahar's Yemeni Roti

Semolina Pizza Dough	84
Sharon's Challah Bread	122
Sourdough Flatbread	202
Southern Sausage Bread	182
Southwestern Cilantro Bread	102
Spelt Baguettes	80
Spinach and Artichoke Stuffed Bread	196
Summer Beet Bread	108
Sun-Dried Tomato and Olive Bread	104
Sun-Dried Tomato Hummus	219
	146
	106
	126
Caranda Causas and Dina	
Spreads, Sauces, and Dips	226
⑤ Chia Apricot Jam ⑤ Chocolate Hazelnut Spread	227
⑤ Chia Apricot Jam ⑤ Chocolate Hazelnut Spread ⑤ Compound Herbed Butter	227 216
Chia Apricot JamChocolate Hazelnut SpreadCompound Herbed ButterHoney Cardamom Butter	227 216 225
 ☼ Chia Apricot Jam ☼ Chocolate Hazelnut Spread. ☼ Compound Herbed Butter ☼ Honey Cardamom Butter ⑤ Indian Spiced Lentil Dip 	
 ☼ Chia Apricot Jam ☼ Chocolate Hazelnut Spread ☼ Compound Herbed Butter ۞ Honey Cardamom Butter ⑤ Indian Spiced Lentil Dip ⑤ Mashed Avocado Spread 	
 ☼ Chia Apricot Jam ☼ Chocolate Hazelnut Spread. ☼ Compound Herbed Butter ☼ Honey Cardamom Butter ۞ Indian Spiced Lentil Dip. ۞ Mashed Avocado Spread. ۞ Olive and Pine Nut Spread 	
 ☼ Chia Apricot Jam ☼ Chocolate Hazelnut Spread. ☼ Compound Herbed Butter ☼ Honey Cardamom Butter ⑤ Indian Spiced Lentil Dip. ⓒ Mashed Avocado Spread. ۞ Olive and Pine Nut Spread ⑥ Roasted Garlic and Lemon Dip. 	
 ☼ Chia Apricot Jam ☼ Chocolate Hazelnut Spread. ☼ Compound Herbed Butter ☼ Honey Cardamom Butter ٪ Indian Spiced Lentil Dip ※ Mashed Avocado Spread. ۞ Olive and Pine Nut Spread ※ Roasted Garlic and Lemon Dip ※ Roasted Tomato Pizza Sauce 	
 ☼ Chia Apricot Jam ☼ Chocolate Hazelnut Spread. ☼ Compound Herbed Butter ٪ Honey Cardamom Butter ٪ Indian Spiced Lentil Dip. ٪ Mashed Avocado Spread. ٪ Olive and Pine Nut Spread ٪ Roasted Garlic and Lemon Dip. ٪ Roasted Tomato Pizza Sauce Smoked Salmon Spread. 	
 ☼ Chia Apricot Jam ☼ Chocolate Hazelnut Spread. ☼ Compound Herbed Butter ☼ Honey Cardamom Butter ٪ Indian Spiced Lentil Dip ※ Mashed Avocado Spread. ۞ Olive and Pine Nut Spread ※ Roasted Garlic and Lemon Dip ※ Roasted Tomato Pizza Sauce 	

Table of Contents

INTRO	DUCTION	
	About This Book	3
PART 1	I: GETTING STARTED WITH BREAD MAKING	
	Understanding the Basics of Bread Making	
CHAPTER 1:	Donning Your Lab Coat: The Science of Bread	
	Gluten	
	Yeast	
	Salt Heat	
	Taking the Guesswork out of Baking Bread	
CHAPTER 2:	Digging into the Ingredients	11
	Focusing on Flour	
CHAPTER 3:	Mastering Basic Bread-Making Techniques	19
	Following Six Steps to Making Great Bread	
	Step 1: Measuring your ingredients	
	Step 2: Mixing the dough	
	Step 4: Punching and shaping the dough	
	Step 5: Proofing the dough	
	Step 6: Baking	
CHAPTER 4.	Uncovering the Secrets of Sourdough	25
CHAITER 4.	Growing a Starter	
	Day 1	27
	Day 2	
	Day 3	
	Caring for a Starter	31
	Forming Your Dough	34

	Step 1: Autolyzing .35 Step 2: Adding salt .35 Step 3: Bulk fermenting .36 Step 4: Shaping .37 Step 5: Cold proofing or second rise .37 Step 6: Scoring .39 Step 7: Baking .39 Step 8: Cooling .40
CHAPTER 5:	Stocking Your Kitchen41
1	Loading Up on the Tools of the Trade
PART 2	BAKING SCRUMPTIOUS BREADS 49
CHAPTER 6:	Bread Basics51
CHAPTER 7:	Sourdough Breads73
CHAPTER 8:	Savory Breads89
CHAPTER 9:	Shaped Breads111
CHAPTER 10:	Going Global133
CHAPTER 11:	Sweet Treats 159
CHAPTER 12:	Hearty Stuffed Breads181
CHAPTER 13:	Sourdough Discard Recipes199
CHAPTER 14:	Dip lt, Spread lt, Top lt215
PART 3	: THE PART OF TENS
!	Ten Tips for Successful Bread Making231Use a Digital Scale231Use a Digital Thermometer232Use a Stand Mixer with a Dough Hook232Use the Bight Flour232

Use Less Flour	233 235 235 235
CHAPTER 16: Ten (Or So) Common Sourdough Questions .	237
Why Is My Bread Gummy?	237
Why Is My Loaf Flat?	
How Do I Know if My Starter Is Ready?	
What Do I Do If My Dough Is Too Sticky to Handle?	238
How Do I Tighten the Dough after Bulk Rising?	239
Why Is My Loaf So Dense?	239
How Do I Get Those Fancy "Ears" or Lifts in the Crust of	
My Sourdough?	240
Why Is My Bread Dense with Giant Holes?	
Why Does My Bread Keep Burning on the Bottom?	240
CHAPTER 17: Ten Trendy Sandwiches	241
Sweet Potato and Arugula	241
Mighty Mediterranean	
Chicken and Pesto	
Indian Spiced	243
California Club	
Scandinavian Style	244
Greek Yogurt Tuna Sandwiches	245
Lamb Burgers	
Spicy Shrimp	
Breakfast Sandwich	247
CHAPTER 18: Ten Ways to Upcycle Stale Bread	249
Sweet and Savory Bread Crumbs	
Crunchy Croutons	
Breakfast Strata	
Panzanella	
French Toast Casserole	
Tropical Bread Pudding	253
Spinat Knödel (Spinach Bread Dumplings)	
Summery Bruschetta	
Savory Stuffing	255

Index2	67
APPENDIX C: Glossary	.65
APPENDIX B: Grain Mill Guide2	63
APPENDIX A: Metric Conversion Guide	59
PART 4: APPENDIXES	57

Introduction

f you've recently found yourself curious about bread making, you're not alone! The age-old ritual of mixing flour, water, and yeast to create a delicious loaf of bread is growing in popularity.

And it's not surprising. Bread is part of the soul. In fact, some scientists believe bread making has been around for 30,000 years. From flatbreads to loaves, bread can easily be considered the most widely consumed food on Earth. Every culture has some type of bread as a staple in their diet.

You no longer need to pound grains between rocks to yield flour, but bread making still requires a bit more effort than going to a store and simply buying a loaf. Bread making is a labor of love, and the smell of hot bread fresh from the oven is just one of the many rewards of making your own. With this book as your guide, you'll be reaping the rewards in no time!

About This Book

Think of this book as your own personal bread-making coach! You start by getting familiar with some of the science behind bread making. Don't worry, there won't be a quiz and you don't have to memorize any technical terms or formulas, but understanding how just a few ingredients combine to make a delicious loaf of bread is important. I explain which flours and types of yeast are used to make different kinds of bread, and I show you some bread-making techniques that will come in handy. Finally, I help you stock your kitchen for your bread-making adventure, before offering more than 85 recipes to choose from.

This book is a reference, which means you don't have to read it from beginning to end and you don't have to commit it to memory. Instead, you can dip into these pages over and over again to find the information you need. The Table of Contents and Index will point you in the right direction.

Sidebars (text in gray boxes) and anything marked with the Technical Stuff icon (more on that later) can be skipped without missing the main point of the subject at hand.

Here are a few suggestions for getting the most out of the recipes in this book:

- >> Read each recipe from top to bottom before you make your grocery list to ensure you have all the ingredients you need.
- >> In the ingredients list, *milk* means whole milk and butter means unsalted butter; *all-purpose flour* means white, unbleached, all-purpose flour; and *warm water* means water between 100 and 110 degrees (it should feel warm to the touch, but not hot).
- >> A "floured surface" is generally ½ cup of all-purpose flour on a flat surface. You can add more or less flour based on the stickiness of the dough. (If the dough is sticky, add a little more flour to the surface; if the dough is dryer, add a little less flour to the surface.)
- >> If your house is cool or drafty, consider allowing the dough to rise in a cold oven with the light on. Cover the dough bowl with a tea towel, place it in a cold oven, and turn on the oven light. (Be sure to leave a note on the oven, so no one accidentally heats the oven with the dough inside!)
- >> You can use either fresh or dried herbs. For easy substitution, just keep in mind that 1 teaspoon of dried is equivalent to 1 tablespoon of fresh.
- >> Pay special attention to the techniques called for, whether hand kneading or using a stand mixer with a dough hook. Technique affects the end result, so be sure to follow the recipe.
- >> If possible, use a scale to measure the ingredients instead of relying on measuring cups and spoons. Bread making is a science, and the more precise you can be with your measurements, the better.
- >> Any recipes that are vegetarian are marked with the tomato icon (⑤) in the Recipes in This Book and the Recipes in This Chapter lists. (Most of the recipes in this book are, not surprisingly, vegetarian!)
- >> The recipes in this book include information on how long you can store the bread. If you can't use the bread in the recommended timeframe, you can always place all or part of a loaf in a resealable plastic, freezer-safe bag and store it in the freezer for later use. To defrost, remove from the freezer and let the breads return to room temperature in the freezer bag, or place on a baking sheet and bake at 350 degrees for 10 minutes. Toasting bread is also a great way to defrost without the wait.

Within this book, you may note that some web addresses break across two lines of text. If you're reading this book in print an want to visit one of these web pages, simply key in the web address exactly as it's noted in the text, pretending as though the line break doesn't exist. If you're reading this as an e-book, you've got it easy — just click the web address to be taken directly to the web page.

Foolish Assumptions

In writing this book, I made a few assumptions about you, the reader:

- >> You've tasted homemade or bakery-style bread and you know what you're aiming to achieve.
- >> You have basic knowledge of cooking, baking, and measuring.
- You're patient bread making definitely is not a quick process!

Icons Used in This Book

Throughout the book, you'll icons in the margin. Here's what each icon means:



The Tip icon marks information that can save you time and money as you're planning recipes to make, shopping for ingredients, and making bread.



REMEMBER

You don't have to commit this book to memory, but sometimes a piece of information is so important that I want you to remember it. When that happens, I flag it with the Remember icon.



Think of the Warning icon as a big orange traffic cone in the middle of the side-walk, warning you about a hole you don't want to fall into.



TECHNICAL STUFF

Bread making is a science, and sometimes I wade into the weeds with technical information. When I do, I use the Technical Stuff icon. You can safely skip anything marked with this icon without missing anything essential about the topic at hand.

Beyond the Book

In addition to what you're reading right now, this product comes with a free access-anywhere Cheat Sheet that includes tips on how to form a round roll, the benefits of sourdough bread, and a bread baker's schedule you can follow if you like. To get this Cheat Sheet, go to www.dummies.com and type Bread Making For Dummies Cheat Sheet in the Search box.

Where to Go from Here

If you're brand-new to making breads, take your time and explore Part 1. If you've made bread before and you feel confident with the process, check out all the recipes in Part 2 — from savory to sweet to stuffed, you have more than 85 recipes to explore! If you're short on time, Part 3 offers ways to use up stale bread, my favorite sandwich ideas, and more.

I hope this book becomes your go-to bread-making guide, one that you flip through often when you crave freshly made bread. After all, everything is better with bread!

Getting Started with Bread Making

IN THIS PART . . .

Discover the science behind great bread.

Get acquainted with bread-making ingredients.

Understanding bread-making techniques.

Discover the old-world techniques of sourdough baking.

Plan a well-equipped kitchen and pantry.

- » Looking at how gluten, yeast, and salt combine to make bread
- » Measuring your ingredients precisely

Chapter **1**

Understanding the Basics of Bread Making

read is king, and bread making is equal parts art and science. In this chapter, you explore the science behind bread making and find out why a scale is so important for success.

If science wasn't your favorite subject in school, you may be tempted to flip ahead to the next chapter or just dive into a recipe, but especially if you're new to bread making, I urge you to give this chapter a read. It's only a few pages, and the information about how and why bread making works will not only help you understand what you're doing in the kitchen, but also give you the knowledge you'll need to figure out what went wrong if something does.

Donning Your Lab Coat: The Science of Bread

Science is *everything* in bread making. Each ingredient plays a specific role in the formation of bread. The good news is, this kind of science is fun! Plus, unlike in school, there won't be a test on Friday.

In this section, I fill you in on the main components of bread and the roles they play in making that delicious loaf you love.

Gluten

Gluten is the protein found in flour, and it's why the type of flour you use matters when you're baking, whether you're making cake or bread. (Turn to Chapter 2 for more on flour.) The forming of gluten is what gives rise, literally, to bread. Without gluten, your bread would feel like a brick.

When you add water to flour, it creates long, elastic strands from the gluten (known as the *gluten matrix*). Knead the flour strengthens those strands, which is important in giving your bread structure, so it can rise. (Chapter 3 explains the intricate details of kneading and stretching dough.)

Yeast

Yeast is another key ingredient of bread. Yeast is a living thing — it feeds off the carbohydrates in flour and expels carbon dioxide (a gas), which gets caught in the gluten matrix. That nifty matrix you formed while you were kneading holds the gas inside its chambers, and the dough rises. Magic!

Salt

Salt has an important role to play in bread making, and it's not just about flavor (although nothing is quite as tasty as a well-salted bread). Salt conditions the gluten, making it stronger and strengthening the elasticity of the strands. If you use too *little* salt, not only will your bread taste bland, but it will rise too quickly in an ill-formed matrix. If you use too *much* salt, it can kill the yeast.



Bread making is all about balance, but don't fret! The recipes in this book have just the right balance of flour, yeast, and salt.

Heat

When you place your bread in the oven to bake, the gluten solidifies and holds its form. And when the baking is complete, the bread won't deflate. Instead, your well-formed gluten will hold its form as the bread cools and after it's sliced.



Don't slice your bride too early! You'll probably be tempted to eat your bread straight out of the oven, but bread needs to fully cool before slicing or the texture will turn gummy and sticky.

Taking the Guesswork out of Baking Bread

Bread making is precise, and in order to have precision, you need a scale.



A food scale is one of the most important pieces of equipment when it comes to successful baking, and not just for breads. For around \$12, you can purchase a decent food scale that measures in grams.

As a culinary teacher, I do an experiment where I ask each of my students to measure out 1 cup of flour and then have them weigh it. Some students measure out 128 grams; some, 142 grams; and others, closer to 200 grams (if they've packed the flour in the cup). The correct weight of 1 cup of all-purpose flour is 125 grams. Being a few grams off can make a *huge* difference in the outcome of your bread.



Although the recipes in this book include both the metric measurements (grams) and U.S. imperial volume measurements (cups and teaspoons), I recommend using a scale and following the metric measurements.