

C O N T E N T S

.....

About This Book,	xi
About the Author,	xiii
Teacher to Teacher,	xv

SECTION 1

GETTING STARTED, 1

Getting Started with the Paint Tool Box,	3
The Starting Line,	6
Line Design,	9
The Bouncing Ball,	10

SECTION 2

NUMBER AND OPERATIONS, 13

Addition and Subtraction Facts,	15
Constructing an Addition Table,	17
Addition and Subtraction on a Number Line,	19
Place Value Table,	21
Modeling Whole Numbers,	23
Color Tile Place Value,	25
Moving Places,	27
Ordinal Numbers,	29
Ordering Numbers,	31
Comparing Numbers on a Venn Diagram,	33
Arrays and Fact Families,	35

Constructing a Multiplication Table,	38
The Commutative Property of Multiplication,	40
Multiplication Wheels,	42
Lattice Multiplication,	44
Modeling Division,	46
Rounding Whole Numbers on the Number Line,	48
The Round Table,	50
Odd and Even Numbers,	52
Matho with Composite Numbers,	54
Hundred Board,	56
A Whole Written as a Fraction,	58
Equivalent Fractions,	60
Comparing Fractions,	62
Improper Fractions and Mixed Numerals,	64
Adding Like Fractions,	66
Subtracting Mixed Numerals,	68
The Decimal Point,	70
Modeling Decimals,	72
Comparing Decimals,	74
Ratios,	76
Constructing a 10 x 10 Grid,	78
Modeling Percents on 10 x 10 Grids,	80
Combinations,	82
Adding Integers,	84
Subtracting Integers,	86

SECTION 3

MEASUREMENT, 89

Telling Time,	91
Elapsed Time,	93
The Ruler of Measurement,	95
Constructing and Interpreting a Calendar,	97
Constructing a Geoboard,	99
Area and Perimeter of a Rectangle,	101
Four Square Polygons,	103

ABC Area,	105
Estimating Perimeter and Area,	107
Investigating the Formula for the Area of a Triangle,	109
Volume of a Rectangular Prism,	112
Change for a Dollar,	114
Making Change,	116
Constructing and Naming Angles,	118
Sum of Angles in a Triangle and a Quadrilateral,	121

SECTION 4

ALGEBRA, 125

Color Tile Patterns,	127
Geometric Patterns,	129
Changing Patterns,	130
Hundred Board Patterns,	132
Fun Patterns,	134
Numeric Patterns,	136
Forming Patterns with Triangles,	138
Constructing Staircase Rods,	140
Staircase Rod Patterns,	142
Area and Perimeter,	144
Constructing Fraction Rods,	146
Distributive Property of Multiplication,	148
Associative Property of Multiplication,	150
Representing Variables,	152
Magic Squares,	154
Algebraic Expressions,	156
Solving Simple Equations,	158
Squaring a Number,	161
Charting Variables,	163

SECTION 5

GEOMETRY, 165

Locating Points,	167
Naming Triangles,	169

Constructing Polygons,	171
Lines of Symmetry in a Rectangle and a Square,	173
The ABCs of Symmetry,	175
Congruent and Similar,	176
Fun with Shapes,	178
Ice Cube,	180
Rectangular Prism,	182
Cylinder,	184
Pyramids,	186
Cones and Spheres,	188
Netting a Cube,	190
Reflection,	192
Transformations,	195
Tessellations,	198
Constructing a Triangular Dot Grid,	200
Isometric Drawing,	203
Constructing Tangrams,	204
Area of Tangram Pieces,	207
Constructing a Circular Geoboard,	209
Lines in a Circle,	212

SECTION 6

DATA ANALYSIS AND PROBABILITY, 215

Tally,	217
Venn Diagram,	218
Probability,	220
Cube Drawing Probability,	222
Heads or Tails?,	224
Bar Graphs,	226
Pictographs,	228
Line Graph,	232
Pie Graph,	234
Mean, Median, Mode, and Range,	236