

Mathematics 1-5: Recommended Resources for the Renewed Curricula



*A list of professional materials available for borrowing
from the Stewart Resources Centre – July 2013*



The STF Stewart Resources Centre – CHECK US OUT!

In order to serve you better, we have compiled the following list of resources that directly address some of your professional needs. We hope you find this publication helpful, and we would be pleased to hear from you if you would like us to continue producing more specialized resource lists, or if you have suggestions on how we can improve our service to you. We want to serve you better!

We make it easy for you to use the Stewart Resources Centre:

- For rural schools, we mail our resources directly to you and provide a postage-paid mailing label for you to use to mail the resources back to us. (Audio-visual resources are excluded from the Canada Post library mailing rate, so you will need to pay postage to return these items.)
- For schools in Saskatoon, your resources arrive at your school through the weekly inter-school mail delivery. Materials may also be returned to us using this courier system.
- You don't need to know the exact titles for resources you need. Provide a topic and an approximate grade level at which you would like to use the materials, and we will do the rest!
- We are accessible 24 hours a day through the STF website: www.stf.sk.ca You may search our catalog online or e-mail us your resource requests at: src@stf.sk.ca
- Call us! STF members may call the Stewart Resources Centre toll-free at 1-800-667-7762, ext. 6323, or we can be reached at 373-1660, ext. 6323 for local calls.
- Visit us in person! We are open 8:30 a.m. to 5:00 p.m. from Monday to Friday.



MATHEMATICS GRADE 1



Indicates item is a Ministry of Education's Core Learning Resource.

513.2 A615

Anno's counting book / Anno, Mitsumasa.

New York, NY: HarperCollins, 1977.

Subjects: Stories without words. Counting. Seasons – Juvenile fiction. Country life – Juvenile fiction.

Summary: A wordless counting book depicting the growth in a village and surrounding countryside during twelve months.

811.54 B415

Bees, snails and peacock tails/Birdsongs [DVD]

Saskatoon, SK: Bamboo Shoots/Nutmeg Media, 2009.

Subjects: Patterns (Mathematics) – Juvenile films. Nature – Poetry – Juvenile films. Animated films.

Summary: In this DVD program, nature's patterns and shapes are explored. The bee builds the hive using hexagons. The diamond back rattlesnake and copperhead both have repeating shapes on their bodies. Geese fly in a v-formation so they do not get tired. At the end of the program are additional facts about the animals. The DVD also contains the bonus program Birdsongs in which students can get to know birds and numbers.



510.7 C456

Changing the faces of mathematics : perspectives on Indigenous people of North America /

Hankes, Judith Elaine. Fast, Gerald R.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching – Social aspects. Indians of North America – Education. Mathematical ability.

Summary: This resource is a collection of essays related to teaching mathematics in a culturally relevant way to First Nations people of North America. Examples include suggestions for teaching numbers and operations concepts using traditional games, and for introducing students to a variety of number systems specific to North American First Nations people.

372.7 S159

Children are mathematical problem solvers / Sakahaug, Lynae. Olson, Melfried.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching. Mathematics – Problems, exercises, etc.

Summary: Emphasizing problem solving as the foundation of mathematical understanding, the 29 activities challenge students to reason and communicate their understandings. Originating from the NCTM journals, these activities stretch beyond translation problems to offer authentic tasks that can be solved using varying methods.

- Annotations have been excerpted from book descriptions provided by the publishers and from bibliographies distributed by the Saskatchewan Ministry of Education.

372.7 E96

Exploring mathematics through literature : articles and lessons for prekindergarten through grade 8 / Thiessen, Diane. (Ed.).

Reston, VA: National Council of Teachers of Mathematics, 2004.

Subjects: Mathematics – Study and teaching (Primary). Mathematics – Study and teaching (Elementary).

Summary: Using literature as the starting point for mathematical explorations, this collection of articles and lessons provides teachers with numerous examples of how to build students' understanding of mathematical concepts effectively. The articles focus on five strands: numbers and operations, algebra, geometry, measurement and data analysis, and probability. Many activities lend themselves to small group and whole class discussions.

372.7 S542

Extending the challenge in mathematics : developing mathematical promise in K-8 students / Sheffield, Linda Jensen.

Thousand Oaks, CA: Corwin Press, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Gifted children – Education.

Summary: Presenting engaging problems that are context and content based, the author demonstrates methods for developing mathematical understanding. Each investigation includes open-ended questions to guide mathematical communication, and probing assessment questions that relate to the objectives.

510 S399

G is for googol : a math alphabet book / Schwartz, David M.

Berkeley, CA: Tricycle Press, 1998.

Subjects: Mathematics – Juvenile literature.

Summary: This book highlights one or more mathematical concepts, ideas, or symbols for each letter of the alphabet. It offers a thorough description of each term, often with possible connections to other topics. As well, interesting (and sometimes humorous) examples are included.



372.7 M426

Going to Egg Island : adventure in grouping and place values [kit]

Calgary, AB: Detselig Enterprises, 2003.

Subjects: Yupik Eskimos – Alaska. Mathematics – Study and teaching (Primary).

Summary: *Going to Egg Island* explores multiple ways of representing and understanding number. Based on the story of a Yupik girl's first trip gathering eggs, the concepts of counting and grouping are presented. These concepts are situated within the context of the Yupik culture, and use everyday examples from tools, to foodstuffs, and everyday objects. Videos are of Yupik elders demonstrating some traditional Yupik games and the ancient chants performed with the games.

372.7 S951

Good questions for math teaching : why ask them and what to ask, K-6 / Sullivan, Peter. Lilburn, Pat.

Sausalito, CA: Math Solutions, 2002.

Subjects: Mathematics – Study and teaching (Elementary). Questioning.

Summary: This book promotes the use of open-ended mathematical questions. The sixteen mathematical topics covered include number, measurement, geometry, chance, and data.

372.7 V945

Lessons for algebraic thinking : grades K-2 / Von Rotz, Leyani. Burns, Marilyn.

Sausalito, CA: Math Solutions Publications, 2002.

Subjects: Algebra – Study and teaching (Elementary).

Summary: This resource fosters the development of algebraic thinking. Each chapter is organized into several sections: an overview of the lesson, the background of the mathematics fundamental to the lesson, a list of vocabulary terms, a detailed procedure, the required materials, and samples of students' work. The lessons support student achievement of several learning outcomes in data management and analysis, numbers, and shape and space strands.



372.7 A565

Little kids - powerful problem solvers : math stories from a kindergarten classroom / Andrews, Angela. Trafton, Paul R.

Portsmouth, NH: Heinemann, 2002.

Subjects: Mathematics – Study and teaching (Preschool). Problem solving.

Summary: This book is a collection of stories, one for each month of the school year, that illustrate how one kindergarten teacher engaged her students in critical thinking and mathematical problem solving using issues as they arose in her classroom. By creating a mathematically rich environment and a classroom climate supportive of interaction and discourse, the teacher helped students to explore, observe, estimate, predict, hypothesize, analyze, and apply mathematical concepts. Each story concludes with a reflection on the mathematical concepts illustrated in the story.

510.71 B363

Math and science across cultures : activities and investigations from the Exploratorium / Bazin, Maurice. Tamez, Modesto.

New York, NY: New Press, 2002.

Subjects: Mathematics – Study and teaching. Science – Study and teaching. Mathematics – Ancient. Science – Ancient.

Summary: This book is designed to help teachers use hands-on activities to explore the math and science of different cultural traditions, and to make these subjects more relevant and approachable for children of all backgrounds. With instructions in this book, you can: construct a Brazilian carnival instrument and investigate the science of sound; play a peg solitaire game from Madagascar and learn about mathematical patterns; experiment with a traditionally prepared cup of Chinese tea and learn about energy flow; and count like an Egyptian, decipher Mayan mathematical symbols, and decode the ancient Inca number system of knotted cords.

372.7 C463

Math matters : understanding the math you teach, grades K-8 (2nd ed.) / Chapin, Suzanne H. Johnson, Art.

Sausalito, CA: Math Solutions Publications, 2006.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource assists teachers to understand mathematical concepts and skills presented in the curriculum. Sections of this resource provide information on number sense, computation, the four operations, fractions, decimals, percents, algebra, geometry, measurement, statistics, and probability.

Navigations Series



372.7 N325

Navigating through algebra in prekindergarten-grade 2 / Greenes, Carole E.

Reston, VA: NCTM, 2001.

Subjects: Algebra – Study and teaching (Early childhood). Algebra – Study and teaching (Primary).

Summary: This book demonstrates how some of the fundamental ideas of algebra can be introduced, developed, and extended. It focuses on repeating and growing patterns, introduces the concepts of variable and equality, and examines relations and functions. Its activities are designed to capture the

interest of small children as they investigate growing patterns, use pictures of dogs with varying numbers of spots to solve for missing addends, and use spinners to identify and explore functions. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

Navigating through geometry in prekindergarten-grade 2 / Findell, Carol R.

Reston, VA: NCTM, 2001.

Subjects: Geometry – Study and teaching (Primary). Geometry – Study and teaching (Early childhood).

Summary: Focusing on the important ideas of geometry, this book shows how to investigate two- and three-dimensional shapes with very young students. It introduces methods to describe location and position, explores simple transformations, and addresses visualization, spatial reasoning, and the building and drawing of constructions. Activities in each chapter pose questions that stimulate students to think more deeply about mathematical ideas. The supplemental CD-ROM also features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

Navigating through number and operations in prekindergarten-grade 2 / Cavanagh, Mary.

Reston, VA: NCTM, 2004.

Subjects: Mathematics – Study and teaching (Early childhood). Problem solving in children. Reasoning in children. Mathematics – Study and teaching (Primary).

Summary: Children in prekindergarten focus on counting and gradually master the essential one-to-one matching of an object to a number. By the end of second grade, they can represent one-, two-, and three-digit numbers, understand simple fractions, and apply a variety of facts and strategies to add and subtract skillfully. Investigations in this book support this progression by inviting students to count and order ducklings in a line, compute the total cost of several items on a menu, and play a variety of games that reinforce their understanding of number, addition, and subtraction. Problems in story form develop students' listening skills and immerse them in real-world mathematics. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

Navigating through problem solving and reasoning in grade 2 / Small, Marian.

Reston, VA: NCTM, 2004.

Subjects: Mathematics--Study and teaching (Primary). Second grade (Education). Problem solving in children. Reasoning in children.

Summary: The explorations in this book include such tasks as determining the coins in piggy banks, matching two-dimensional shapes with three-dimensional solids, and organizing data about hats in tree diagrams. Students apply mathematical ideas from the five main content areas—number, algebra, geometry, measurement, and data analysis. As they work, they infer, generalize, reason by analogy, recognize relationships, and make representations, and they also guess, check, and revise and verify their results. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.

Nelson Math Focus 1



510 N425

Nelson math focus 1 : student book / Small, Marian.

Nelson math focus 1 : student workbook / Small, Marian.

Nelson math focus 1 : teacher's resource / Small, Marian.

Nelson math focus 1 : poster pack / Small, Marian.

Toronto, ON: Nelson, 2008.

Subjects: Mathematics – Study and teaching (Primary).

Summary: The student text includes stories, activities, and student-choice investigations that correlate with chosen concepts outlined in the teacher's resource guide. Each unit within the teacher's resource guide follows a consistent pattern of an introductory activity, numerous problem-solving activities, and a concluding chapter task. Mathematical understandings are developed through activity-based lessons that promote visualization and reasoning.

372.7 W597

New visions for linking literature and mathematics / Whitin, David Jackman. Whitin, Phyllis.

Urbana, IL: NCTE, 2004.

Subjects: Mathematics – Study and teaching (Elementary). Literature in mathematics education.

Summary: This resource provides a wealth of ideas for integrating literature and mathematics within a problem-solving context. The authors identify criteria for selecting and assessing math related literature while keeping curriculum objectives in mind. In addition, they suggest ways to handle subject integration, classroom management, and adaptations to meet student needs.

510.71 K17

Out of the labyrinth : setting mathematics free / Kaplan, Robert. Kaplan, Ellen

New York, NY: Oxford University Press, 2007.

Subjects: Mathematics – Study and teaching.

Summary: Written as a guide for parents and educators, this book argues that math should be taught as the highest form of intellectual play rather than as a step-by-step acquisition of skills and facts. The authors emphasize that math is meant to be explored and savoured, and that it does not require special talent or ability.

Pearson Math Makes Sense 1



510 A225

Pearson math makes sense 1 : student book / Saundry, Carole. Dockendorf, Maureen. Jackson, Michelle. Connell, Maggie Martin.

Pearson math makes sense 1 : teacher's guide / Saundry, Carole. Dockendorf, Maureen. Jackson, Michelle. Connell, Maggie Martin.

Pearson math makes sense 1 : big book / Saundry, Carole. Dockendorf, Maureen. Jackson, Michelle. Connell, Maggie Martin.

Toronto, ON: Pearson, 2004.

Subjects: Mathematics – Textbooks.

Summary: Each unit in the student text includes activities to reinforce explored concepts, a focus statement to communicate key learning, a family letter detailing the objectives of the upcoming unit, and a home connection suggestion for further reinforcement. The visual images in the big book are correlated to the introduction and exploration component of selected lessons. The teacher's guide correlates with each unit in the student text. Lessons within each unit follow a consistent pattern of exploring, connecting, and practising mathematical concepts. This resource includes problem-solving lessons that move from simple to complex and concrete to abstract.

371.102 P887

Powerful learning : what we know about teaching for understanding / Darling-Hammond, Linda.

San Francisco, CA: Jossey-Bass, 2008.

Subjects: Learning. Effective teaching.

Summary: The authors provide a number of teaching practices including project-based learning, cooperative learning, performance-based assessment, as well as instructional strategies in literacy, mathematics, and science.

372.7 D117

Show and tell : representing and communicating mathematical ideas in K-2 classrooms / Dacey, Linda Schulman. Eston, Rebeka.

Sausalito, CA: Math Solutions, 2002.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource demonstrates how mathematical concepts can be taught through showing and telling. Using this instructional method, students develop problem-solving skills as they represent different solutions and communicate their mathematical ideas. Numerous classroom vignettes and examples of student work model how show and tell can deepen students' mathematical understandings.

372.7 B967

So you have to teach math : sound advice for K-6 teachers / Burns, Marilyn. Silbey, Robyn.

Sausalito, CA: Math Solutions, 2000.

Subjects: Mathematics – Study and teaching (Elementary)

Summary: The author supplies practical advice and guidance for frequently asked questions related to the teaching of mathematics. Methods for providing effective instruction and establishing a positive classroom environment are outlined. Sample chapter topics focus on effective calculator usage, connecting with parents, and leading class discussions.

372.7 T253

Teaching mathematics through problem solving : prekindergarten-grade 6 / Lester, Frank K. (Ed.).

Reston, VA: NCTM, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Problem-based learning. Mathematics – Study and teaching (Early childhood).

Summary: This volume promotes a problem-solving approach to mathematics instruction. This approach engages students in making sense of problematic tasks in which mathematical concepts are embedded. The writers address issues and perspectives related to this approach (including the role of technology), and provide examples of its use in the classroom.

510.712 M983

Teaching mathematics vocabulary in context : windows, doors, and secret passageways / Murray, Miki.

Portsmouth, NH: Heinemann, 2004.

Subjects: Mathematics – Study and teaching (Middle school). Mathematics – Terminology.

Summary: This resource for teachers focuses on strategies to help students develop a deeper understanding of mathematical language and to enable them to use it when describing mathematical concepts and relationships across the strands. Concrete examples illustrate how teachers can promote mathematical understanding and reflection through discourse, writing, and the use of vocabulary in context.

372.72 C297

Thinking mathematically : integrating arithmetic and algebra in elementary school / Carpenter, Thomas P. Franke, Megan Loef. Levi, Linda.

Portsmouth, NH: Heinemann, 2003.

Subjects: Arithmetic – Study and teaching (Elementary). Algebra – Study and teaching (Elementary).

Summary: The emphasis of this resource is on teaching for deep understanding of mathematical concepts. Using classroom examples, teachers are shown how to extend students' thinking to help them integrate and connect new knowledge with previous understanding.



372.7 H421

Understanding mathematics in the lower primary years : a guide for teachers of children 3-8

(2nd ed.) / Haylock, Derek. Cockburn, Anne.

Thousand Oaks, CA: Sage Publications, 2003.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource is written for those who teach mathematics, as well as for those who wish to have a clearer understanding of the mathematical ideas behind the material they use in the classroom. This book also shows how children can be helped to develop an understanding of mathematics for themselves.

The Van de Walle Professional Mathematics Series



372.7 V217

Teaching student-centered mathematics : grades K-3 / Van de Walle, John A. Lovin, LouAnn H.

Boston, MA: Pearson, 2006.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource contains nearly 200 grade-appropriate activities, designed to help students develop real understanding and confidence in mathematics. Topics include: foundations of student-centred instruction, developing early number concepts and number sense, developing meaning for the operations and solving-story problems, base-ten concepts and place value, strategies for whole-number computation, early fraction concepts, helping children use data, and more.

372.7 F749

Young mathematicians at work : constructing number sense, addition, and subtraction / Fosnot,

Catherine Twomey. Dolk, Maarten.

Portsmouth, NH: Heinemann, 2001.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This book focuses on young children between the ages of four and eight as they construct a deep understanding of number and the operations of addition and subtraction. The authors provide a description of development, with a focus on big ideas, progressive strategies, and emerging models.

MATHEMATICS GRADE 2



Indicates item is a Ministry of Education's Core Learning Resource.



510.7 C456

Changing the faces of mathematics : perspectives on Indigenous people of North America /

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Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching – Social aspects. Indians of North America – Education. Mathematical ability.

Summary: This resource is a collection of essays related to teaching mathematics in a culturally relevant way to First Nations people of North America. Examples include suggestions for teaching numbers and operations concepts using traditional games, and for introducing students to a variety of number systems specific to North American First Nations people.

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Subjects: Mathematics – Study and teaching (Elementary). Questioning.

Summary: This book promotes the use of open-ended mathematical questions. The sixteen mathematical topics covered include number, measurement, geometry, chance, and data.

372.7 T164

The grapes of math : mind-stretching math riddles / Tang, Greg.

New York, NY: Scholastic, 2001.

Subjects: Mathematical recreations. Mathematics – Study and teaching (Elementary). Problem solving.

Summary: The rhyming verses and accompanying illustrations present mental addition strategies through patterns and combinations of numbers. Students are challenged to seek the solutions to the riddles using problem solving and critical thinking skills.

519.544 G624

Great estimations / Goldstone, Bruce.

New York, NY: Henry Holt, 2006.

Subjects: Estimation theory – Juvenile literature.

Summary: Using a variety of photographed objects, the author helps readers to develop their estimation strategies by first looking at groups of ten, one hundred, and one thousand. Numerous opportunities are provided for students to use groupings and patterns to estimate quantities of colourful everyday objects. Each picture includes hints for helpful estimation strategies.

372.7 B617

The king's chessboard / Birch, David.

New York, NY: Puffin Books, 1993.

Subjects: Mathematics – Juvenile literature. Pride and vanity – Juvenile literature.

Summary: Geometric progressions are explored in this resource as a vain king insists that a wise man accept a reward for his service. The man reluctantly requests a daily payment of rice that is to be doubled for each square of the chessboard.

372.72 T253

Lessons for addition and subtraction. Grades 2-3 / Tank, Bonnie. Zolli, Lynne.

Sausalito, CA: Math Solutions, 2001.

Subjects: Subtraction – Study and teaching (Elementary). Addition – Study and teaching (Elementary).

Summary: Students engage in explorations with money, measurement activities, investigations, and games that motivate their thinking and build their estimation and computation skills.

372.7 V945

Lessons for algebraic thinking : grades K-2 / Von Rotz, Leyani. Burns, Marilyn.

Sausalito, CA: Math Solutions Publications, 2002.

Subjects: Algebra – Study and teaching (Elementary).

Summary: This resource fosters the development of algebraic thinking. Each chapter is organized into several sections: an overview of the lesson, the background of the mathematics fundamental to the lesson, a list of vocabulary terms, a detailed procedure, the required materials, and samples of students' work. The lessons support student achievement of several learning outcomes in data management and analysis, numbers, and shape and space strands.

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Subjects: Mathematics – Study and teaching. Science – Study and teaching. Mathematics – Ancient. Science – Ancient.

Summary: This book is designed to help teachers use hands-on activities to explore the math and science of different cultural traditions, and to make these subjects more relevant and approachable for children of all backgrounds. With instructions in this book, you can: construct a Brazilian carnival instrument and investigate the science of sound; play a peg solitaire game from Madagascar and learn about mathematical patterns; experiment with a traditionally prepared cup of Chinese tea and learn about energy flow; and count like an Egyptian, decipher Mayan mathematical symbols, and decode the ancient Inca number system of knotted cords.

372.7 T164

Math appeal : mind-stretching math riddles / Tang, Greg.

New York, NY: Scholastic, 2003.

Subjects: Mathematical recreations. Mathematics – Juvenile literature.

Summary: This resource features 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.

372.7 C463

Math matters : understanding the math you teach, grades K-8 (2nd ed.) / Chapin, Suzanne H. Johnson, Art.

Sausalito, CA: Math Solutions Publications, 2006.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource assists teachers to understand mathematical concepts and skills presented in the curriculum. Sections of this resource provide information on number sense, computation, the four operations, fractions, decimals, percents, algebra, geometry, measurement, statistics, and probability.

372.7 P647

My full moon is square / Pinczes, Elinor J.

Boston, MA: Houghton Mifflin, 2002.

Subjects: Mathematics – Juvenile fiction. Frogs – Juvenile fiction. Stories in rhyme.

Summary: A frog, who is an avid reader, is disappointed when a moonless night disrupts his bedtime reading. The fireflies assist the frog in his plight by creating different square formations to illuminate the pond. Various mathematical equations illustrate the fireflies attempts to find a suitable arrangement for storytelling. The story is an opportunity to engage students in the investigation of multiplication arrays that create a square and the attributes of this geometric figure.

Navigations Series



372.7 N325

Navigating through algebra in prekindergarten-grade 2 / Greenes, Carole E.

Reston, VA: NCTM, 2001.

Subjects: Algebra – Study and teaching (Early childhood). Algebra – Study and teaching (Primary).
Summary: This book demonstrates how some of the fundamental ideas of algebra can be introduced, developed, and extended. It focuses on repeating and growing patterns, introduces the concepts of variable and equality, and examines relations and functions. Its activities are designed to capture the interest of small children as they investigate growing patterns, use pictures of dogs with varying numbers of spots to solve for missing addends, and use spinners to identify and explore functions. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

Navigating through geometry in prekindergarten-grade 2 / Findell, Carol R.

Reston, VA: NCTM, 2001.

Subjects: Geometry – Study and teaching (Primary). Geometry – Study and teaching (Early childhood).

Summary: Focusing on the important ideas of geometry, this book shows how to investigate two- and three-dimensional shapes with very young students. It introduces methods to describe location and position, explores simple transformations, and addresses visualization, spatial reasoning, and the building and drawing of constructions. Activities in each chapter pose questions that stimulate students to think more deeply about mathematical ideas. The supplemental CD-ROM also features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

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Reston, VA: NCTM, 2004.

Subjects: Mathematics – Study and teaching (Early childhood). Problem solving in children. Reasoning in children. Mathematics – Study and teaching (Primary).

Summary: Children in prekindergarten focus on counting and gradually master the essential one-to-one matching of an object to a number. By the end of second grade, they can represent one-, two-, and three-digit numbers, understand simple fractions, and apply a variety of facts and strategies to add and subtract skillfully. Investigations in this book support this progression by inviting students to count and order ducklings in a line, compute the total cost of several items on a menu, and play a variety of games that reinforce their understanding of number, addition, and subtraction. Problems in story form develop students' listening skills and immerse them in real-world mathematics. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

Navigating through problem solving and reasoning in grade 2 / Small, Marian.

Reston, VA: NCTM, 2004.

Subjects: Mathematics--Study and teaching (Primary). Second grade (Education). Problem solving in children. Reasoning in children.

Summary: The explorations in this book include such tasks as determining the coins in piggy banks, matching two-dimensional shapes with three-dimensional solids, and organizing data about hats in tree diagrams. Students apply mathematical ideas from the five main content areas—number, algebra, geometry, measurement, and data analysis. As they work, they infer, generalize, reason by analogy, recognize relationships, and make representations, and they also guess, check, and revise and verify their results. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.

Nelson Math Focus 2



510 N425

Nelson math focus 2 : student book / Small, Marian.

Nelson math focus 2 : student workbook / Small, Marian.

Nelson math focus 2 : teacher's resource / Small, Marian.

Nelson math focus 2 : poster pack / Small, Marian.

Toronto, ON: Nelson, 2008.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource includes a student book, a poster pack of 15 double-sided posters, and a teacher resource consisting of 10 booklets. Each chapter in the teacher's resource contains a table of contents, mathematical overview, teaching ideas to consider, including suggestions for differentiating instruction, and planning guides.

510.71 K17

Out of the labyrinth : setting mathematics free / Kaplan, Robert. Kaplan, Ellen

New York, NY: Oxford University Press, 2007.

Subjects: Mathematics – Study and teaching.

Summary: Written as a guide for parents and educators, this book argues that math should be taught as the highest form of intellectual play rather than as a step-by-step acquisition of skills and facts. The authors emphasize that math is meant to be explored and savoured, and that it does not require special talent or ability.



372.7 M426 OVERSIZE

Patterns and parkas : investigating geometric principles, shapes, patterns, and measurements - part of the kit entitled:

Math in a cultural context : lessons learned from Yup'ik Eskimo elders [kit] / University of Alaska Fairbanks.

Calgary, AB: Detselig Enterprises, 2003-2004.

Contents: 7 books and 2 CD-ROMs.

Subjects: Mathematics – Study and teaching (Elementary). Yup'ik Eskimos – Alaska.

Summary: This series provides an authentic example of ways to integrate First Nations, Métis and Inuit content, to incorporate cultural ways of knowing, and to bridge gaps between different ways of knowing and understanding. The series includes cultural stories given by Elders.

Pearson Math Makes Sense 2



510 A225

Pearson math makes sense 2 : student book / Saundry, Carole.

Pearson math makes sense 2 : teacher's guide / Saundry, Carole.

Pearson math makes sense 2 : big book / Saundry, Carole.

Toronto, ON: Pearson, 2005.

Subjects: Mathematics – Textbooks.

Summary: This resource consists of a student text, a laminated big book, and a teacher resource. The teacher's guide consists of eight unit booklets, blackline masters, an overview, and a planning and assessment booklet. Each unit contains mathematical background, curriculum across the grades, curriculum overview, planning for instruction, a suggested time frame, and planning for assessment. Each lesson provides a curriculum focus, mathematical word wall suggestions, materials, and program resources.



372.7 M426 OVERSIZE

Picking berries : connections between data collection, graphing, and measurement - part of the kit entitled:

Math in a cultural context : lessons learned from Yup'ik Eskimo elders [kit] / University of Alaska Fairbanks.

Calgary, AB: Detselig Enterprises, 2003-2004.

Contents: 7 books and 2 CD-ROMs.

Subjects: Mathematics – Study and teaching (Elementary). Yup'ik Eskimos – Alaska.

Summary: This series provides an authentic example of ways to integrate First Nations, Métis and Inuit content, to incorporate cultural ways of knowing, and to bridge gaps between different ways of knowing and understanding. The series includes cultural stories given by Elders.

371.102 P887

Powerful learning : what we know about teaching for understanding / Darling-Hammond, Linda. San Francisco, CA: Jossey-Bass, 2008.

Subjects: Learning. Effective teaching.

Summary: The authors provide a number of teaching practices including project-based learning, cooperative learning, performance-based assessment, as well as instructional strategies in literacy, mathematics, and science.

372.7 D117

Show and tell : representing and communicating mathematical ideas in K-2 classrooms / Dacey, Linda Schulman. Eston, Rebeka.

Sausalito, CA: Math Solutions, 2002.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource demonstrates how mathematical concepts can be taught through showing and telling. Using this instructional method, students develop problem-solving skills as they represent different solutions and communicate their mathematical ideas. Numerous classroom vignettes and examples of student work model how show and tell can deepen students' mathematical understandings.

372.7 B967

So you have to teach math : sound advice for K-6 teachers / Burns, Marilyn. Silbey, Robyn.

Sausalito, CA: Math Solutions, 2000.

Subjects: Mathematics – Study and teaching (Elementary)

Summary: The author supplies practical advice and guidance for frequently asked questions related to the teaching of mathematics. Methods for providing effective instruction and establishing a positive classroom environment are outlined. Sample chapter topics focus on effective calculator usage, connecting with parents, and leading class discussions.

372.7 T253

Teaching mathematics through problem solving : prekindergarten-grade 6 / Lester, Frank K. (Ed.).

Reston, VA: NCTM, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Problem-based learning. Mathematics – Study and teaching (Early childhood).

Summary: This volume promotes a problem-solving approach to mathematics instruction. This approach engages students in making sense of problematic tasks in which mathematical concepts are embedded. The writers address issues and perspectives related to this approach (including the role of technology), and provide examples of its use in the classroom.

510.712 M983

Teaching mathematics vocabulary in context : windows, doors, and secret passageways /
Murray, Miki.

Portsmouth, NH: Heinemann, 2004.

Subjects: Mathematics – Study and teaching (Middle school). Mathematics – Terminology.

Summary: This resource for teachers focuses on strategies to help students develop a deeper understanding of mathematical language and to enable them to use it when describing mathematical concepts and relationships across the strands. Concrete examples illustrate how teachers can promote mathematical understanding and reflection through discourse, writing, and the use of vocabulary in context.

372.72 C297

Thinking mathematically : integrating arithmetic and algebra in elementary school / Carpenter, Thomas P. Franke, Megan Loef. Levi, Linda.

Portsmouth, NH: Heinemann, 2003.

Subjects: Arithmetic – Study and teaching (Elementary). Algebra – Study and teaching (Elementary).

Summary: The emphasis of this resource is on teaching for deep understanding of mathematical concepts. Using classroom examples, teachers are shown how to extend students' thinking to help them integrate and connect new knowledge with previous understanding.



372.7 H421

Understanding mathematics in the lower primary years : a guide for teachers of children 3-8
(2nd ed.) / Haylock, Derek. Cockburn, Anne.

Thousand Oaks, CA: Sage Publications, 2003.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource is written for those who teach mathematics, as well as for those who wish to have a clearer understanding of the mathematical ideas behind the material they use in the classroom. This book also shows how children can be helped to develop an understanding of mathematics for themselves.

The Van de Walle Professional Mathematics Series

372.7 V217

Teaching student-centered mathematics : grades K-3 / Van de Walle, John A. Lovin, LouAnn H.
Boston, MA: Pearson, 2006.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource contains nearly 200 grade-appropriate activities, designed to help students develop real understanding and confidence in mathematics. Topics include: foundations of student-centred instruction, developing early number concepts and number sense, developing meaning for the operations and solving-story problems, base-ten concepts and place value, strategies for whole-number computation, early fraction concepts, helping children use data, and more.

372.7 P637

The warlord's puzzle / Pilegard, Virginia Walton.

Gretna, LA: Pelican Publishing, 2000.

Subjects: Tangrams – Juvenile literature. Puzzles – Juvenile literature.

Summary: The origin of the tangram puzzle is described through this Chinese tale. Hoping to avoid punishment for breaking a beautiful tile that was his gift to a Chinese warlord, an artist suggests that the warlord hold a contest to see if anyone can mend it.

372.7 F749

Young mathematicians at work : constructing number sense, addition, and subtraction / Fosnot, Catherine Twomey. Dolk, Maarten.

Portsmouth, NH: Heinemann, 2001.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This book focuses on young children between the ages of four and eight as they construct a deep understanding of number and the operations of addition and subtraction. The authors provide a description of development, with a focus on big ideas, progressive strategies, and emerging models.

MATHEMATICS GRADE 3



Indicates item is a Ministry of Education's Core Learning Resource.



510.7 C456

Changing the faces of mathematics : perspectives on Indigenous people of North America /

Hankes, Judith Elaine. Fast, Gerald R.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching – Social aspects. Indians of North America – Education. Mathematical ability.

Summary: This resource is a collection of essays related to teaching mathematics in a culturally relevant way to First Nations people of North America. Examples include suggestions for teaching numbers and operations concepts using traditional games, and for introducing students to a variety of number systems specific to North American First Nations people.

372.7 S159

Children are mathematical problem solvers / Sakahaug, Lynae. Olson, Melfried.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching. Mathematics – Problems, exercises, etc.

Summary: Emphasizing problem solving as the foundation of mathematical understanding, the 29 activities challenge students to reason and communicate their understandings. Originating from the NCTM journals, these activities stretch beyond translation problems to offer authentic tasks that can be solved using varying methods.

372.7 E96

Exploring mathematics through literature : articles and lessons for prekindergarten through grade 8 / Thiessen, Diane. (Ed.).

Reston, VA: National Council of Teachers of Mathematics, 2004.

Subjects: Mathematics – Study and teaching (Primary). Mathematics – Study and teaching (Elementary).

Summary: Using literature as the starting point for mathematical explorations, this collection of articles and lessons provides teachers with numerous examples of how to build students' understanding of mathematical concepts effectively. The articles focus on five strands: numbers and operations, algebra, geometry, measurement and data analysis, and probability. Many activities lend themselves to small group and whole class discussions.

372.7 S542

Extending the challenge in mathematics : developing mathematical promise in K-8 students / Sheffield, Linda Jensen.

Thousand Oaks, CA: Corwin Press, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Gifted children – Education.

Summary: Presenting engaging problems that are context and content based, the author demonstrates methods for developing mathematical understanding. Each investigation includes open-ended questions to guide mathematical communication, and probing assessment questions that relate to the objectives.

510 S399

G is for googol : a math alphabet book / Schwartz, David M.

Berkeley, CA: Tricycle Press, 1998.

Subjects: Mathematics – Juvenile literature.

Summary: This book highlights one or more mathematical concepts, ideas, or symbols for each letter of the alphabet. It offers a thorough description of each term, often with possible connections to other topics. As well, interesting (and sometimes humorous) examples are included.

372.7 S951

Good questions for math teaching : why ask them and what to ask, K-6 / Sullivan, Peter. Lilburn, Pat.

Sausalito, CA: Math Solutions, 2002.

Subjects: Mathematics – Study and teaching (Elementary). Questioning.

Summary: This book promotes the use of open-ended mathematical questions. The sixteen mathematical topics covered include number, measurement, geometry, chance, and data.

372.7 T164

The grapes of math : mind-stretching math riddles / Tang, Greg.

New York, NY: Scholastic, 2001.

Subjects: Mathematical recreations. Mathematics – Study and teaching (Elementary). Problem solving.

Summary: The rhyming verses and accompanying illustrations present mental addition strategies through patterns and combinations of numbers. Students are challenged to seek the solutions to the riddles using problem solving and critical thinking skills.

519.544 G624

Great estimations / Goldstone, Bruce.

New York, NY: Henry Holt, 2006.

Subjects: Estimation theory – Juvenile literature.

Summary: Using a variety of photographed objects, the author helps readers to develop their estimation strategies by first looking at groups of ten, one hundred, and one thousand. Numerous opportunities are provided for students to use groupings and patterns to estimate quantities of colourful everyday objects. Each picture includes hints for helpful estimation strategies.

372.7 L484

The great graph contest / Leedy, Loreen.

New York, NY: Holiday House, 2005.

Subjects: Amphibians – Juvenile fiction. Graphic methods – Juvenile fiction.

Summary: A snail, a lizard, and a toad lead the way in a colourful exploration of collecting and displaying data. Using tallies, surveys, Venn diagrams, circle graphs, picture graphs, and bar graphs, important information is conveyed. At the end of the book, each graph is further explained and readers are challenged to collect, organize, and display their own information.

372.72 S628

It all adds up : engaging 8-12 year olds in math investigations / Skinner, Penny.

Sausalito, CA: Math Solutions, 1999.

Subjects: Arithmetic – Study and teaching (Elementary). Mathematics – Study and teaching (Elementary).

Summary: This book describes effective teaching strategies and lessons that lead middle and upper primary students to become competent in computation; to build a clear understanding of the four operations - addition, multiplication, subtraction, and division; and to grow enthusiastic about mathematics.

372.7 B617

The king's chessboard / Birch, David.

New York, NY: Puffin Books, 1993.

Subjects: Mathematics – Juvenile literature. Pride and vanity – Juvenile literature.

Summary: Geometric progressions are explored in this resource as a vain king insists that a wise man accept a reward for his service. The man reluctantly requests a daily payment of rice that is to be doubled for each square of the chessboard.

372.7 W636

Lessons for algebraic thinking : grades 3-5 / Wickett, Maryann. Kharas, Katharine. Burns, Marilyn. Sausalito, CA: Math Solutions Publications, 2002.

Subjects: Algebra – Study and teaching (Elementary).

Summary: Incorporating manipulative materials, children's books, and problem-solving investigations, these lessons actively engage students in creating, recognizing, describing, and extending patterns, and representing patterns with words, tables, variables, and graphs. The lessons also introduce students to solving equations and plotting points.

510.71 B363

Math and science across cultures : activities and investigations from the Exploratorium / Bazin, Maurice. Tamez, Modesto.

New York, NY: New Press, 2002.

Subjects: Mathematics – Study and teaching. Science – Study and teaching. Mathematics – Ancient. Science – Ancient.

Summary: This book is designed to help teachers use hands-on activities to explore the math and science of different cultural traditions, and to make these subjects more relevant and approachable for children of all backgrounds. With instructions in this book, you can: construct a Brazilian carnival instrument and investigate the science of sound; play a peg solitaire game from Madagascar and learn about mathematical patterns; experiment with a traditionally prepared cup of Chinese tea and learn about energy flow; and count like an Egyptian, decipher Mayan mathematical symbols, and decode the ancient Inca number system of knotted cords.

372.7 T164

Math appeal : mind-stretching math riddles / Tang, Greg.

New York, NY: Scholastic, 2003.

Subjects: Mathematical recreations. Mathematics – Juvenile literature.

Summary: This resource features 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.

372.7 C463

Math matters : understanding the math you teach, grades K-8 (2nd ed.) / Chapin, Suzanne H. Johnson, Art.

Sausalito, CA: Math Solutions Publications, 2006.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource assists teachers to understand mathematical concepts and skills presented in the curriculum. Sections of this resource provide information on number sense, computation, the four operations, fractions, decimals, percents, algebra, geometry, measurement, statistics, and probability.

372.7 N277

Mathematics assessment : a practical handbook for grades 3-5 / Stenmark, Jean Kerr. Bush, William S. (Eds.).

Reston, VA: NCTM, 2001.

Subjects: Mathematics – Study and teaching (Elementary) – Evaluation.

Summary: This resource is an in-depth examination of assessment practices and practical advice on how to select, develop, manage, and use assessment tools. It also features many sample rubrics, checklists, and observations forms.

372.7 P647

My full moon is square / Pinczes, Elinor J.

Boston, MA: Houghton Mifflin, 2002.

Subjects: Mathematics – Juvenile fiction. Frogs – Juvenile fiction. Stories in rhyme.

Summary: A frog, who is an avid reader, is disappointed when a moonless night disrupts his bedtime reading. The fireflies assist the frog in his plight by creating different square formations to illuminate the pond. Various mathematical equations illustrate the fireflies attempts to find a suitable arrangement for storytelling. The story is an opportunity to engage students in the investigation of multiplication arrays that create a square and the attributes of this geometric figure.

Navigations Series



372.7 N325

Navigating through algebra in grades 3-5 / Cuevas, Gilbert J. Yeatts, Karol.

Reston, VA: NCTM, 2001.

Subjects: Algebra – Study and teaching (Elementary).

Summary: The important ideas of algebra, including patterns, variables, equations, and functions, are the focus of this book. Student activities that introduce and promote familiarity with these ideas include constructing growing patterns using isosceles triangles, analyzing situations with constant or varying rates of change, and observing and representing various patterns in an array. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

Navigating through geometry in grades 3-5 / Gavin, M. Katherine. Belkin, Louise P.

Reston, VA: NCTM, 2001.

Subjects: Geometry – Study and teaching (Elementary).

Summary: The big ideas of geometry – shape, location, transformations, and spatial visualization – are the focus of this book. Sequential activities will enrich the curriculum and help students develop a strong sense of geometric concepts and relationships, leading them to experience the joy and wonder of geometry and other mathematics.

Nelson Math Focus 3



510 N425

Nelson math focus 3 : student book / Small, Marian.

Nelson math focus 3 : teacher's resource / Small, Marian.

Toronto, ON: Nelson, 2010.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource includes a student book and a teacher resource. Each chapter in the teacher's resource contains a table of contents, mathematical overview, teaching ideas including suggestions for differentiating instruction and planning guides.

510.71 K17

Out of the labyrinth : setting mathematics free / Kaplan, Robert. Kaplan, Ellen

New York, NY: Oxford University Press, 2007.

Subjects: Mathematics – Study and teaching.

Summary: Written as a guide for parents and educators, this book argues that math should be taught as the highest form of intellectual play rather than as a step-by-step acquisition of skills and facts. The authors emphasize that math is meant to be explored and savoured, and that it does not require special talent or ability.

Pearson Math Makes Sense 3



510 A225

Pearson math makes sense 3 : student book / Morrow, Peggy.

Pearson math makes sense 3 : teacher's guide / Morrow, Peggy.

Toronto, ON: Pearson, 2005.

Subjects: Mathematics – Textbooks.

Summary: This resource consists of a student text and a teacher resource. Each unit in the teacher resource contains a mathematical background, curriculum across the grades, a curriculum overview, planning for instruction, a suggested time frame, and planning for assessment. Each lesson provides a curriculum focus, mathematical word wall suggestions, materials, and program resources.

371.102 P887

Powerful learning : what we know about teaching for understanding / Darling-Hammond, Linda.

San Francisco, CA: Jossey-Bass, 2008.

Subjects: Learning. Effective teaching.

Summary: The authors provide a number of teaching practices including project-based learning, cooperative learning, performance-based assessment, as well as instructional strategies in literacy, mathematics, and science.

372.7 B967

So you have to teach math : sound advice for K-6 teachers / Burns, Marilyn. Silbey, Robyn.

Sausalito, CA: Math Solutions, 2000.

Subjects: Mathematics – Study and teaching (Elementary)

Summary: The author supplies practical advice and guidance for frequently asked questions related to the teaching of mathematics. Methods for providing effective instruction and establishing a positive classroom environment are outlined. Sample chapter topics focus on effective calculator usage, connecting with parents, and leading class discussions.

372.7 B967

Spaghetti and meatballs for all! : a mathematical story / Burns, Marilyn.

New York, NY: Scholastic, 1997.

Subjects: Family reunions – Juvenile fiction. Mathematics – Juvenile fiction.

Summary: The seating for a family reunion gets complicated as people rearrange the tables and chairs to seat additional guests. The story will draw children into thinking about area and perimeter.

Teaching Arithmetic Series

372.72 T253

Lessons for addition and subtraction. Grades 2-3 / Tank, Bonnie. Zolli, Lynne.

Sausalito, CA: Math Solutions, 2001.

Subjects: Subtraction – Study and teaching (Elementary). Addition – Study and teaching (Elementary).

Summary: Students engage in explorations with money, measurement activities, investigations, and games that motivate their thinking and build their estimation and computation skills.

372.72 T253

Lessons for extending place value. Grade 3 / Wickett, Maryann. Burns, Marilyn.
Sausalito, CA: Math Solutions, 2005.

Subjects: Mathematics – Study and teaching (Elementary). Arithmetic – Study and teaching (Elementary). Decimal system.

Summary: Through games, investigations, and children's literature, students explore the base ten system through the ten thousands, moving from using concrete manipulatives to more abstract reasoning. Using addition, subtraction, multiplication, and division, students apply their knowledge of place value to solve a variety of problems.

372.72 T253

Lessons for introducing division : grades 3-4 / Wickett, Maryann. Burns, Marilyn.
Sausalito, CA: Math Solutions, 2002.

Subjects: Arithmetic – Study and teaching (Elementary). Division – Study and teaching (Elementary).

Summary: Through problem-solving investigations, the 14 lessons are designed for students to actively explore equal groups, represent remainders, calculate quotients, and use division to solve authentic problems. A firm understanding of the concept of division and how division relates to the other operations is the underlying aim of the activities. Assessment techniques and opportunities to integrate children's literature are suggested throughout the resource.

372.72 T253

Lessons for introducing multiplication. Grade 3. Burns, Marilyn.
Sausalito, CA: Math Solutions, 2001.

Subjects: Multiplication – Study and teaching (Elementary).

Summary: Students learn how multiplication relates to repeated addition and how it can be interpreted geometrically. They calculate products up to 12×12 , engage in explorations about multiplication, and practice solving real-world problems.

372.7 T253

Teaching mathematics through problem solving : prekindergarten-grade 6 / Lester, Frank K. (Ed.).

Reston, VA: NCTM, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Problem-based learning. Mathematics – Study and teaching (Early childhood).

Summary: This volume promotes a problem-solving approach to mathematics instruction. This approach engages students in making sense of problematic tasks in which mathematical concepts are embedded. The writers address issues and perspectives related to this approach (including the role of technology), and provide examples of its use in the classroom.

510.712 M983

Teaching mathematics vocabulary in context : windows, doors, and secret passageways / Murray, Miki.

Portsmouth, NH: Heinemann, 2004.

Subjects: Mathematics – Study and teaching (Middle school). Mathematics – Terminology.

Summary: This resource for teachers focuses on strategies to help students develop a deeper understanding of mathematical language and to enable them to use it when describing mathematical concepts and relationships across the strands. Concrete examples illustrate how teachers can promote mathematical understanding and reflection through discourse, writing, and the use of vocabulary in context.

372.72 C297

Thinking mathematically : integrating arithmetic and algebra in elementary school / Carpenter, Thomas P. Franke, Megan Loef. Levi, Linda.
Portsmouth, NH: Heinemann, 2003.

Subjects: Arithmetic – Study and teaching (Elementary). Algebra – Study and teaching (Elementary).
Summary: The emphasis of this resource is on teaching for deep understanding of mathematical concepts. Using classroom examples, teachers are shown how to extend students' thinking to help them integrate and connect new knowledge with previous understanding.



372.7 H421

Understanding mathematics in the lower primary years : a guide for teachers of children 3-8 (2nd ed.) / Haylock, Derek. Cockburn, Anne.

Thousand Oaks, CA: Sage Publications, 2003.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource is written for those who teach mathematics, as well as for those who wish to have a clearer understanding of the mathematical ideas behind the material they use in the classroom. This book also shows how children can be helped to develop an understanding of mathematics for themselves.

The Van de Walle Professional Mathematics Series



372.7 V217

Teaching student-centered mathematics : grades K-3 / Van de Walle, John A. Lovin, LouAnn H.
Boston, MA: Pearson, 2006.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource contains nearly 200 grade-appropriate activities, designed to help students develop real understanding and confidence in mathematics. Topics include: foundations of student-centred instruction, developing early number concepts and number sense, developing meaning for the operations and solving-story problems, base-ten concepts and place value, strategies for whole-number computation, early fraction concepts, helping children use data, and more.



372.7 V217

Teaching student-centered mathematics : grades 3-5 / Van de Walle, John A. Lovin, LouAnn H.
Boston, MA: Pearson, 2006.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource contains nearly 200 grade-appropriate activities, designed to help students develop real understanding and confidence in mathematics. Topics include: foundations of student-centred instruction, number and operation sense, developing fraction concepts, fraction computation, decimal & percent concepts and decimal computation, developing measurement concepts, exploring concepts of probability, and more.

372.7 P637

The warlord's puzzle / Pilegard, Virginia Walton.
Gretna, LA: Pelican Publishing, 2000.

Subjects: Tangrams – Juvenile literature. Puzzles – Juvenile literature.

Summary: The origin of the tangram puzzle is described through this Chinese tale. Hoping to avoid punishment for breaking a beautiful tile that was his gift to a Chinese warlord, an artist suggests that the warlord hold a contest to see if anyone can mend it.

372.7 F749

Young mathematicians at work : constructing number sense, addition, and subtraction / Fosnot, Catherine Twomey. Dolk, Maarten.

Portsmouth, NH: Heinemann, 2001.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This book focuses on young children between the ages of four and eight as they construct a deep understanding of number and the operations of addition and subtraction. The authors provide a description of development, with a focus on big ideas, progressive strategies, and emerging models.

MATHEMATICS GRADE 4



Indicates item is a Ministry of Education's Core Learning Resource.



510.7 C456

Changing the faces of mathematics : perspectives on Indigenous people of North America /

Hankes, Judith Elaine. Fast, Gerald R.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching – Social aspects. Indians of North America – Education. Mathematical ability.

Summary: This resource is a collection of essays related to teaching mathematics in a culturally relevant way to First Nations people of North America. Examples include suggestions for teaching numbers and operations concepts using traditional games, and for introducing students to a variety of number systems specific to North American First Nations people.

372.7 S159

Children are mathematical problem solvers / Sakahaug, Lynae. Olson, Melfried.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching. Mathematics – Problems, exercises, etc.

Summary: Emphasizing problem solving as the foundation of mathematical understanding, the 29 activities challenge students to reason and communicate their understandings. Originating from the NCTM journals, these activities stretch beyond translation problems to offer authentic tasks that can be solved using varying methods.



372.7 M426 OVERSIZE

Designing patterns : exploring shapes and areas - part of the kit entitled:

Math in a cultural context : lessons learned from Yup'ik Eskimo elders [kit] / University of Alaska Fairbanks.

Calgary, AB: Detselig Enterprises, 2003-2004.

Contents: 7 books and 2 CD-ROMs.

Subjects: Mathematics – Study and teaching (Elementary). Yup'ik Eskimos – Alaska.

Summary: This series provides an authentic example of ways to integrate First Nations, Métis and Inuit content, to incorporate cultural ways of knowing, and to bridge gaps between different ways of knowing and understanding. The series includes cultural stories given by Elders.

372.7 E96

Exploring mathematics through literature : articles and lessons for prekindergarten through grade 8 / Thiessen, Diane. (Ed.).

Reston, VA: National Council of Teachers of Mathematics, 2004.

Subjects: Mathematics – Study and teaching (Primary). Mathematics – Study and teaching (Elementary).

Summary: Using literature as the starting point for mathematical explorations, this collection of articles and lessons provides teachers with numerous examples of how to build students' understanding of mathematical concepts effectively. The articles focus on five strands: numbers and operations, algebra, geometry, measurement and data analysis, and probability. Many activities lend themselves to small group and whole class discussions.

372.7 S542

Extending the challenge in mathematics : developing mathematical promise in K-8 students / Sheffield, Linda Jensen.

Thousand Oaks, CA: Corwin Press, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Gifted children – Education.

Summary: Presenting engaging problems that are context and content based, the author demonstrates methods for developing mathematical understanding. Each investigation includes open-ended questions to guide mathematical communication, and probing assessment questions that relate to the objectives.

510 S399

G is for googol : a math alphabet book / Schwartz, David M.

Berkeley, CA: Tricycle Press, 1998.

Subjects: Mathematics – Juvenile literature.

Summary: This book highlights one or more mathematical concepts, ideas, or symbols for each letter of the alphabet. It offers a thorough description of each term, often with possible connections to other topics. As well, interesting (and sometimes humorous) examples are included.

372.7 S951

Good questions for math teaching : why ask them and what to ask, K-6 / Sullivan, Peter. Lilburn, Pat.

Sausalito, CA: Math Solutions, 2002.

Subjects: Mathematics – Study and teaching (Elementary). Questioning.

Summary: This book promotes the use of open-ended mathematical questions. The sixteen mathematical topics covered include number, measurement, geometry, chance, and data.

519.544 G624

Great estimations / Goldstone, Bruce.

New York, NY: Henry Holt, 2006.

Subjects: Estimation theory – Juvenile literature.

Summary: Using a variety of photographed objects, the author helps readers to develop their estimation strategies by first looking at groups of ten, one hundred, and one thousand. Numerous opportunities are provided for students to use groupings and patterns to estimate quantities of colourful everyday objects. Each picture includes hints for helpful estimation strategies.

372.72 S628

It all adds up : engaging 8-12 year olds in math investigations / Skinner, Penny.

Sausalito, CA: Math Solutions, 1999.

Subjects: Arithmetic – Study and teaching (Elementary). Mathematics – Study and teaching (Elementary).

Summary: This book describes effective teaching strategies and lessons that lead middle and upper primary students to become competent in computation; to build a clear understanding of the four operations - addition, multiplication, subtraction, and division; and to grow enthusiastic about mathematics.

372.7 B617

The king's chessboard / Birch, David.

New York, NY: Puffin Books, 1993.

Subjects: Mathematics – Juvenile literature. Pride and vanity – Juvenile literature.

Summary: Geometric progressions are explored in this resource as a vain king insists that a wise man accept a reward for his service. The man reluctantly requests a daily payment of rice that is to be doubled for each square of the chessboard.

372.7 W636

Lessons for algebraic thinking : grades 3-5 / Wickett, Maryann. Kharas, Katharine. Burns, Marilyn. Sausalito, CA: Math Solutions Publications, 2002.

Subjects: Algebra – Study and teaching (Elementary).

Summary: Incorporating manipulative materials, children's books, and problem-solving investigations, these lessons actively engage students in creating, recognizing, describing, and extending patterns, and representing patterns with words, tables, variables, and graphs. The lessons also introduce students to solving equations and plotting points.

510.71 B363

Math and science across cultures : activities and investigations from the Exploratorium / Bazin, Maurice. Tamez, Modesto.

New York, NY: New Press, 2002.

Subjects: Mathematics – Study and teaching. Science – Study and teaching. Mathematics – Ancient. Science – Ancient.

Summary: This book is designed to help teachers use hands-on activities to explore the math and science of different cultural traditions, and to make these subjects more relevant and approachable for children of all backgrounds. With instructions in this book, you can: construct a Brazilian carnival instrument and investigate the science of sound; play a peg solitaire game from Madagascar and learn about mathematical patterns; experiment with a traditionally prepared cup of Chinese tea and learn about energy flow; and count like an Egyptian, decipher Mayan mathematical symbols, and decode the ancient Inca number system of knotted cords.

372.7 R217

Math homework that counts : grades 4-6 / Raphel, Annette.

Sausalito, CA: Math Solutions, 2000.

Subjects: Mathematics – Study and teaching (Elementary). Homework.

Summary: Creative homework assignments or extension activities are the focus of this teacher's resource. The interactive activities have been divided into four categories: to provide practice, to prepare a foundation for upcoming mathematical concepts, to extend taught concepts, and to emphasize creativity. The premise of the activities is to encourage critical and creative thinking rather than the practice of a computational skill through a series of questions on a worksheet.

372.7 C463

Math matters : understanding the math you teach, grades K-8 (2nd ed.) / Chapin, Suzanne H. Johnson, Art.

Sausalito, CA: Math Solutions Publications, 2006.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource assists teachers to understand mathematical concepts and skills presented in the curriculum. Sections of this resource provide information on number sense, computation, the four operations, fractions, decimals, percents, algebra, geometry, measurement, statistics, and probability.

372.7 W597

A mathematical passage : strategies for promoting inquiry in grades 4-6 / Whitin, David J. Cox, Robin.

Portsmouth, NH: Heinemann, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Mathematics – Study and teaching (Middle school). Inquiry (Theory of knowledge). Questioning.

Summary: This book provides a framework for developing critical thinking and inquiry learning in the exploration of mathematical concepts. It includes examples of activities that facilitate interdisciplinary connections, suggestions for extending students' mathematical thinking through

conversation, strategies for organizing math workshops for students, and ideas of how to use math journals as assessment tools to gauge students' understanding of mathematical concepts.

372.7 N277

Mathematics assessment : a practical handbook for grades 3-5 / Stenmark, Jean Kerr. Bush, William S. (Eds.).

Reston, VA: NCTM, 2001.

Subjects: Mathematics – Study and teaching (Elementary) – Evaluation.

Summary: This resource is an in-depth examination of assessment practices and practical advice on how to select, develop, manage, and use assessment tools. It also features many sample rubrics, checklists, and observations forms.

510 H791

Mental math in the middle grades / Hope, Jack A.

Palo Alto, CA: Dale Seymour, 1987.

Subjects: Arithmetic. Education, Elementary. Mathematics.

Summary: This resource focuses on calculations with whole numbers using the basic operations of addition, subtraction, multiplication, and division. Included are a table of contents and an answer key.

Navigations Series



372.7 N325

Navigating through algebra in grades 3-5 / Cuevas, Gilbert J. Yeatts, Karol.

Reston, VA: NCTM, 2001.

Subjects: Algebra – Study and teaching (Elementary).

Summary: The important ideas of algebra, including patterns, variables, equations, and functions, are the focus of this book. Student activities that introduce and promote familiarity with these ideas include constructing growing patterns using isosceles triangles, analyzing situations with constant or varying rates of change, and observing and representing various patterns in an array. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



372.7 N325

Navigating through geometry in grades 3-5 / Gavin, M. Katherine. Belkin, Louise P.

Reston, VA: NCTM, 2001.

Subjects: Geometry – Study and teaching (Elementary).

Summary: The big ideas of geometry – shape, location, transformations, and spatial visualization – are the focus of this book. Sequential activities will enrich the curriculum and help students develop a strong sense of geometric concepts and relationships, leading them to experience the joy and wonder of geometry and other mathematics.

Nelson Math Focus 4



510 N425

Nelson math focus 4 : student book / Small, Marian.

Nelson math focus 4 : teacher's resource / Small, Marian.

Toronto, ON: Nelson, 2010.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource consists of a student textbook and 12 teacher resource booklets. Each lesson begins with prerequisite skills/concepts, specific outcomes with achievement indicators, and a general goal. A chart outlining the preparation and planning for each lesson is provided, as well as sample

discourse scenarios. Opportunities for differentiating instruction either for challenge or support are outlined for each lesson.

372.7 W597

New visions for linking literature and mathematics / Whitin, David Jackman. Whitin, Phyllis. Urbana, IL: NCTE, 2004.

Subjects: Mathematics – Study and teaching (Elementary). Literature in mathematics education.

Summary: This resource provides a wealth of ideas for integrating literature and mathematics within a problem-solving context. The authors identify criteria for selecting and assessing math related literature while keeping curriculum objectives in mind. In addition, they suggest ways to handle subject integration, classroom management, and adaptations to meet student needs.

510.71 K17

Out of the labyrinth : setting mathematics free / Kaplan, Robert. Kaplan, Ellen New York, NY: Oxford University Press, 2007.

Subjects: Mathematics – Study and teaching.

Summary: Written as a guide for parents and educators, this book argues that math should be taught as the highest form of intellectual play rather than as a step-by-step acquisition of skills and facts. The authors emphasize that math is meant to be explored and savoured, and that it does not require special talent or ability.

Pearson Math Makes Sense 4



510 A225

Pearson math makes sense 4 : student book / Morrow, Peggy.

Pearson math makes sense 4 : teacher's guide / Morrow, Peggy.

Toronto, ON: Pearson, 2004.

Subjects: Mathematics – Textbooks.

Summary: This resource consists of a student text and teacher's guide. The teacher's guide includes lesson plans, unit plans, additional activities, and suggested strategies for reaching all learners. It addresses common misconceptions, extensions, and assessment tools.

513 L864

A place for zero : a math adventure / LoPresti, Angeline Sparagna.

Watertown, MA: Charlesbridge, 2003.

Subjects: Number concept – Juvenile literature. Zero (The number) – Juvenile literature.

Summary: 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.

371.102 P887

Powerful learning : what we know about teaching for understanding / Darling-Hammond, Linda.

San Francisco, CA: Jossey-Bass, 2008.

Subjects: Learning. Effective teaching.

Summary: The authors provide a number of teaching practices including project-based learning, cooperative learning, performance-based assessment, as well as instructional strategies in literacy, mathematics, and science.

516 N495

Sir Cumference and the great knight of Angleland : a math adventure / Neuschwander, Cindy.

Watertown, MA: Charlesbridge, 2001.

Subjects: Geometry – Juvenile literature.

Summary: To earn his knighthood, Radius must find and rescue a missing king. His father, Sir Cumference, and his mother, Lady Di of Ameter, give him a circular medallion (a protractor) that he uses to find his way through a maze of many angles.

516 N495

Sir Cumference and the sword in the cone : a math adventure / Neuschwander, Cindy.

Watertown, PA: Charlesbridge, 1999.

Subjects: Geometry – Juvenile literature. Cone – Juvenile literature.

Summary: Sir Cumference, Radius, and Sir Vertex search for Edgecalibur, the sword that King Arthur has hidden in a geometric solid.

372.7 B967

So you have to teach math : sound advice for K-6 teachers / Burns, Marilyn. Silbey, Robyn.

Sausalito, CA: Math Solutions, 2000.

Subjects: Mathematics – Study and teaching (Elementary)

Summary: The author supplies practical advice and guidance for frequently asked questions related to the teaching of mathematics. Methods for providing effective instruction and establishing a positive classroom environment are outlined. Sample chapter topics focus on effective calculator usage, connecting with parents, and leading class discussions.

372.7 B967

Spaghetti and meatballs for all! : a mathematical story / Burns, Marilyn.

New York, NY: Scholastic, 1997.

Subjects: Family reunions – Juvenile fiction. Mathematics – Juvenile fiction.

Summary: The seating for a family reunion gets complicated as people rearrange the tables and chairs to seat additional guests. The story will draw children into thinking about area and perimeter.

Teaching Arithmetic Series

372.72 T253

Lessons for extending multiplication : grades 4-5 / Wickett, Maryann. Burns, Marilyn.

Sausalito, CA: Math Solutions, 2001.

Subjects: Multiplication – Study and teaching (Elementary). Arithmetic – Study and teaching (Elementary).

Summary: This book contains many strategies to deepen students' understanding of multiplication including multiplying by ten, multiples of ten, and powers of ten. It includes lesson ideas to improve students' estimation and mental multiplication strategies, and to develop their understanding of the distributive property for multi-digit multiplication as well as other computing strategies.

372.72 T253

Lessons for introducing division : grades 3-4 / Wickett, Maryann. Burns, Marilyn.

Sausalito, CA: Math Solutions, 2002.

Subjects: Arithmetic – Study and teaching (Elementary). Division – Study and teaching (Elementary).

Summary: Through problem-solving investigations, the 14 lessons are designed for students to actively explore equal groups, represent remainders, calculate quotients, and use division to solve authentic problems. A firm understanding of the concept of division and how division relates to the other operations is the underlying aim of the activities. Assessment techniques and opportunities to integrate children's literature are suggested throughout the resource.

372.72 T253

Lessons for introducing fractions : grades 4-5 / Burns, Marilyn.

Sausalito, CA: Math Solutions, 2001.

Subjects: Fractions – Study and teaching (Elementary).

Summary: The resource is directed at teachers and includes many suggestions for activity-based lessons using manipulatives and developing problem-solving skills. The book is designed for students to gain understanding of fractions and their relationship to whole numbers and decimals.

372.7 T253

Teaching mathematics through problem solving : prekindergarten-grade 6 / Lester, Frank K. (Ed.).

Reston, VA: NCTM, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Problem-based learning. Mathematics – Study and teaching (Early childhood).

Summary: This volume promotes a problem-solving approach to mathematics instruction. This approach engages students in making sense of problematic tasks in which mathematical concepts are embedded. The writers address issues and perspectives related to this approach (including the role of technology), and provide examples of its use in the classroom.

510.712 M983

Teaching mathematics vocabulary in context : windows, doors, and secret passageways / Murray, Miki.

Portsmouth, NH: Heinemann, 2004.

Subjects: Mathematics – Study and teaching (Middle school). Mathematics – Terminology.

Summary: This resource for teachers focuses on strategies to help students develop a deeper understanding of mathematical language and to enable them to use it when describing mathematical concepts and relationships across the strands. Concrete examples illustrate how teachers can promote mathematical understanding and reflection through discourse, writing, and the use of vocabulary in context.

372.72 C297

Thinking mathematically : integrating arithmetic and algebra in elementary school / Carpenter, Thomas P. Franke, Megan Loef. Levi, Linda.

Portsmouth, NH: Heinemann, 2003.

Subjects: Arithmetic – Study and teaching (Elementary). Algebra – Study and teaching (Elementary).

Summary: The emphasis of this resource is on teaching for deep understanding of mathematical concepts. Using classroom examples, teachers are shown how to extend students' thinking to help them integrate and connect new knowledge with previous understanding.

The Van de Walle Professional Mathematics Series



372.7 V217

Teaching student-centered mathematics : grades 3-5 / Van de Walle, John A. Lovin, LouAnn H.

Boston, MA: Pearson, 2006.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource contains nearly 200 grade-appropriate activities, designed to help students develop real understanding and confidence in mathematics. Topics include: foundations of student-centred instruction, number and operation sense, developing fraction concepts, fraction computation, decimal & percent concepts and decimal computation, developing measurement concepts, exploring concepts of probability, and more.

372.7 P637

The warlord's puzzle / Pilegard, Virginia Walton.

Gretna, LA: Pelican Publishing, 2000.

Subjects: Tangrams – Juvenile literature. Puzzles – Juvenile literature.

Summary: The origin of the tangram puzzle is described through this Chinese tale. Hoping to avoid punishment for breaking a beautiful tile that was his gift to a Chinese warlord, an artist suggests that the warlord hold a contest to see if anyone can mend it.

372.7 F749

Young mathematicians at work : constructing number sense, addition, and subtraction / Fosnot, Catherine Twomey. Dolk, Maarten.

Portsmouth, NH: Heinemann, 2001.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This book focuses on young children between the ages of four and eight as they construct a deep understanding of number and the operations of addition and subtraction. The authors provide a description of development, with a focus on big ideas, progressive strategies, and emerging models.

MATHEMATICS GRADE 5



Indicates item is a Ministry of Education's Core Learning Resource.



510.7 C456

Changing the faces of mathematics : perspectives on Indigenous people of North America /

Hankes, Judith Elaine. Fast, Gerald R.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching – Social aspects. Indians of North America – Education. Mathematical ability.

Summary: This resource is a collection of essays related to teaching mathematics in a culturally relevant way to First Nations people of North America. Examples include suggestions for teaching numbers and operations concepts using traditional games, and for introducing students to a variety of number systems specific to North American First Nations people.

372.7 S159

Children are mathematical problem solvers / Sakahaug, Lynae. Olson, Melfried.

Reston, VA: NCTM, 2002.

Subjects: Mathematics – Study and teaching. Mathematics – Problems, exercises, etc.

Summary: Emphasizing problem solving as the foundation of mathematical understanding, the 29 activities challenge students to reason and communicate their understandings. Originating from the NCTM journals, these activities stretch beyond translation problems to offer authentic tasks that can be solved using varying methods.



372.7 M426 OVERSIZE

Designing patterns : exploring shapes and areas - part of the kit entitled:

Math in a cultural context : lessons learned from Yup'ik Eskimo elders [kit] / University of Alaska Fairbanks.

Calgary, AB: Detselig Enterprises, 2003-2004.

Contents: 7 books and 2 CD-ROMs.

Subjects: Mathematics – Study and teaching (Elementary). Yup'ik Eskimos – Alaska.

Summary: This series provides an authentic example of ways to integrate First Nations, Métis and Inuit content, to incorporate cultural ways of knowing, and to bridge gaps between different ways of knowing and understanding. The series includes cultural stories given by Elders.

372.7 E96

Exploring mathematics through literature : articles and lessons for prekindergarten through grade 8 / Thiessen, Diane. (Ed.).

Reston, VA: National Council of Teachers of Mathematics, 2004.

Subjects: Mathematics – Study and teaching (Primary). Mathematics – Study and teaching (Elementary).

Summary: Using literature as the starting point for mathematical explorations, this collection of articles and lessons provides teachers with numerous examples of how to build students' understanding of mathematical concepts effectively. The articles focus on five strands: numbers and operations, algebra, geometry, measurement and data analysis, and probability. Many activities lend themselves to small group and whole class discussions.

372.7 S542

Extending the challenge in mathematics : developing mathematical promise in K-8 students / Sheffield, Linda Jensen.

Thousand Oaks, CA: Corwin Press, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Gifted children – Education.

Summary: Presenting engaging problems that are context and content based, the author demonstrates methods for developing mathematical understanding. Each investigation includes open-ended questions to guide mathematical communication, and probing assessment questions that relate to the objectives.

510 S399

G is for googol : a math alphabet book / Schwartz, David M.

Berkeley, CA: Tricycle Press, 1998.

Subjects: Mathematics – Juvenile literature.

Summary: This book highlights one or more mathematical concepts, ideas, or symbols for each letter of the alphabet. It offers a thorough description of each term, often with possible connections to other topics. As well, interesting (and sometimes humorous) examples are included.

516 J17

Geometry : seeing, doing, understanding (3rd ed.) / Jacobs, Harold R.

New York, NY: W. H. Freeman, 2003.

Subjects: Geometry.

Summary: Jacobs allows students to use guided discovery to develop geometric intuition. The text includes examples and exercises that are relevant to students. Students will use inductive and deductive reasoning through the study of geometry. Jacobs has structured the materials so that students discover the ideas for themselves.

372.7 S951

Good questions for math teaching : why ask them and what to ask, K-6 / Sullivan, Peter. Lilburn, Pat.

Sausalito, CA: Math Solutions, 2002.

Subjects: Mathematics – Study and teaching (Elementary). Questioning.

Summary: This book promotes the use of open-ended mathematical questions. The sixteen mathematical topics covered include number, measurement, geometry, chance, and data.

372.7 S395

Good questions for math teaching : why ask them and what to ask, grades 5-8 / Schuster, Lainie. Anderson, Nancy Canavan.

Sausalito, CA: Math Solutions Publications, 2005.

Subjects: Mathematics – Study and teaching (Middle school). Questioning.

Summary: This book promotes the use of open-ended mathematical questions. Part One explores the nature of good questioning, and Part Two provides a brief description of how to use the book to support mathematical instruction and investigation. Part Three consists of numerous questions to use in math class that help students to explore number relationships; multiplication and proportional reasoning; fractions, decimals, and percents; geometry; algebraic thinking; data analysis and probability; and measurement.

519.544 G624

Great estimations / Goldstone, Bruce.

New York, NY: Henry Holt, 2006.

Subjects: Estimation theory – Juvenile literature.

Summary: Using a variety of photographed objects, the author helps readers to develop their estimation strategies by first looking at groups of ten, one hundred, and one thousand. Numerous

opportunities are provided for students to use groupings and patterns to estimate quantities of colourful everyday objects. Each picture includes hints for helpful estimation strategies.

372.72 S628

It all adds up : engaging 8-12 year olds in math investigations / Skinner, Penny.

Sausalito, CA: Math Solutions, 1999.

Subjects: Arithmetic – Study and teaching (Elementary). Mathematics – Study and teaching (Elementary).

Summary: This book describes effective teaching strategies and lessons that lead middle and upper primary students to become competent in computation; to build a clear understanding of the four operations - addition, multiplication, subtraction, and division; and to grow enthusiastic about mathematics.

372.7 B617

The king's chessboard / Birch, David.

New York, NY: Puffin Books, 1993.

Subjects: Mathematics – Juvenile literature. Pride and vanity – Juvenile literature.

Summary: Geometric progressions are explored in this resource as a vain king insists that a wise man accept a reward for his service. The man reluctantly requests a daily payment of rice that is to be doubled for each square of the chessboard.

372.7 W636

Lessons for algebraic thinking : grades 3-5 / Wickett, Maryann. Kharas, Katharine. Burns, Marilyn. Sausalito, CA: Math Solutions Publications, 2002.

Subjects: Algebra – Study and teaching (Elementary).

Summary: Incorporating manipulative materials, children's books, and problem-solving investigations, these lessons actively engage students in creating, recognizing, describing, and extending patterns, and representing patterns with words, tables, variables, and graphs. The lessons also introduce students to solving equations and plotting points.

510.71 B363

Math and science across cultures : activities and investigations from the Exploratorium / Bazin, Maurice. Tamez, Modesto.

New York, NY: New Press, 2002.

Subjects: Mathematics – Study and teaching. Science – Study and teaching. Mathematics – Ancient. Science – Ancient.

Summary: This book is designed to help teachers use hands-on activities to explore the math and science of different cultural traditions, and to make these subjects more relevant and approachable for children of all backgrounds. With instructions in this book, you can: construct a Brazilian carnival instrument and investigate the science of sound; play a peg solitaire game from Madagascar and learn about mathematical patterns; experiment with a traditionally prepared cup of Chinese tea and learn about energy flow; and count like an Egyptian, decipher Mayan mathematical symbols, and decode the ancient Inca number system of knotted cords.

372.7 R217

Math homework that counts : grades 4-6 / Raphel, Annette.

Sausalito, CA: Math Solutions, 2000.

Subjects: Mathematics – Study and teaching (Elementary). Homework.

Summary: Creative homework assignments or extension activities are the focus of this teacher's resource. The interactive activities have been divided into four categories: to provide practice, to prepare a foundation for upcoming mathematical concepts, to extend taught concepts, and to

emphasize creativity. The premise of the activities is to encourage critical and creative thinking rather than the practice of a computational skill through a series of questions on a worksheet.

372.7 W597

A mathematical passage : strategies for promoting inquiry in grades 4-6 / Whitin, David J. Cox, Robin.

Portsmouth, NH: Heinemann, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Mathematics – Study and teaching (Middle school). Inquiry (Theory of knowledge). Questioning.

Summary: This book provides a framework for developing critical thinking and inquiry learning in the exploration of mathematical concepts. It includes examples of activities that facilitate interdisciplinary connections, suggestions for extending students' mathematical thinking through conversation, strategies for organizing math workshops for students, and ideas of how to use math journals as assessment tools to gauge students' understanding of mathematical concepts.

372.7 N277

Mathematics assessment : a practical handbook for grades 3-5 / Stenmark, Jean Kerr. Bush, William S. (Eds.).

Reston, VA: NCTM, 2001.

Subjects: Mathematics – Study and teaching (Elementary) – Evaluation.

Summary: This resource is an in-depth examination of assessment practices and practical advice on how to select, develop, manage, and use assessment tools. It also features many sample rubrics, checklists, and observations forms.

510 H791

Mental math in the middle grades / Hope, Jack A.

Palo Alto, CA: Dale Seymour, 1987.

Subjects: Arithmetic. Education, Elementary. Mathematics.

Summary: This resource focuses on calculations with whole numbers using the basic operations of addition, subtraction, multiplication, and division. Included are a table of contents and an answer key.

Navigations Series



372.7 N325

Navigating through algebra in grades 3-5 / Cuevas, Gilbert J. Yeatts, Karol.

Reston, VA: NCTM, 2001.

Subjects: Algebra – Study and teaching (Elementary).

Summary: The important ideas of algebra, including patterns, variables, equations, and functions, are the focus of this book. Student activities that introduce and promote familiarity with these ideas include constructing growing patterns using isosceles triangles, analyzing situations with constant or varying rates of change, and observing and representing various patterns in an array. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



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Subjects: Geometry – Study and teaching (Elementary).

Summary: The big ideas of geometry – shape, location, transformations, and spatial visualization – are the focus of this book. Sequential activities will enrich the curriculum and help students develop a

strong sense of geometric concepts and relationships, leading them to experience the joy and wonder of geometry and other mathematics.

Nelson Math Focus 5



510 N425

Nelson math focus 5 : student book / Small, Marian.

Nelson math focus 5 : student workbook / Small, Marian.

Nelson math focus 5 : teacher's resource / Small, Marian.

Toronto, ON: Nelson, 2008.

Subjects: Mathematics – Study and teaching (Elementary).

Summary: This resource includes a student text, a teacher resource, and blackline masters. The teacher's resource consists of one booklet for each unit in the student resource. It contains a curriculum correlation and continuum across the grades, math background, and a planning guide for the unit that outlines prerequisite skills, materials, and lesson goals. It includes problem solving, reading strategies, connections to other mathematical strands, connections to home and community, and a family letter for each unit. Each lesson provides the teacher with mathematics background, sample discourse, instructions for the activities, and assessment for learning ideas.

372.7 W597

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Subjects: Mathematics – Study and teaching (Elementary). Literature in mathematics education.

Summary: This resource provides a wealth of ideas for integrating literature and mathematics within a problem-solving context. The authors identify criteria for selecting and assessing math related literature while keeping curriculum objectives in mind. In addition, they suggest ways to handle subject integration, classroom management, and adaptations to meet student needs.

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Summary: Written as a guide for parents and educators, this book argues that math should be taught as the highest form of intellectual play rather than as a step-by-step acquisition of skills and facts. The authors emphasize that math is meant to be explored and savoured, and that it does not require special talent or ability.



372.7 M426 OVERSIZE

Patterns and parkas : investigating geometric principles, shapes, patterns, and measurements - part of the kit entitled:

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Summary: This series provides an authentic example of ways to integrate First Nations, Métis and Inuit content, to incorporate cultural ways of knowing, and to bridge gaps between different ways of knowing and understanding. The series includes cultural stories given by Elders.

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Pearson math makes sense 5 : teacher's guide / Morrow, Peggy.

Toronto, ON: Pearson, 2005.

Subjects: Mathematics – Textbooks.

Summary: This resource includes a student text and a teacher's guide. The teacher resource consists of eight unit booklets. The teacher's guide includes an overview, planning and assessment support, key ideas and curriculum links, content background, and three-part lessons with model teacher prompts for each lesson.

513 L864

A place for zero : a math adventure / LoPresti, Angeline Sparagna.

Watertown, MA: Charlesbridge, 2003.

Subjects: Number concept – Juvenile literature. Zero (The number) – Juvenile literature.

Summary: 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.

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Subjects: Learning. Effective teaching.

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Teaching Arithmetic Series

372.72 T253

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Sausalito, CA: Math Solutions, 2001.

Subjects: Multiplication – Study and teaching (Elementary). Arithmetic – Study and teaching (Elementary).

Summary: This book contains many strategies to deepen students' understanding of multiplication including multiplying by ten, multiples of ten, and powers of ten. It includes lesson ideas to improve students' estimation and mental multiplication strategies, and to develop their understanding of the distributive property for multi-digit multiplication as well as other computing strategies.

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Lessons for introducing fractions : grades 4-5 / Burns, Marilyn.

Sausalito, CA: Math Solutions, 2001.

Subjects: Fractions – Study and teaching (Elementary).

Summary: The resource is directed at teachers and includes many suggestions for activity-based lessons using manipulatives and developing problem-solving skills. The book is designed for students to gain understanding of fractions and their relationship to whole numbers and decimals.

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Teaching mathematics through problem solving : prekindergarten-grade 6 / Lester, Frank K. (Ed.).

Reston, VA: NCTM, 2003.

Subjects: Mathematics – Study and teaching (Elementary). Problem-based learning. Mathematics – Study and teaching (Early childhood).

Summary: This volume promotes a problem-solving approach to mathematics instruction. This approach engages students in making sense of problematic tasks in which mathematical concepts are embedded. The writers address issues and perspectives related to this approach (including the role of technology), and provide examples of its use in the classroom.

372.72 C297

Thinking mathematically : integrating arithmetic and algebra in elementary school / Carpenter, Thomas P. Franke, Megan Loef. Levi, Linda.

Portsmouth, NH: Heinemann, 2003.

Subjects: Arithmetic – Study and teaching (Elementary). Algebra – Study and teaching (Elementary).

Summary: The emphasis of this resource is on teaching for deep understanding of mathematical concepts. Using classroom examples, teachers are shown how to extend students' thinking to help them integrate and connect new knowledge with previous understanding.

510.71 R795

Uncovering student thinking in mathematics : grades 6-12 / Rose, Cheryl M. Arline, Carolyn.

Thousand Oaks, CA: Corwin, 2008.

Subjects: Mathematics – Study and teaching (Middle school). Mathematical ability – Testing.

Summary: The authors provide 30 formative assessment probes to reveal common understandings and misunderstandings in student thinking. This book: discusses standards, research results, and practical craft knowledge; describes the purpose, structure, and development of mathematics assessment probes; helps teachers build on students' current understandings while addressing their identified difficulties; and offers examples of the faulty thinking students are likely to exhibit and typical obstacles they may encounter.

The Van de Walle Professional Mathematics Series



372.7 V217

Teaching student-centered mathematics : grades 3-5 / Van de Walle, John A. Lovin, LouAnn H. Boston, MA: Pearson, 2006.

Subjects: Mathematics – Study and teaching (Primary).

Summary: This resource contains nearly 200 grade-appropriate activities, designed to help students develop real understanding and confidence in mathematics. Topics include: foundations of student-centred instruction, number and operation sense, developing fraction concepts, fraction computation, decimal & percent concepts and decimal computation, developing measurement concepts, exploring concepts of probability, and more.



372.7 V217

Teaching student-centered mathematics : grades 5-8 / Van de Walle, John A. Lovin, LouAnn H. Boston, MA: Pearson, 2006.

Subjects: Mathematics – Study and teaching (Middle school).

Summary: This resource promotes the use of problem-based activities to develop students' conceptual understanding of mathematical concepts. Numerous practical examples of problem-based activities, assessment notes, and ideas for integrating technology into instruction are included.



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