
Mathematics: Grades 1 to 5

Note: The list of learning resources in this section provides an update to *Mathematics: A Bibliography for the Elementary Level (1992)*.

About Teaching Mathematics: A K-8 Resource. 2nd ed. (Print-Non-Fiction). Burns, Marilyn. Math Solutions Publications (PRN), 2000. 348 p. ISBN 0-941355-25-X (\$53.50 pbk.).

This revised edition is an indispensable resource for guiding the teaching and learning of mathematics. Supports for developing mathematical understandings are immersed in the resource's four parts: "Raising the Issues," "Problem-Solving Activities in the Strands," "Teaching Arithmetic," and "Mathematical Discussions." A bibliography, blackline masters, numerous activity-based explorations, and assessment strategies complement this resource. This comprehensive resource presents methods for effective instruction that promotes understanding of mathematics rather than the rote memory of rules and algorithms.

Suggested Use: Grade 1; Grade 2; Grade 3; Grade 4; Grade 5; Data Management and Analysis; Geometry; Measurement; Numbers and Operations; Problem Solving; Teacher Reference

Other Use: Kindergarten; Mathematics: Middle Level

Algebraic Reasoning: Professor Arbegla Introduces Variables and Functions: GEMS Teacher's Guide for Grades 3-5 (Print-Non-Fiction). Kopp, Jaine and Bergman, Lincoln. (Great Explorations in Math and Science Series). Lawrence Hall of Science #5200 (SES), 2003. 140 p. ISBN 0-924886-70-6 (\$28.95 pbk.).

The fictitious Professors Arbegla and LaBarge introduce students to numerous problems that require critical thinking and algebraic reasoning to unravel. "Malfunctioning" machines and special scales pose

mathematical challenges in which students identify patterns and the relationships between numbers. Explorations of the distributive property, the identity property, inverse operations, and the commutative property outlined in this resource develop students' mental addition and multiplication skills.

Suggested Use: Grade 3; Grade 4; Grade 5; Measurement; Numbers and Operations

Arithme-Tickle: An Even Number of Odd Riddle-Rhymes. 1st ed. (Print-Non-Fiction). Lewis, J. Patrick and Remkiewicz, Frank, illus. Harcourt, Inc. (RAI), 2002. 32 p. ISBN 0-15-216418-9 (\$22.95 hdc.).

Zany word play and mathematical problems combine to create hilarious riddles. The 18 puzzles challenge readers' operational sense and number relationships. The riddles, written on a blue-lined notebook paper with the solution printed beneath in reverse type, enhance problem-solving skills. Humorous illustrations add to the amusing mathematical dilemmas!

Please note that Imperial Measurements are included, but this is not a limiting factor.

Suggested Use: Grade 2; Grade 3; Grade 4; Grade 5; Numbers and Operations; Problem Solving

The Boll Weevil Ball. 1st ed. (Print-Fiction). Murphy, Kelly. Henry Holt & Co., Inc. (FEN), 2002. unpaginated. ISBN 0-8050-6712-4 (\$22.95 hdc.).

In this insect version of *Cinderella*, a small beetle is considered too small and unimportant to attend the prestigious Boll Weevil Ball. As his two pretentious brothers primp for the event, Redd is pushed aside and forgotten. Undeterred, Redd manages to arrive at the ball only to face the danger of being trampled upon by waltzing critters. A chance encounter with a friendly firefly teaches Redd that size is irrelevant; it is your actions that measure your worth. Detailed illustrations depicting varying perspectives explore concepts in ratio and proportion.

Suggested Use: Grade 1; Grade 2; Measurement

Other Use: English Language Arts:
Elementary Level

Children Are Mathematical Problem Solvers (Print-Non-Fiction). Sakshaug, Lynae, Olson, Melfried and Olson, Judith. National Council of Teachers of Mathematics (NCTM), 2002. 99 p. ISBN 0-87353-529-4 (\$23.95 U.S. pbk.).

Emphasizing problem solving as the foundation of mathematical understanding, the 29 activities challenge students to reason and communicate their understandings.

Originating from National Council of Teachers of Mathematics journals, these activities stretch beyond translation problems to offer authentic tasks that can be solved using varying methods. The open-ended problems stem from a range of strands, and the resource guides teachers in their presentation through sample questions, examples of students' work, and assessment techniques.

Suggested Use: Grade 1; Grade 2; Grade 3; Grade 4; Grade 5; Data Management and Analysis; Geometry/Masurement; Numbers and Operations; Problem Solving

Other Use: Mathematics: Middle Level

Dinnertime! (Print-Fiction). Williams, Sue and Argent, Kerry, illus. Harcourt, Inc. (SES), 2001. unpaginated. ISBN 0-15-216471-5 (\$26.00 hdc.).

A hungry fox is on the prowl for a delicious rabbit dinner. One by one, six rabbits narrowly escape from the persistent fox. The accompanying illustrations highlight the successive subtraction pattern and different combinations for sums one to six. Observant readers will identify an equivalent number of background critters to the rabbits on each two-page spread. The catchy refrain and surprise ending add to this action-packed story.

Suggested Use: Grade 1; Grade 2; Numbers and Operations

Other Use: Kindergarten

Ed Emberley's Picture Pie 2: A Drawing Book and Stencil (Print-Non-Fiction). Emberley, Ed. Little, Brown and Co. (FEN), 1996. unpaginated. ISBN 0-316-23458-3 (\$13.95 pbk.).

Renowned illustrator Ed Emberley has created yet another artistic resource that has endless applications for the development of geometry, measurement, and fractional concepts. Illustrations of flora, animals, and machines are all created by simple planar figures. The enclosed stencil allows readers to combine circles, squares, and triangles to reconstruct Emberley's two-dimensional designs.

Suggested Use: Grade 1; Grade 2; Grade 3; Grade 4; Grade 5; Geometry; Measurement; Numbers and Operations

Other Use: Arts Education: Elementary Level

Extending the Challenge in Mathematics: Developing Mathematical Promise in K-8 Students (Print-Non-Fiction). Sheffield, Linda Jensen. Corwin Press, Inc. (LBR), 2003. 150 p. ISBN 0-7619-3851-6 (\$40.95 pbk.).

Presenting engaging problems that are context and content based, the author demonstrates methods for developing mathematical understanding. Each investigation is supported with open-ended questions to guide mathematical communication and probing assessment questions that relate to the objectives. Not restricted for only the gifted, this resource explores problem-solving activities for each of the strands that are applicable for all students.

Suggested Use: Grade 1; Grade 2; Grade 3; Grade 4; Grade 5; Data Management and Analysis; Geometry; Measurement; Numbers and Operations; Problem Solving

Other Use: Mathematics: Middle Level

Family Math for Young Children: Comparing (Print-Non-Fiction). Coates, Grace Dávila, Stenmark, Jean Kerr and Craig, Rose, illus. Lawrence Hall of Science #5200 (MHR), 1997. 195 p. ISBN 0-912511-27-3 (\$32.54 pbk.).

Although designed as a resource to assist families with teaching their children mathematical concepts, the activities are also suitable for classroom use. The theme of comparing is integrated with investigations in counting, measurement, geometry, patterning, and operational sense. This practical resource encourages students to communicate and represent their mathematical understandings through co-operative learning and exploratory learning experiences.

Suggested Use: Grade 1; Grade 2; Grade 3; Geometry; Measurement; Numbers and Operations; Problem Solving

Other Use: Kindergarten

Five Creatures (Video). Jenkins, Emily and Bogacki, Tomek, illus. Weston Woods (MGR), 2002. 7 min. Dup. order no. V3252. Program Guide - Order no. G3252 (\$0.44 loose-leaf).

This program adapted from the book by Emily Jenkins encourages viewers to look at families in unusual new ways: type of creature, size, hair colour, eating habits, and bathing preferences. The pastel illustrations help to create a portrait of a warm and loving family. *Five Creatures* provides valuable support for teaching grouping, classifying, and Venn diagrams.

A program guide can be obtained at Media Group or at the following address:
www.teacher.scholastic.com/products/westonwoods.

Suggested Use: Grade 2; Grade 3; Data Management and Analysis

Other Use: English Language Arts: Elementary Level; Kindergarten

Grandfather Tang's Story (Print-Fiction). Tompert, Ann and Parker, Robert Andrew, illus. Crown Publishers Inc. (RAN), 1997. unpaginated. ISBN 0-517-88558-1 (\$9.50 pbk.).

This Chinese folktale recounts two competitive, but lovable, foxes who possess the ability to transform themselves into a variety of animals. Seven tangrams are cleverly arranged to depict the various characters. Gentle watercolour illustrations complement this enchanting tale. An included tangram template allows readers to recreate the featured geometric configurations.

Suggested Use: Grade 3; Grade 4; Grade 5; Geometry; Problem Solving

Initiative: Multicultural Content and Perspectives

How to Use Children's Literature to Teach Mathematics (Print-Non-Fiction).

Welchman-Tischler, Rosamond. National Council of Teachers of Mathematics (NCTM), 1992. 75 p. ISBN 0-87353-349-6 (\$18.95 U.S. pbk.).

Using picture books as a springboard to develop mathematics concepts, this resource promotes a problem-solving and communicative approach to instruction. The resource is organized to demonstrate different methods for creating mathematical connections. Each chapter contains examples of two to four resources, with a summary of each book, mathematics activities, blackline masters, and extending investigations. This interdisciplinary approach introduces, develops, and reinforces mathematics concepts outlined in the five strands.

Suggested Use: Grade 1; Grade 2; Grade 3; Grade 4; Grade 5; Data Management and Analysis; Geometry; Measurement; Numbers and Operations; Problem Solving

I Knew Two Who Said Moo: A Counting and Rhyming Book. 1st ed. (Print-Fiction).

Barrett, Judi and Moreton, Daniel, illus. Atheneum Publications (SHU), 2000. unpaginated. ISBN 0-689-82104-2 (\$23.50 hcd.).

Nonsensical verses and animals in precarious situations combine to create a humorous counting resource. Each number, from one to

ten, is featured in a rhyming verse and lively illustrations. A close inspection of each scenario will reveal counting opportunities and hidden numerals.

Suggested Use: Grade 1; Numbers and Operations

Other Use: Kindergarten

If the World Were a Village: A Book About the World's People. Updated ed. (Print-Non-Fiction). Smith, David J. and Armstrong, Shelagh, illus. Kids Can Press (UTP), 2003. 32 p. ISBN 1-55074-779-7 (\$15.95 hdc.).

Viewing the world as a village of only 100 people leads students to understand global population growth. In this global village, 22 people would speak Chinese, 20 people would earn less than a dollar a day, and 60 people would always be hungry. Through quantitative comparison, Canadian students can gain a sense of their global identity. This is an excellent and thought-provoking resource that can be used at several grade levels.

Previously listed in the 2003 *Learning Resource Materials Update*, this updated edition contains more recent statistics.

Suggested Use: Grade 4; Grade 5; Data Management and Analysis

Other Use: Mathematics: Middle Level; Social Studies: Elementary Level; Social Studies: Grade 6; Social Studies: Grades 7-9; Social Studies 10/History 10; Social Studies 20/History 20

Initiative: Multicultural Content and Perspectives

In All Probability: Investigations in Probability and Statistics: Teacher's Guide (Print-Non-Fiction). Cuomo, Celia. (Great Explorations in Math and Science Series). Lawrence Hall of Science #5200 (SES), 1993. 91 p. ISBN 0-924886-03-X (\$19.95 pbk.).

Active explorations of statistics, graphing, and probability are featured in this clearly organized resource. Ample illustrations and descriptions of instructional strategies are included to support and guide instruction in generating data, communicating reasoning, predicting, and drawing conclusions. A

section that provides background information for educators, assessment strategies, and blackline masters are included. Through an inquiry-based approach, this resource develops logical thinking skills and provides insight into how probability and statistics relate to students and their environment.

Suggested Use: Grade 3; Grade 4; Grade 5; Data Management and Analysis

Other Use: Mathematics: Middle Level

Just a Little Bit (Print-Fiction). Tompert, Ann and Munsinger, Lynn, illus. Houghton Mifflin Company (ALL), 1993. unpaginated. ISBN 0-395-77876-X (\$9.95 pbk.).

A fun afternoon in the park is disrupted as Mouse and Elephant, due to their disproportionate masses, are unable to balance the seesaw. One by one, a giraffe, a zebra, a lion, a bear, a crocodile, a monkey, an ostrich, and even a mongoose push down on Mouse's side. The addition of a tiny beetle finally hoists the elephant into the air. This predictable tale, accented with charming characters, is a playful introduction to concepts of mass and equivalence.

Suggested Use: Grade 1; Grade 2; Measurement

Other Use: Kindergarten

Lessons Learned From Research (Print-Non-Fiction). Sowder, Judith and Schappelle, Bonnie, eds. National Council of Teachers of Mathematics (NCTM), 2002. 219 p. ISBN 0-87353-526-X (\$33.95 U.S. pbk.).

Twenty-eight mathematics education research reports, originally published in National Council of Teachers of Mathematics *Journal for Research in Education*, highlight valuable findings for improving teaching. Divided into teaching, learning, curriculum, and assessment sections, each of the articles features an abstract, the research, and a footnote stating the source of the original article. Serving as an excellent resource for professional development, *Lessons From Research* provides insights into the motivation, concept development, and assessment of students.

Suggested Use: Grade 1; Grade 2; Grade 3; Grade 4; Grade 5; Teacher Reference

Other Use: Mathematics: Middle Level;
Mathematics 10, 20

The Lunch Line (Print-Fiction). Nagel, Karen Berman and Zimmerman, Jerry, illus. (Hello Math Reader: Level 3 Series). Scholastic Inc. (SCH), 1996. unpaginated. ISBN 0-590-60246-2 (\$4.50 pbk.).

At the school cafeteria, Karen must determine her lunch options that add to or are less than a dollar. A posted menu allows readers to offer other delectable possibilities that equal two quarters and five dimes. The bold, cartoonlike illustrations add to this delightful story of understanding the value and relationships between coins. Appended activities and games provide further explorations to develop the concept of money.

Suggested Use: Grade 2; Grade 3; Grade 4;
Measurement

Making Sense of Fractions, Ratios, and Proportions: 2002 Yearbook (Print-Non-Fiction). Litwiller, Bonnie and Bright, George, eds. National Council of Teachers of Mathematics (NCTM), 2002. 261 p. ISBN 0-87353-519-7 (\$39.95 U.S. pbk.).

The 2002 National Council of Teachers of Mathematics yearbook contains scholarly articles that provide insights and suggestions for enhancing students' conceptual understanding of fractions, ratios, and proportions. The contents of the yearbook span the Elementary and Middle Levels and range in depth. A section entitled "Classroom Challenges" contains open-ended problems for use in the classroom.

The companion booklet presents activities that illustrate authors' comments in the yearbook and ones that provide alternate instructional strategies for concept attainment.

Suggested Use: Grade 1; Grade 2; Grade 3;
Grade 4; Grade 5; Numbers and Operations;
Teacher Reference

Other Use: Mathematics: Middle Level

Math Appeal: Mind-Stretching Math Riddles. 1st ed. (Print-Fiction). Tang, Greg

and Briggs, Harry, illus. Scholastic Inc. (SCH), 2003. unpaginated. ISBN 0-439-21046-1 (\$24.99 hdc.).

Brightly illustrated, this resource features clever riddles that demonstrate mental calculation strategies in context. Each two-page spread poses a mathematical problem with a helpful hint for developing computational fluency in addition. The accompanying illustration depicts a pattern to help readers visualize the strategy. The author of *The Grapes of Math* has once again developed an engaging resource that envelops readers in a problem-solving environment.

Suggested Use: Grade 2; Grade 3; Grade 4;
Numbers and Operations; Problem Solving

Math Is Language Too: Talking and Writing in the Mathematics Classroom (Print-Non-Fiction). Whitin, Phyllis and Whitin, David J. National Council of Teachers of English (NCTE), 2000. 104 p. ISBN 0-8141-2134-9 (\$21.95 U.S. pbk.).

A joint publication by the National Council of Teachers of Mathematics and the National Council of Teachers of English, this resource highlights Core Curriculum initiatives that are foundational to all subjects. Using fourth-grade students as models, the authors highlight using language as a tool for constructing mathematical knowledge and understandings. Replete with student samples and illustrated examples, this resource presents clearly described strategies for communicating mathematically and making personal connections to concepts using multiple representations.

Suggested Use: Grade 3; Grade 4; Grade 5;
Data Management and Analysis; Geometry;
Measurement; Numbers and Operations;
Problem Solving

Math, Literature and Unifix: Making the Connection (Print-Non-Fiction). Callan,

Richard J. and Balka, Don S. Didax Educational Resources (SES), 2001. 96 p. ISBN 1-58324-107-8 (\$13.95 pbk.).

Effective methods for integrating literature and mathematics are featured in this resource. Following a concise summary of each resource, activity-based mathematical investigations using Unifix cubes are described. Included writing activities provide a springboard for assessment purposes. Blackline masters and a classification chart of mathematical activities by topic are appended. This resource requires the teacher to extend the activities to develop mathematical understandings, but provides sound initial ideas.

Suggested Use: Grade 1; Grade 2; Grade 3; Data Management and Analysis; Geometry; Measurement; Numbers and Operations; Problem Solving

Other Use: Kindergarten

Math Mysteries: Whole Numbers (CD-ROM). Tom Snyder Productions (TSP), 2000. No order number is required. (\$79.00 U.S.).

Presented in two compact discs, students solve translation problems ranging from simple single-step equations to complex solutions requiring a mix of operations and steps. One of the compact discs features the mysterious disappearance of a sailing trophy. Interacting with a host of characters, the students solve problems to receive important clues to unravel the mystery. The second compact disc has been designed for whole-class interaction. Collaboratively, students locate hidden questions, sort through provided information, and socially negotiate solutions.

An accompanying teacher's binder provides additional support, solutions, and blackline masters.

Suggested Use: Grade 4; Grade 5; Numbers and Operations; Problem Solving

Other Use: Mathematics: Middle Level

Muffins at the Fair: A Story About Division (Print-Fiction). Irons, Calvin and Argent, Leanne, illus. McGraw-Hill Ryerson Limited

(MHR), 1999. unpaginated. ISBN 0-7327-2683-2 (\$4.89 pbk.).

Three foxes purchase muffins to sell at the local fair. Throughout the day, the muffins are shared equally among varying groups of customers. As each of the rabbits, squirrels, and mice compare their differing quantities of muffins, they decide to regroup the treats to determine a method for sharing the 72 muffins equally. The delightful rhyming text and soft watercolour illustrations will stimulate mathematical discussions regarding the concept of division.

Suggested Use: Grade 2; Grade 3; Numbers and Operations; Problem Solving

Navigating Through Data Analysis and Probability in Grades 3-5 (Print-Non-Fiction). Chapin, Suzanne, et al. (Principles and Standards for School Mathematics Navigations Series). National Council of Teachers of Mathematics (NCTM), 2002. 120 p. ISBN 0-87353-521-9 (\$31.95 pbk.).

The activities engage students in conducting experiments, in which they predict the probability of outcomes, collect and display data, and then analyze the data in light of initial questions and problems. Emphasizing the formulation of questions based upon their data and multiple representations of results, this resource deepens students' understanding of their findings. An appendix of blackline masters provides solutions for the activities.

The accompanying CD contains printable versions of the blackline masters, professional journal articles, and two interactive applets for students.

Suggested Use: Grade 3; Grade 4; Grade 5; Data Management and Analysis

Navigating Through Geometry in Prekindergarten-Grade 2 (Print-Non-Fiction). Findell, Carol R., et al. (Principles

and Standards for School Mathematics Navigations Series). National Council of Teachers of Mathematics (SES), 2001. 98 p. ISBN 0-87353-511-1 (\$42.95 pbk.).

This activity-based learning resource introduces, develops, and extends students' understandings of geometric concepts. Explorations of spatial concepts include attributes of figures and solids, location, and position using coordinate geometry, transformations, and symmetry. Designed to foster problem-solving skills, the lesson plans list open-ended questions to stimulate mathematical reasoning.

The accompanying CD-ROM contains blackline masters, interactive applets, and professional articles.

Suggested Use: Grade 1; Grade 2; Geometry

Other Use: Kindergarten

1000 Playthinks: Puzzles, Paradoxes, Illusions & Games (Print-Non-Fiction). Moscovich, Ivan and Robinson, Tim, illus. Workman Publishing, Co. (ALL), 2001. 420 p. ISBN 0-7611-1826-8 (\$39.95 coil-bound).

This entertaining collection of games and puzzles combines science, mathematics, and visual art. The 1000 brainteasers feature mental games, riddles, optical illusions, and puzzles ranked in difficulty from one to ten. The colourful illustrations and spiral binding create an appealing format for the development of problem-solving skills. The solutions to the puzzles are clearly explained in the appendix. Whether the activity involves logical reasoning, geometry, patterns, or probability, this resource will absorb readers in making mathematical discoveries.

Suggested Use: Grade 5; Geometry

Other Use: Mathematics: Middle Level; Mathematics 10, 20; Mathematics: A30, B30, C30

A Place for Zero: A Math Adventure (Print-Fiction). LoPresti, Angeline Sparagna and Hornung, Phyllis, illus. Charlesbridge

Publishing (MON), 2003. 32 p. ISBN 1-57091-196-7 (\$10.95 pbk.).

In the land of Digitaria, a weepy Zero laments that he has no place among the other digits. As Zero searches for his value, he learns of his additive and multiplicative properties. Humorous mathematical puns add to the colourful illustrations of legged numbers. This resource is a clever introduction to place value and multiplication concepts.

Suggested Use: Grade 1; Grade 2; Grade 3; Grade 4; Numbers and Operations

Polygon Tiles (Manipulative). Creative Publications (MHR), 1994. ISBN 1-56107-523-X (\$20.95).

Containing 64 figures, this plastic set of manipulative materials is suitable for geometric and measurement investigations. The different configurations of triangles, quadrilaterals, pentagons, hexagons, heptagons, and octagons can be used to assist with the understanding of concepts including attributes, angles, congruence, symmetry, and tessellation.

Twenty-five definition cards and a teacher's guide accompany the set.

Suggested Use: Grade 3; Grade 4; Grade 5; Geometry; Measurement

Other Use: Mathematics: Middle Level

Power Polygons (Manipulative). Learning Resources, Inc. (EEP), n.d. Order no. 6640 (\$45.95).

Containing 450 translucent pieces, this set extends the function of pattern blocks. The 15 different figures (including various-sized squares, rectangles, and parallelograms; different types of triangles; hexagons, and trapezoids) are each identifiable by letter and colour. Pieces can be combined to form patterns, figures, and designs. The figures provide opportunities for conceptual explorations in geometry, algebra, ratio and proportion, measurement, and fractions. This manipulative set, accompanied by an activity guide, is packaged in a plastic container.

Suggested Use: Grade 3; Grade 4; Grade 5; Geometry; Measurement; Numbers and Operations; Problem Solving

Other Use: Mathematics: Middle Level

Quack and Count. 1st ed. (Print-Fiction). Baker, Keith. Harcourt, Inc. (RAI), 1999. unpaginated. ISBN 0-15-292858-8 (\$20.95 hdc.).

Beautiful collage illustrations depict seven exuberant ducklings enjoying a leisurely afternoon. Each two-page spread features a varying composition for the number 7. The rhyming pattern and predictable simple text introduce students to addition combinations and partitioning of numbers.

Suggested Use: Grade 1; Numbers and Operations

Other Use: Kindergarten

Queenie Farmer. 1st ed. (Print-Fiction). Campbell, Ann and Meade, Holly, illus. Harcourt, Inc. (SES), 2002. unpaginated. ISBN 0-15-201933-2 (\$26.00 hdc.).

This mathematical tale features Queenie who must single handedly raise 15 daughters after her cows and husband disappear. Outlandish episodes occur throughout the years as the mother grants her daughters' wishes, each of which takes six days to complete. The days of the week and concepts of addition and patterning are woven throughout the rhythmic phrasing. The pen-and-wash drawings extend Queenie's love of Holsteins as astute readers will identify that the characters' attire mimics the hide of the beloved animals.

Suggested Use: Grade 1; Grade 2; Measurement; Numbers and Operations

Second-Grade Math: A Month-to-Month Guide (Print-Non-Fiction). Litton, Nancy. Math Solutions Publications (PRN), 2003. 230 p. ISBN 0-941355-55-1 (\$34.50 pbk.).

This resource, part of a three-book series, offers a month-by-month guide for planning a year of mathematics instruction. The chapters follow the months of the school year and each feature a varying stand or subtopic. Each month's focus contains a rich variety of clearly explained problem-solving activities

supported with samples of students' work and questions to guide classroom discourse. A foreword by Marilyn Burns, blackline masters, and a list of resources mentioned throughout the resource are appended. Although a nonintegrated strand approach to teaching mathematics is not advocated, this resource outlines teaching strategies that enhance critical thinking and concept attainment.

Suggested Use: Grade 2; Teacher Reference

The Shape of Things. 1st paperback ed. (Print-Non-Fiction). Dodds, Dayle Ann and Lacome, Julie, illus. Candlewick Press (CDS), 1996. unpaginated. ISBN 1-56402-698-1 (\$8.99 pbk.).

Bold collage illustrations of combined figures illustrate objects in the readers' environment. Each two-page spread vividly introduces a solitary figure and, on the facing page, the figure as part of an object. Cheerful rhyming prose and accompanying colourful illustrations provide an interesting context for readers to name and identify geometric figures.

Suggested Use: Grade 1; Geometry

Other Use: English Language Arts: Elementary Level; Kindergarten

Sir Cumference and the Sword in the Cone: A Math Adventure (Print-Fiction). Neuschwander, Cindy and Geehan, Wayne, illus. Charlesbridge Publishing (MON), 2003. 32 p. ISBN 1-57091-601-2 (\$10.95 pbk.).

This latest Sir Cumference adventure features a geometry puzzle. Competing to be the chosen successor to King Arthur, young knights attempt to solve the puzzle to determine the hidden location of the King's sword, Edgecalibur. As the clues led Vertex and Radius through a series of adventures, the two men discover attributes of geometric solids including Euler's Law. Sprinkled with mathematical puns and detailed medieval paintings, this adventure provides a delightful method for introducing spatial concepts.

Note: Imperial measurements are used, but this is not a limiting factor.

Suggested Use: Grade 4; Grade 5; Geometry

Other Use: Mathematics: Middle Level

Teaching Reading in Social Studies, Science, and Math (Print-Non-Fiction). Robb, Laura. Scholastic Inc. (SCH), 2003. 384 p. ISBN 0-439-17669-7 (\$42.99 pbk.).

Scaffolding instruction within a three-part framework, Robb presents strategies that support students before, during, and after engagement with informational texts. The chapters detail methods for actively involving students in the reading process, applications of the strategies in content areas within lesson formats, and a reflection guide to deepen understanding of reading experiences. This responsive teaching resource presents a wealth of ideas for building students' repertoire of reading strategies and bolstering their comprehension of informational material.

Suggested Use: Grade 3; Grade 4; Grade 5; Teacher Reference

Other Use: English Language Arts: Elementary Level; English Language Arts: Middle Level; Mathematics: Middle Level; Science: Elementary Level; Science: Middle Level; Social Studies: Elementary Level; Social Studies: Grade 6; Social Studies: Grades 7-9

Ten Black Dots. Rev. ed. (Print-Fiction). Crews, Donald. Scholastic Inc. (SCH), 1986. unpaginated. ISBN 0-590-46479-5 (\$4.99 pbk.).

Increasing numbers of black dots are boldly depicted on familiar objects in this revised and redesigned edition. Simple rhymes and bold illustrations provide opportunities to practise counting from one to ten.

Suggested Use: Grade 1; Numbers and Operations

Other Use: Kindergarten

Ten Friendly Frogs: A Story About Addition and Subtraction (Print-Fiction). Irons, Calvin, Owen, Claire and Sulzer, Anne, illus. Mimosa Publications (MHR), 2003. 16 p. ISBN 0-7327-3270-0 (\$4.89 pbk.).

Ten frogs frolicking in a cool pond reinforce concepts in addition and subtraction. As varying combinations of the amphibians jump into the water, readers are encouraged to determine the number of frogs remaining on land. Humorous illustrations and rollicking rhymes will engage readers in the various compositions for the number 10.

Suggested Use: Grade 1; Grade 2; Numbers and Operations

Other Use: Kindergarten

Twenty Is Too Many. 1st ed. (Print-Fiction). Duke, Kate. Dutton Books (CDS), 2000. unpaginated. ISBN 0-525-42026-6 (\$23.50 hdbk.).

Twenty guinea pigs set out for a pleasant sail. A sinking boat is one of many adventures that these fun-loving rodents experience. The concept of subtraction is depicted as varying numbers of guinea pigs flee from the vessel on each two-page spread. Humorous illustrations portray the furry creatures as they perform entertaining antics while draped around large numerals.

Suggested Use: Grade 1; Grade 2; Numbers and Operations

Other Use: Kindergarten

Using Assessment to Improve Middle-Grades Mathematics Teaching & Learning (Print-Non-Fiction). Parke, Carole S., et al. National Council of Teachers of Mathematics (NCTM), 2003. 153 p. ISBN 0-87353-522-7 (\$37.95 U.S. pbk.).

Using 16 problem-solving tasks, this resource helps teachers gain insight into students' mathematical understandings and methods for aligning assessment with their proficiency. Each task contains an overview of its mathematical content, an assessment technique, sample student-scored responses, and rationales for the scores assigned to each response. Emphasizing multiple strategies, representations, and solutions, this resource and its companion compact disc demonstrate the crucial interrelationship between instruction and assessment.

Suggested Use: Grade 4; Grade 5; Teacher Reference

Other Use: Mathematics: Middle Level

The Warlord's Beads (Print-Fiction).

Pilegard, Virginia Walton and Debon, Nicolas, illus. Pelican Publishing Company, Inc. (FHW), 2001. unp. ISBN 1-56554-863-9 (\$20.95 hdc.).

Set in the palace of a powerful Chinese warlord, Chuan's father is entrusted with counting the powerful man's treasures. The father becomes increasingly worried when he is unable to accurately count the valuable objects and exotic spices. As accusations of thievery arise, the father realizes the need for a different counting method. Using jade beads, Chuan devises a rudimentary abacus that provides an efficient and accurate account. A historical note that traces the invention of the abacus and instructions for creating an abacus are included.

This sequel to *The Warlord's Puzzle* provides an authentic context for discussing place value and addition concepts.

Suggested Use: Grade 2; Grade 3; Grade 4; Numbers and Operations

Initiative: Multicultural Content and Perspectives

The Warlord's Puppeteers (Print-Fiction).

Debon, Nicolas, illus and Pilegard, Virginia Walton. Pelican Publishing Company, Inc. (FHW), 2003. unp. ISBN 1-58980-077-X (\$20.95 hdc.).

While travelling back to the Warlord's palace in ancient China, Chuan and his artist mentor journey across the desert with a troupe of puppeteers. An attack by bandits leaves the performers without their marionettes and thus their means of support. Using a melon, Chuan fashions a crude, disproportionate puppet in an attempt to help his new friends. With his mentor's guidance, concepts of ratio and proportion are learned. Subsequent created puppets adhere to the Chinese art

proportions of a ratio of one to six for the head to the body. This fourth book in the *Warlord Series* presents an authentic application of ratio and proportion concepts for Middle Level students. Presenting the ratio in fractional

form presents opportunities for this resource to be used at the Elementary Level.

Suggested Use: Grade 4; Grade 5; Numbers and Operations

Other Use: Mathematics: Middle Level

Initiative: Multicultural Content and Perspectives

The Warlord's Puzzle (Print-Fiction).

Pilegard, Virginia Walton and Debon, Nicolas, illus. Pelican Publishing Company, Inc. (FHW), 2000. unp. ISBN 1-56554-495-1 (\$20.95 hdc.).

The origin of the tangram puzzle is described through this enchanting Chinese tale. An irascible warlord breaks the artist's gift of a blue tile into seven geometrical pieces and threatens a cruel punishment if the fragments cannot be reassembled. A contest is thus announced to determine who can reconstruct the pieces into a square. To the astonishment of the contestants, a peasant boy provides the surprising and unexpected solution. Detailed illustrations complement this geometric resource.

Suggested Use: Grade 3; Grade 4; Grade 5; Geometry

Initiative: Multicultural Content and Perspectives

Whodunit Math Puzzles (Print-Fiction).

Wise, Bill. Sterling Publishing Co., Inc. (STE), 2002. 96 p. ISBN 0-8069-8073-7 (\$10.95 U.S. pbk.).

Junior detective Cal Q. Leiter, a mathematical genius, assists the police chief in solving crimes. Solving the 22 short adventures requires attention to mathematical clues, logical reasoning, and problem-solving strategies. The ink illustrations maintain the light and innocent charm of this resource. The solutions are appended. Reminiscent of Sobol's *Encyclopedia Brown Series*, this puzzle book immerses students in entertaining applications of mathematical concepts.

Suggested Use: Grade 4; Grade 5; Problem Solving

Other Use: Mathematics: Middle Level