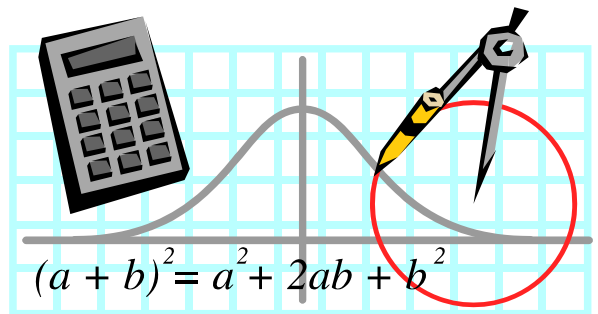


Foundations of Mathematics 10, 20, 30: Recommended Resources for the Renewed Curricula



*A list of professional materials available for borrowing
from the Stewart Resources Centre – January 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.



FOUNDATIONS OF MATHEMATICS AND PRE-CALCULUS 10



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

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510 M148

McGraw-Hill Ryerson mathematics 10 / McAskil, Bruce. Watt, Wayne.

Toronto, ON: McGraw-Hill, 2010.

Subjects: Mathematics – Textbooks.

Summary: The student text consists of four units. Each unit introduces the topic, a project, connections between the various chapters in the unit, and a unit test.

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Pearson Foundations and Pre-calculus Mathematics 10



510 P361

Pearson foundations and pre-calculus mathematics 10 / Davis, Garry.

Pearson foundations and pre-calculus mathematics 10 : teacher resource / Davis, Garry.

Toronto, ON: Pearson, 2010.

Subjects: Mathematics.

Summary: The student text encourages the “big ideas” approach to develop concepts on what is important to think, do, and understand. The teaching for understanding instructional approach develops deeper understanding of the concepts. Each chapter in the student text includes checkpoints, a study guide, a review, a practice test, and a project. The teacher resource includes a program overview and seven chapter modules.



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Nelson Foundations of Mathematics 11



510 N426

Nelson foundations of mathematics 11 : student textbook / Canavan-McGrath, Cathy.

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Toronto, ON: Nelson, 2011.

Subjects: Mathematics – Textbooks.

Summary: Students learn through investigation and solved examples. The key ideas are summarized in each lesson with ample opportunity to practise the new concepts. The teacher resource includes an overview of the chapter and planning notes. There is an investigation for students to explore concepts. Suggestions are included for assessment and for ways that teachers can address students' individual needs.

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Big ideas from Dr. Small : creating a comfort zone for teaching mathematics grades 9-12 /

Small, Marian. Lin, Amy.

Toronto, ON: Nelson, 2011.

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Summary: This resource provides suggestions to secondary level teachers on how to teach the curriculum while focusing on the big ideas of mathematical concepts. By considering the big ideas when planning instruction and assessment, students are able to relate the new knowledge to previously learned concepts.



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Reston, VA: NCTM, 2006.

Subjects: Geometry – Study and teaching (Secondary). Measurement – Study and teaching (Secondary).

Summary: This book's activities probe rational and irrational numbers and investigate properties of integers and complex numbers. They explore numbers and operations embedded in physical objects and show how simple problems can lead to sophisticated considerations. Students examine the usefulness of irrational numbers in designing musical scales and of prime numbers in devising encryption schemes, for example, and they discover powerful ideas from graph theory in a concrete context of dikes, towers, and enclosed regions. The supplemental CD-ROM features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.



519.2 N325

Navigating through probability in grades 9-12 / Bright, George W.

Reston, VA: NCTM, 2004.

Subjects: Mathematical statistics – Study and teaching (Middle school). Probabilities – Study and teaching (Middle school).

Summary: This book assists high school teachers in honing their students' thinking by introducing them to two approaches to probability and exploring both approaches in real-world contexts. The first approach, which interprets probability as relative frequency over the long run, uses actual or simulated data from many experiments to arrive at empirical probabilities. The second approach analyzes outcomes abstractly to arrive at theoretical probabilities. The supplemental CD-ROM

features interactive electronic activities, master copies of activity pages for students, and additional readings for teachers.

Nelson Foundations of Mathematics 12



510 F771

Nelson foundations of mathematics 12 : student textbook / Canavan-McGrath, Cathy.

Nelson foundations of mathematics 12 : teacher's resource / Canavan-McGrath, Cathy.

Toronto, ON: Nelson, 2012.

Subjects: Mathematics – Textbooks.

Summary: Students learn through investigation and solved examples. The key ideas are summarized in each lesson with ample opportunity to practise the new concepts. The teacher resource includes an overview of the chapter and planning notes. There is an investigation for students to explore concepts. Suggestions are included for assessment and for ways that teachers can address students' individual 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.

512 F974

The pattern and function connection / Fulton, Brad S. Lombard, Bill.

Emeryville, CA: Key Curriculum Press, 2001.

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

Summary: Through study and analysis of patterns, this resource provides support for building logical understanding of relations, linear and nonlinear functions, and function rotation. Authentic applications are posed in the suggested activities, discussions, journal topics, and homework assignments.



510.76 J67

Problem solving strategies : crossing the river with dogs and other mathematical adventures (2nd ed.) / Johnson, Ken. Herr, Ted.

Problem solving strategies : crossing the river with dogs and other mathematical adventures (2nd ed.) : **instructor's resource book** / Johnson, Ken. Herr, Ted.

Emeryville, CA: Key Curriculum Press, 2001.

Subjects: Problem solving. Mathematics.

Summary: This resource is designed to demonstrate various methods that can be used to solve the same problem. Each chapter concentrates on the application of a particular strategy. The corresponding sets of problems provide a multitude of authentic applications for this strategy. The importance of students communicating their different solutions and their logical reasonings are stressed throughout this resource. The accompanying instructor's resource book and answer key supplements this resource.

510.76 K33

Sink or float? : thought problems in math and physics / Kendig, Keith.

Washington, DC: Mathematical Association of America, 2008.

Subjects: Physics – Study and teaching. Problem solving. Mathematics – Study and teaching.
Summary: This book is a collection of over 250 problems drawn from mathematics and the real world. The author aims to show how much can be learned by using everyday common sense. The problems are concrete and understandable. Students must know some math and some physics to solve the problems.

510.712 T253

Teaching mathematics through problem solving : grades 6-12 / Schoen, Harold L. (Ed.).
Reston, VA: National Council of Teachers of Mathematics, 2003.

Subjects: Mathematics – Study and teaching (Secondary). Problem-based learning.

Summary: This volume is a professional research-based resource that 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, provide suggestions on how to select and use appropriate tasks and learning tools, and provide examples of the use of this approach in various classroom settings.

512 V217

A visual approach to functions / Van Dyke, Frances.
Emeryville, CA: Key Curriculum Press, 2002.

Subjects: Graphic methods. Mathematics – Study and teaching (Secondary). Algebraic functions. Algebra – Study and teaching (Secondary).

Summary: Consisting of individual lessons with blackline masters and teacher notes, this resource introduces linear, exponential, and quadratic functions encountered in algebra. Each chapter features a graph and a series of statements describing a function that is explored prior to the introduction of tables or algebraic notation. Subsequent chapter lessons introduce coordinates, quantitative graphs, and tables. Ideas for incorporating graphing calculators are included at the end of each chapter.

515.2433 W628

Who is Fourier? : a mathematical adventure / Gleason, Alan.
Boston, MA: Language Research Foundation, 2001.

Subjects: Fourier analysis.

Summary: Mathematical concepts in trigonometry, exponentiation, differentiation, and integration are explored through real-life examples. The authors then use these examples to illustrate a direct application of these areas of mathematics to complex Fourier analysis. This resource provides insight into the development of mathematical understanding through the eyes of students.



Saskatchewan Teachers' Federation
2317 Arlington Avenue
Saskatoon SK S7J 2H8
Telephone: 306-373-1660 or 1-800-667-7762
Facsimile: 306-374-1122
Email: src@stf.sk.ca Website: www.stf.sk.ca