Table of Contents

1: Introduction 1

2: How to Use This Book 3

3: The Objects 9

3.1: Solar System 11

#1: The Moon 13

#2: The Sun 17

#3: Saturn 20

#4: Jupiter 22

#5: Asteroids (Ceres and Vesta) 24

#6: Iridium Flares 25

#7: International Space Station 27

#8: Meteor Showers 28

#9: Comets 31

3.2: Nebula 33

#10: The Orion Nebula M42 35

#11: The Lagoon Nebula M8 37

#12: The Eagle Nebula M16 39

#13: The Omega Nebula M17 41

#14: The Dumbbell Nebula M27 43

#15: The Trifid Nebula M20 45

#16: The Ring Nebula M57 47

#17: The Crab Nebula M1 49

#18: The Ghost Of Jupiter NGC3242 51

3.3: Galaxies 53

#19: The Andromeda Galaxy M31 55

#20: The Triangulum Galaxy M33 57

#21: The Whirlpool Galaxy M51 59

#22: The Sunflower Galaxy M63 61

#23: Bode and Cigar Galaxies M81 & M82 63

#24: The Sculptor Galaxy NGC253 65
#25: Centaurus A NGC5128 67
#26: The Virgo Supercluster 69
#27: Our Milky Way 72
3.4: Star Clusters 73
#28: The Pleiades M45 75
#29: The Great Globular Cluster In Hercules M13 77
#30: The Wild Duck Cluster M11 79
#31: The Beehive Cluster M44 81
#32: The Scorpius Globular Cluster M4 83
#33: The Pegasus Globular Cluster M15 85
#34: The Double Cluster in Perseus NGC863 & 864 87
#35: Omega Centauri NGC5139 89
#36: The Jewel Box NGC4755 91
#37: 47 Tucanae NGC104 93
#38: The Hyades Cluster C41 95
3.5: Stars 97
#39: Supernovae 99
#40: The Double Double (Epsilon Lyrae) 101
#41: The Double Stars of Albireo 103
#42: The Double Stars of Almach 105
#43: The Double Stars of Castor 106
#44: Constellations 108
#45: Polaris (The North Star) 109
#46: The Southern Cross 112
#47: Stellar Spectroscopy 113
3.6: Events 115
#48: Conjunctions, Occultations, Transits 117
#49: Solar Eclipses 119
#50: Lunar Eclipses 122
4: The Constellations 125

4.1: Constellation Charts 126

5: Where to go from here 131

5.1: Best months to view objects in the book 132

5.2: Index 133

5.3: Glossary 136

5.4: Other books by the author 160

5.5: Notes 166