Portable Edition

Minecraft[®] Construction

DUMMIES A Wiley Brand

Learn to:

- Construct houses, bridges, tunnels, gardens, secret rooms, and more
- Mine the right materials for basic building
- Build statues, beacons, and pillars as landmarks
- Develop your farm for renewable resources

Adam Cordeiro Emily Nelson



Minecraft® Construction



Portable Edition

Minecraft® Construction

DUMMES A Wiley Brand

Portable Edition

by Adam Cordeiro and Emily Nelson



Minecraft® Construction For Dummies® Portable Edition

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

Copyright © 2015 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 either 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) 748-6008, 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/or its affiliates in the United States and other countries, and may not be used without written permission. Minecraft is a registered trademark of Notch Development. 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: 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 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: 2014946672

ISBN 978-1-118-96840-6 (pbk); ISBN 978-1-118-96841-3 (ebk); ISBN 978-1-118-96842-0 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

Contents at a Glance

Introduction	1
Chapter 1: Getting Started with Minecraft Construction	5
Chapter 2: Building in Survival Mode	15
Chapter 3: Setting Up Your Building Site	27
Chapter 4: Exploring Different Types of Builds	41
Chapter 5: The Art of Minecraft Design	69
Chapter 6: Managing Your Space	91
Chapter 7: Using Block Textures	103
Chapter 8: Farming	
Chapter 9: Using Advanced Building Techniques	131
Chapter 10: Implementing Gardens into Your World	145
Chapter 11: Exploring the Functions of Glass	155
Chapter 12: Implementing Redstone into Your Building	169
Chapter 13: Using Lighting	
Chapter 14: Ten Steps for Starting a Large-Scale Build	
Index	203

Table of Contents

Introduction	1
About This Book	
Chapter 1: Getting Started with Minecraft Construction	5
Evaluating Your Options	
Chapter 2: Building in Survival Mode \dots	15
Keeping Track of your Resources Estimating resources	16 17 19 19 19 19 19 19 19 19 19 19 19 19 19
Chapter 3: Setting Up Your Building Site	27
Building on Interesting Landscapes	29 30 31

Minecraft Construction For Dummies, Portable Edition _____

	Carving Out Land with Explosive Commands	
	Building Your Own, Natural Elements	38
Cha	pter 4: Exploring Different Types of Builds	41
	Planning Buildings	41
	Deciding what and where to build	42
	Estimating your building materials	
	Starting the Build	
	Building walls	44
	Building a ceiling	46
	Building a door	47
	Brightening things up	
	Adding more levels	
	Building a City	
	Adding paths	
	Building bridges	
	Using Passageways	
	Hallways	
	Tunnels	
	Trapdoors	
	Tunnel mining	
	Secret Rooms	64
Cha	pter 5: The Art of Minecraft Design	69
Cha	•	
Cha	Balancing the Design	69
Cha	•	69 72
Cha	Balancing the Design	69 72 72
Cha	Balancing the Design	69 72 73 75
Cha	Balancing the Design	69 72 73 75
Cha	Balancing the Design	69 72 73 75 78
Cha	Balancing the Design	
Cha	Balancing the Design	
Cha	Balancing the Design	69 72 73 75 78 81 84 86
Cha	Balancing the Design	69 72 73 75 81 84 86 86
Cha	Balancing the Design	69 72 73 75 81 84 86 86
	Balancing the Design	69 72 73 75 81 84 86 86 87
	Balancing the Design	
	Balancing the Design	697273758184868791
	Balancing the Design	69727375818486879191
	Balancing the Design	
	Balancing the Design	

	Adding decorative flourishes	
	Building machines for your rooms	97
Cha	pter 7: Using Block Textures	103
	Using Smooth Textures	103
	Using Rough Block Textures	105
	Creating an Older-Looking Structure	
	Cracked blocks	
	Mossy blocks	
	Damaged walls Vines	
	Cobwebs	
	Block Textures That Work Well Together	
Cha	pter 8: Farming	121
	Preparing the Land for Your Farm	121
	Reaping What You Sow	124
	Animal Farming	127
	Breeding animals	
	Using animal as resources	129
Cha	pter 9: Using Advanced Building Techniques.	131
	Using Randomized Block Patterns	
	Applying randomness to surfaces	
	Applying randomness to landscaping	
	Constructing Polygons for Your Structures	
	Building slanted walls Constructing polygons with slanted walls	134 135
	Building Circles and Spheres	
	Constructing a circle	
	Constructing a sphere	
	Implementing Fluids into Your Build	139
	Understanding how fluids work	
	Building a fountain	
	Building structures underwater	142
	pter 10: Implementing Gardens to Your World	145
• • • • • • • • • • • • • • • • • • • •	Obtaining Plants	
	Building Your First Garden	
	Laying out your garden	
	Arranging plants in a garden	
	Integrating Gardens with Other Buildings	
	Constructing a border for a garden	
	Building a garden on another structure	

Chapter 11: Exploring the Functions of Glass	155
Planning How to Use Glass	155
Making Glass	156
Making Windows	
Using Glass as Decorative Trim	
Using Glass as Flooring	
Bringing the heat	
Going with the flow	
Building Glass Ceilings	
Using Stained Glass	165
Chapter 12: Implementing Redstone	400
into Your Building	169
Understanding the Essential Concepts of Redstone	
Applying Redstone to Your Build	
Using redstone in lighting	
Assembling redstone doors	
Designing redstone-powered farms	
Being inventive with redstone	
Concealing Redstone in Your Building	
Chapter 13: Using Lighting	181
Determining a Light Source	
Block light sources	
Placing Lava	
Using Nonblock Lighting	
Making a Lamppost	190
Chapter 14: Ten Steps for Starting a Large-Scale Build	103
-	
Sketching Out a Rough Idea of the Structure	
Selecting Blocks	
Setting Up Your Area	
Starting with a Central Room	
Wireframing the Rest of the Build	
Filling in the Wireframe	
Building within Your Structure	
Don't Forget the Details	
Finishing Up Tweaking Your Building Constantly	
ıdex	203

Introduction

inecraft is about two concepts: Destroy obstacles and create your world. When you're not mining or adventuring, for example, you can enter the limitless world of construction, to take apart the land and reconstruct it in your own way. You can create castles, gardens, bridges, factories, modern art, and many other architectural structures. Minecraft offers you so many ways to build — and so many ways to redesign your world to your liking — that it can be overwhelming to figure out how to start.

This book gives you the tools that are necessary to build everything you can envision — and to discover some possibilities that you may not have known before. You can find out how to gather necessary materials, create proper shapes and textures, and build anything you want in either Survival mode or Creative mode.

About This Book

This book assumes that you have a Minecraft account and know the controls of the game. You're relatively familiar with how to destroy, craft, and place blocks — thus, this book focuses on explaining the skills that are necessary to manipulate blocks in interesting ways.

If you're new to Minecraft, this book can give you some ideas for getting started on your creative journey — and introduce you to the fundamental principles behind Minecraft construction. If you're already an experienced Minecrafter, though, you can use this book to gather some new perspectives on the subject or find inspiration if you feel like you've run out of things to build.



You'll never run out of things to build in Minecraft. Just look around for inspiration and you'll start thinking of new ideas in no time.

This book is updated to Version 1.8 of Minecraft. However, even when future versions of the game are released, the fundamental nature of Minecraft construction won't change much.

Foolish Assumptions

Throughout the course of this book, we assume the following things about you:

- You have a computer, and you know how to use it.
- You have a working copy of Minecraft, and you know how to move around the world.

Icons Used in This Book

This book contains some notable paragraphs that are marked with the following special icons:



This icon marks a tip that can help you improve your building skills.



This information is important to read, especially if you're just skimming the book. If you remember the information marked by these icons, you can improve your construction process to create bigger and better structures.



This icon appears rarely, but you should read it wherever it comes up. It warns you about pitfalls you should avoid when building so that you don't mess up your hard work.



Though the preceding icons indicate particularly important information, this one marks content you can easily skip, if you want. The icon refers to some of the technical details behind Minecraft construction, making it optional but interesting.

Conventions Used in This Book

In *Minecraft Construction For Dummies*, Portable Edition, we use numbered steps, bullet lists, and screen shots for your

reference. we also provide a few sidebars containing information that isn't required reading but may help you understand a topic a little better. Web addresses appear in a special monotype font that looks like this:

www.dummies.com

Where to Go From Here

If you have done little Minecraft construction in the past, the first few chapters are just right for you. The rest of the book is more topic-oriented, focusing on various aspects of construction that you may find helpful.



Occasionally, *For Dummies* technology books are updated. If this book has technical updates, they'll be posted at www.dummies.com/qo/minecraftupdates.

Getting Started with Minecraft Construction

In This Chapter

- Coming up with ideas for buildings
- Stockpiling your building materials
- Managing your inventory
- Starting off the structure

n Minecraft, you can build all kinds of different structures, and in many interesting environments. The basic concepts are simple (gather blocks and stack them), but you need a lot of practice in order to master the subject. In fact, when you first start out in Minecraft, you might find it difficult to develop a clear picture of exactly *what* you want to build, which materials you need, how big the building should be, and how you should go about constructing it. This chapter shows you how to build some basic sorts of creations, and how to get started with this essential feature of the game of Minecraft.

Evaluating Your Options

You can build lots of items using the blocks available to you in Minecraft. Here are just a few of the options:

✓ Shacks and shelters: Many players start out by building simple little huts for shelter during the (often dangerous) nights. See the following section for how to build these shelters quickly, efficiently, and easily.

- Houses and mansions: Many players tend to live in houses or even mansions. You can find lots of wooden, stone, and metal blocks in order to build these structures.
- Castles: Some players like to build huge castles out of stone, decorating them with carpets, tapestries, stained glass windows, and other luxuries.
- Underground hideouts: Some players abandon the surface world and build their homes in caves or other underground buildings.
- ✓ **Gardens:** Players who want a more natural creation can fill grassy areas with plant life and similar decorations. Chapter 10 describes how to build all sorts of different gardens.
- ✓ Functional buildings: Some buildings serve special purposes you can make "automatic" farms that harvest themselves or have buildings that house machines capable of doing any number of things, like sort items or dispense potions, and other items to make your world look cool. See Chapter 12 in particular for details.
- ✓ Villages and cities: If you're feeling ambitious, you can build tons of different buildings and then connect them using roads or pathways.
- ✓ Floating buildings: Most blocks in Minecraft won't fall if there's nothing solid under them. (The only exceptions we can think of are sand, red sand, and gravel.) That means you can easily lift your structures high into the sky. It looks pretty neat — try it.
- ✓ **Artificial landscapes:** Just as Minecraft's world generator can create mountains, trees, and rivers, so can you. All you need are the right blocks and tools, and you can create items well beyond those that the game initially offers you such as trees the size of skyscrapers. See Chapter 3 for more on this topic.
- ▶ Bridges and roads: These structures are, of course, good for traveling, but they're also useful for furnishing and connecting other buildings. Just think about the last time you walked from one building to another on a skybridge.
- Miniature structures (statues and light posts, for example): In Minecraft, blocks are very large — two of them stand taller than you (as a player, that is).

Designing *small* items in Minecraft can be a challenge, but it's fast and rewarding — and entirely possible with the right blocks.

✓ Temples, parks, spires, and other aesthetic structures: In Minecraft, you can build anything that exists in the real world — as well as many things that don't. If you have an idea of a structure or decoration you want to make, chances are you can do it in Minecraft.

With enough practice, you can design any of these sorts of buildings — and whatever else you can think of.



Know what sorts of blocks are at your disposal. Play in Creative mode so that you can use every block — this strategy can help you understand which resources you can use in future projects. This also means you don't have to obtain every block in Survival mode, which can be rather time consuming.

Gathering Materials for Construction

Every building is composed of blocks, most of which are pulled straight from the inventory. The faster you can obtain and apply the inventory, the faster and easier you can design buildings.

Arranging the inventory in Creative mode

When building in Creative mode, you can add any item you want to the inventory. But it still helps a lot to know how you want the inventory organized. For example, you might store a few items that you tend to use a lot, and replace them whenever you need to.

Using the Creative Mode menu

To open your inventory menu, all you have to do is press the letter e on your keyboard — the default key, in other words. After opening the menu, note the 12 tabs — ten on the left and two on the right.



If you open the inventory menu in Creative mode, you'll see something quite different from Survival mode. Rather than show only the items in the inventory, the menu in Creative mode shows a huge list of almost every block and item in the game, which you can freely add to your inventory slots. Creative mode is a good thing: You can scroll through the blocks using either the scroll wheel or the slider on the right side of the menu.

If you don't want to spend a lot of time looking for the item you want, the menu is surrounded by 12 clickable tabs you can use to narrow your search and complete projects much faster. The most important tabs are described in this list:

- ✓ Building Blocks: The tab in the upper left corner, represented by the Bricks icon, contains most of the building blocks you use in your buildings. This section has over 150 blocks, though, so it can still be hard to find the blocks you need the Search Items tab (explained later in this list) often works better.
- Decoration Blocks: This tab, represented by peonies (a type of flower), contains a lot of blocks that are usually used for detail and decorations, including functional blocks such as crafting tables and jukeboxes.
- ✓ Redstone: Represented by a lump of redstone dust, this tab has all the implements that affect or can be affected by redstone engineering. You generally don't need this section when doing construction work, unless you want to add circuitry to your building. (See Chapter 12 for more on this topic.) However, this section contains some commonly used blocks, such as doors and fence gates.
- ✓ Transportation: This small section, which is represented by a booster rail, has all the blocks having to do with assisted transportation (such as minecarts, boats, rails, saddles, and the beloved carrot on a stick).
- ✓ **Miscellaneous:** Represented by a lava bucket, this tab has a ton of miscellaneous items. Though most of them aren't useful for construction, a few items can be helpful particularly the beacon, buckets of water or lava, and the various mob-summoning eggs.
- Foodstuffs, Tools, Combat, Brewing, and Materials: The five tabs at the lower left contain food items, tools, weapons, potions, and crafting materials. None of these

is helpful for construction, so you only need to look at these tabs when you're setting up games or adventures for Survival mode players.

- ✓ **Search Items:** This section (not really a tab, we admit) is represented by the Compass icon which actually works, even on the Inventory menu. This tab probably the most useful tool in your possession contains a text box you can type in. When you start typing the name of an item (or even just part of the name), the tab displays all items that have those same letters. For example, if you type lium in the box, the tab shows Allium and Mycelium. That makes it *easy* to find an item.
- Survival Inventory: Represented by a chest in the lower right corner of the Menu screen, this tab shows a screen that looks more like the Survival mode inventory. You can see all four rows of the inventory, a character portrait, and the slots where you can equip your armor. There's no place for crafting items, but you can do this with a crafting table. There's also an extra slot, labeled Destroy Item you can either place items into this slot to delete them or shift+click the slot to clear the item in that spot.



If you hold down the Shift key before clicking on an item on the Creative mode menu, you get a full *stack* of those items — the largest number that can fit in a single inventory slot. For example, if you shift+click on a dirt block on this menu, you pick up 64 of those dirt blocks.



You can pick up an item, click on a different tab, and then place the item. You can then easily bring an item from the Creative mode menu into any slot of the inventory.

Applying the Pick Block key

Pick Block is an ability exclusive to Creative mode — you can use it to obtain any block in the inventory just by looking at the same type of block in the world.

By default, the Pick Block key is Button 3, or the middle mouse button — you can use it by pressing down on the scroll wheel. If your computer doesn't have a scroll wheel, go to the game's Options menu and reassign Pick Block to a different key (such as R or F, which you can use easily alongside the default controls).

Pick Block lets you do one of three things: Select a block in the inventory, put a selected block into the inventory, or delete and replace a block in the inventory. Here's how it works:

- If you have a certain kind of block in the bottom row of the inventory and you use Pick Block on the same type of block in the world, the block in the inventory is automatically selected.
- If you have an empty slot in the bottom row of the inventory and you use Pick Block on a block in the world, that block is put in the inventory.
- If you select a block in the inventory and use Pick Block on any type of block in the world, the originally selected block is deleted and replaced with the new block.

This feature is incredibly useful when building in Creative mode. You can use it in a few different ways, to

- Fix or modify surfaces: Suppose that you've accidentally broken part of a floor or that you want to add blocks to a landscape or surface. If you don't have the necessary block in the inventory but you're surrounded by the kind of block you need, you can just use Pick Block on the surface to obtain and use the same kind of block.
- Manage the palette: Using Pick Block is usually easier than trying to find the block you need in the inventory. Plus, if you replace a block in the inventory and realize that you need it again, there's a good chance that the block is nearby and you can use the Pick Block tool on it.
- ✓ Copy structures: If you want to build a structure that is similar to another, use Pick Block to copy some of the other structure's blocks into the inventory. This makes the building process much easier.



If you use the Pick Block feature on a mob instead of a block, you can obtain the corresponding egg for that mob. You can find these eggs on the Inventory menu in Creative mode and use them to summon mobs. This is useful when you want villagers, cattle, or other creatures in the structure.



You can also use the Pick Block feature on an item already in the inventory. You end up with a copy of the item on the cursor, and you can place it anywhere. If you use the Pick Block key on an item in the inventory that can be put into stacks (storing many of them in the same slot), you create a full stack of those items.

Obtaining a good inventory in Survival mode

It's harder to obtain tools in Survival mode than it is in Creative mode, mostly because of these issues:

- You have to find all the items you need to use. Unlike in Creative mode, there's no handy menu where you can go to get them.
- Most items you use leave the inventory. If you need more of something, you have to make or find more of it. When you use items like arrows or seeds or the like in Creative mode, they don't leave your inventory.
- You can't break blocks instantly. It's a bummer because some blocks take a long time to break, and they require tools if you want to break them quickly. And certain blocks (such as smooth stone) don't return the same item to the inventory when you destroy them.
- ✓ You can't fly. Unfortunately, flight is a luxury reserved for Creative mode. You have to get creative if you need to reach tall places.

What all this means is that in Survival mode you need to have a lot more items on hand than you do in Creative mode. For example, if you're going to use quite a bit of a particular block in a project, you should gather a lot of those blocks in the inventory before you start.

To give you an idea of what we're talking about, Figure 1-1 shows the inventory of a player who's about to start building.