Contents

INTRODUCTION VII
About the Companion Film ix
A Word About LEGO Animation x

1 THE BASICS 1
What You'll Need 2
Step 1: Grab a Camera 3
Step 2: Set Up Your Studio 4
Build a Camera Cradle 5
Build a Scene 6
Step 3: Animate 8
Tips for Your First Animation 8
Basic Cinematography 9
Step 4: Watch Your Animation 10
Step 5: Adjust the Frame Rate 11
Next Steps 12

2 ANIMATING THE MINIFIGURE 13
Know Your Minifigure 14
Full-Body Poses 14
Minuscule Movements 17
Body Language 19
Basic Gestures 19
Complex Gestures 22
Exercise: Show Your Feelings 23
Walking 24
A Solid Foundation 24
The Basic Walk Cycle 25
Tips on Animating a Minifigure Walk Cycle 26
Unusual Walks 27
Facial Animation 28
Purist Replacement Techniques 28
Custom Replacement Techniques 30
Digital Facial Animation 30
Jumping, Flying, and Floating 31
In-Camera Techniques 31
Advanced Levitation 32
Thinking Outside the Joints 33
Brick-Built Limbs 34
Animating Characters with Limited Articulation 35
Practice, People-Watch, and Experiment 36

3 ANIMATION PRINCIPLES 37
Exaggeration 39
Squash and Stretch 42
Exercise: Ball Bounce 43
Timing and Spacing 44
Easing 46
Exercise: Pendulum Animation 48
Anticipation, Follow-Through, and Recovery 48
Arcs 50
Exercise: Minifigure Jump 51
Overlapping Action 52
Secondary Action 55
Staging and Blocking 58
Trial and Error 62

4 BUILDING FOR BRICKFILMS 63
Building Stable Sets 64
Securing Your Baseplates 65
Making Strong Connections 66
Securing Unstable Elements 66
Testing Your Set 67
Building for Movement 68
Articulation 68
Disconnection 72

Building for Versatility with Modular Sets. 74
Exercise: Build a One-Room Set 76
Brick-Built Special Effects. 78
Exercise: Up in Smoke 79
Build What the Camera Sees 80

5 WORKING IN DIFFERENT SCALES 83
Microscale. 84
Minifigure Scale 86
Miniland Scale 87
PaganoPuppets 89
Puppet Building Instructions. 91
"Little Guys!" Scale 107
Other Scales. 109

6 TOOLS OF THE TRADE 111
Cameras 112
What to Look For 112
Smartphones and Tablets. 115
Webcams. 116
Digital Point-and-Shoot Cameras 117
DSLR Cameras. 118
Other Cameras 119
Tripods and Camera Mounts. 120
Using a Tripod 120
Using a Camera Mount. 121
Build a Camera Mount 122
Lighting 124
Big Lights: Desk Lamps 124
Big Lights: Professional Light Kits. 125
Tiny Lights: LEGO Products 126
Tiny Lights: Third-Party Products 127
Odds and Ends 128
Microphones. 130
Computers 130
Software and Hardware Compatibility 131
Stop-Motion Software 132
Mobile Apps 133
Desktop Software 134
Desktop Software: Dragonframe. 135
Your Animation Toolkit 136

7 THE CREATIVE PROCESS 137
Brainstorming 138
Ask Yourself "What If?". 141
The Play Approach 142
The Plan Approach 144
Writing a Script 144
Script Formatting 144
Shot List. 146
Storyboarding. 147
Exercise: Storyboard a Scene from Your Favorite Movie 149
Animatics. 150
Organizing Your Work with Spreadsheets. 151

8 CINEMATOGRAPHY AND PRODUCTION 153
Aspect Ratio. 154
Frame Rate 156
Take Your Shot 158
Shot Types. 158
Shot Movement. 160
Shot Composition. 164

Light 'Em Up 166
Let There Be Light Safety! 166
Mood Lighting 168
Hard and Soft Light 169
Light Flicker 170
Motivated Lighting. 171
Get into Focus 172
Set the Exposure 173
And . . . Action! 174

9 POST-PRODUCTION 175
Sound 176
Types of Sound 177
Recording Sound 177
Using Other People's Sounds 179
Editing 180
Step 1: Get Familiar with Your Software 180
Step 2: Import Your Footage 181
Step 3: Sequence Your Shots 182
Step 4: Trim and Delete Unnecessary Shots 183
Step 5: Add Transitions 184
Step 6: Add Digital Effects 186
Step 7: Add Titles and Credits 187
Step 8: Add Music and Sound 188
Advanced Post-production 189
Compositing 190
Lip-Sync Prep Work 192
Digital Facial Animation 193
Sharing Your Film 195

CONCLUSION 197
Giving and Receiving Feedback 198
What Next? 199
Have Fun! 199

ACKNOWLEDGMENTS 200

INDEX 201