THE MYSTERY OF SCIENCE



Physics

Karri J. Iverson

CONTENTS

Acknowledgments ..... **ix**

How to Use This Curriculum ..... **xi**

Unit 1: Foundations of Physics **1**

LESSON 1: A Physics Foundation 2
LESSON 2: A Recipe for Success 6
LESSON 3: Meaningful Measuring 14
LESSON 4: Fancy Metrics 20

Unit 2: Parts and Pieces **25**

LESSON 5: Building Blocks 26
LESSON 6: Particular Particles 30
LESSON 7: A Construction of Molecules 36

Unit 3: States of Matter **41**

LESSON 8: Slow Solids and Lively Liquids 42
LESSON 9: Gases and Plasma 46
LESSON 10: Stating the Obvious 52

Unit 4: Forces and Work **57**

LESSON 11: Feel the Force 58
LESSON 12: Gravity Is Great 62
LESSON 13: No Worries about Work 66
LESSON 14: To Your Advantage 70

Unit 5: Motion **77**

LESSON 15: Newton Knew the Laws 78
LESSON 16: Getting Stuck on Friction 82
LESSON 17: Moving On 86
LESSON 18: Moving Around 90
LESSON 19: Projectile Possibilities 94
LESSON 20: Keep the Ball Rolling 98





Unit 6: Energy and the Electromagnetic Spectrum 103

LESSON 21: Don't Run out of Energy 104
LESSON 22: Catch the Wave 110
LESSON 23: Time to Connect 116
LESSON 24: A Bright Idea 122
LESSON 25: X-Ray Vision 128

Unit 7: Heat and Sound 133

LESSON 26: Warming Up 134
LESSON 27: Did You Hear That? 140
LESSON 28: The Sound of Music 144

Unit 8: Attractive Forces 149

LESSON 29: Get a Charge 150
LESSON 30: What's in That Wire? 154
LESSON 31: Attracted to Magnetism 158
LESSON 32: Don't Forget Your Compass 162

God's Loving Plan 166

Glossary 171

Image Credits 181

About the Author 189