

Contents

Introduction		1
1. Teaching Aids: What, How, and Why		3
Considerations for Teachers Using Manipulative Materials December 1971	<i>Robert E. Reys</i>	5
Use of Manipulative Devices in Teaching Mathematics May 1963	<i>Allen L. Bernstein</i>	13
Models and Mathematics December 1972	<i>Elizabeth H. Fennema</i>	17
2. Whole Numbers		23
The Hundred-Board December 1959	<i>Marvin C. Volpel</i>	25
Kindergarten Mathematics January 1964	<i>Lucille Fitzsimons</i>	32
Our Number Clothesline December 1964	<i>Sylvia Orans</i>	35
A Picture Line Can Be Fun December 1969	<i>Katherine Patterson</i>	36
Simple Materials for Teaching Early Number Concepts to Trainable- Level Mentally Retarded Pupils February 1972	<i>Jenny R. Armstrong and Harold Schmidt</i>	39
Yardstick Number-Line Balance March 1971	<i>Jerome S. Borgen and John B. Wood</i>	44
Elevator Numbers October 1971	<i>Stanley Becker</i>	45

Presenting Multiplication of Counting Numbers on an Array Matrix December 1969	<i>Merry Schrage</i>	48
Multiplication Mastery via the Tape Recorder November 1970	<i>Dale M. Shafer</i>	50
Problem Solving with Number- Picture Problem Situations March 1962	<i>Juliet Sharff</i>	52
3. Numeration		57
Eight-Ring Circus: A Variation in the Teaching of Counting and Place Value March 1972	<i>Ethel Rinker</i>	58
Understanding Place Value December 1970	<i>Shirley S. Ziesche</i>	66
Placo—a Number-Place Game May 1968	<i>Robert C. Calvo</i>	68
Making a Counting Abacus February 1967	<i>George C. Cunningham</i>	70
Concepts to Enhance the Study of Multiplication February 1963	<i>Margaret Haines</i>	72
Building “Computers” for Nondecimal Number Systems October 1966	<i>Frederick R. Rabinowitz</i>	75
Let’s Use Our Checkers and Checkerboards to Teach Number Bases November 1967	<i>Lucile LaGanke</i>	77
Discovering the Mathematics of a Slide Rule January 1968	<i>J. Gregory Martin, Jr.</i>	80
4. Integers		83
Climb the Ladder May 1969	<i>Albert H. Mauthe</i>	84
Play Shuffleboard with Negative Numbers May 1969	<i>Charlotte Frank</i>	87
Number Line: Versatility December 1968	<i>Esther Milne</i>	90
A Teaching Aid for Signed Numbers November 1966	<i>Edna M. Pratt</i>	91

5. Rational Numbers		93
If the Hands Can Do It the Head Can Follow November 1972	<i>Israel Jacobs</i>	94
Fraction Bingo March 1970	<i>Nancy Cook</i>	101
FRIO, or FRactions In Order December 1966	<i>Rowena Drizigacker</i>	103
Make a Whole—a Game Using Simple Fractions February 1971	<i>Joann Rode</i>	105
Concrete Material for Teaching Percentage December 1954	<i>Eldon Hauck</i>	108
A Percentage Board April 1955	<i>Inez Bailey</i>	111
A Fraction Circle April 1956	<i>Donald B. Lyvers</i>	112
Fun with Fractions for Special Education October 1971	<i>Ruth S. Jacobson</i>	115
Division by a Fraction—a New Method March 1962	<i>George H. McMeen</i>	118
A Game with Fraction Numbers January 1970	<i>Richard Thomas Zytkowski</i>	123
6. Geometry and Measurement		125
Creating Mathematics with a Geoboard April 1970	<i>Peter Wells</i>	127
A “Limited” Approach to the Sum of the Angles of a Triangle February 1972	<i>James V. Bruni</i>	130
Activities with Easy-to-Make Triangle Models February 1972	<i>Carl A. Backman and Seaton E. Smith, Jr.</i>	133
The Angle Mirror Outdoors April 1970	<i>Lauren G. Woodby</i>	135
Adapting the Area of a Circle to the Area of a Rectangle May 1972	<i>Mary T. Colter</i>	138
A Pythagorean Puzzle January 1972	<i>Gary D. Hall</i>	142
Easy-to-Paste Solids October 1965	<i>M. Stoessel Wahl</i>	145

A Permanent-Soap-Bubble Geometry April 1972	<i>M. Stoessel Wahl</i>	149
Cleo's Clock January 1973	<i>Cleo Kaprocki</i>	151
We Made It and It Works! The Classroom Construction of Sundials April 1970	<i>M. Stoessel Wahl</i>	153
7. Multipurpose Aids		157
The Peg Board—a Useful Aid in Teaching Mathematics April 1961	<i>Alan A. Fisher</i>	159
Fostering Enthusiasm through Child-created Games February 1970	<i>Sarah R. Golden</i>	162
Blast-off Mathematics April 1971	<i>Elton E. Beougher</i>	167
The Function of Charts in the Arithmetic Program October 1955	<i>Catherine M. Williams</i>	174
Bulletin Boards for Elementary School Arithmetic February 1964	<i>Donald E. Hall</i>	179
A Mathematics Laboratory—from Dream to Reality February 1970	<i>Patricia S. Davidson and Arlene W. Fair</i>	181