

Contents



Acknowledgments	vii
Foreword	viii
Introduction	1
Using this Book.....	2
Safety	7

Activities for Grades K–3 9

Unfixed and Fixed Shapes	11
Crystal Pictures	19
Crayon Prints from a Change of State	25
Smell-Good Diffusion Ornaments	31
Smelly Balloons	37
The Scratch-and-Sniff Challenge	45
Density Batons	53
Clay Boats	59
Are Mittens Warm?	67
Magic Worms	75
Fortune-Telling Fish	83
Paint with Water Books	87
Weather Bunnies	93
Twirly Whirly Milk	99

Activities for Grades 4–6 105

Temperature Mixing	107
Under Pressure	115
Water Fountain in a Jar	123
The Amazing Balloon Pump	131
Pencil Hydrometers	137
Plastics Do Differ!	143
Shape Shifters	151
Pop the Hood	157
Things that Glow in the Dark	161
A Collection of Surface Tension Activities	169
One-Way Screen	177
Mysterious Sand	183
Sumi Nagashi	189
Chromatography Color Burst	195

Activities for Grades 7–9201

Properties of Silly Putty® 203
Marshmallow in a Syringe 209
Liquid to Gas in a “Flick” 215
Salt Solutions and Grow Creatures 221
The Liquid Timer Race 229
Density Bottles 235
Frustration Bottles 239
Expanding, Floating Bubbles 245
Hats Off to the Drinking Bird 251
Heat Solution™ 257
Color-Changing Cars 261
Investigating the Effect of Temperature on Lightsticks ... 269
Experimenting with Light-Sensitive Paper 275
The Diving Whale 283

Appendixes289

Activities Indexed by Key Process Skills 289
Activities Indexed by Topics 292
Alphabetical Listing of Activities 296