

2010  
Saskatchewan  
Additional Learning Resources

# Workplace and Apprenticeship Mathematics

# 10





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## **Workplace and Apprenticeship Mathematics 10:**

### **Additional Learning Resources**

**Prepared by:**

**Curriculum and E-Learning Branch**

**Ministry of Education**

**2010**

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## Foreword

This list of learning resources identifies high-quality resources that have been recommended by the Ministry of Education to support the curriculum, *Workplace and Apprenticeship Mathematics 10*. This list will be updated as new resources are recommended and older ones are no longer available. A list of core learning resources can be found on the Ministry of Education website.

(CAN) indicates that a Canadian contributed to the development of the resource and/or that it includes Canadian content. (SK) indicates that a Saskatchewan person contributed to the development of the resource and/or that it includes Saskatchewan content. Resources evaluated and recommended as support for the Western and Northern Canadian Protocol curriculum frameworks and Saskatchewan's provincial curricula have the designation (WNCP) before the annotation.

Other resources beyond those recommended in this list may effectively support the curriculum, *Workplace and Apprenticeship Mathematics 10*. It remains the responsibility of educators to preview and select materials that best meet the needs of their school or community. Educators should choose resources in accordance with their school division's learning resources selection policy.

Pricing of the learning resources contained in this document is subject to change without notice.

Manipulatives are an essential component of an effective mathematics program, leading to the development of deeper understanding of mathematical concepts. Included are charts outlining the types of manipulatives needed, and the suggested quantity recommended (where appropriate). Some manipulatives may be collected; others may be constructed; and many may be purchased. The main distributors for these materials are Exclusive Educational Products at [www.exclusiveeducational.ca](http://www.exclusiveeducational.ca) and Spectrum Nasco Educational Supplies Ltd. at <https://education.spectrum-nasco.ca/>. Please consult these companies' catalogues for purchasing information.

The Ministry of Education expresses its appreciation to publishers, producers, and distributors who have provided learning resources for evaluation, and gratefully acknowledges the contributions made by educators who served as evaluators.





## Manipulatives

Item	Suggested Quantity
3-D objects, including right cylinders and cones	- 1 set per small group (plastic with detachable lid work well for volume and for capacity)
- Balances - Weights and weigh scales (imperial and metric)	- 1 balance scale and 1 weigh scale per 2 students
Calculator with trigonometric functions and square root	- 1 per student
Callipers	- metric and imperial - 1 manual per student (packages of 6 plastic at about \$2.00 each) - 1 or 2 digital per classroom
Carpenter squares	- metric and imperial - 1 per small group (available in a variety of sizes and kinds such as folding squares and adjustable T-squares)
Compass	- 1 per student
Dynamic Geometric Software (such as Geometric Supposer or Geo-gebra)	
Measuring cups, teaspoons, and tablespoons	- metric and imperial - 1 set per small group or pair of students
Measuring tapes	- metric and imperial - 1 manual per pair of students - 1 or 2 long ones (100 or more feet used in track meets) - 1 digital per small group
Metre sticks and yard sticks	- metric and imperial - 1 per pair of students
Micrometres	- 1 per small group
Mira	- 1 per small group (may already be in the school)



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## Print, Audio-visual, and Other Resources

### The Canada Pension Plan: What's It Got to Do with Me? A Financial Management Supplement for High School Students. 3rd ed.

#### Annotation

**(CAN)** This resource is designed to assist students in planning their finances. As students start their working careers, they need to understand the difference between take-home and gross pay. When students turn 18 years of age, Canada Pension Plan (CPP) contributions are deducted from their pay. Students may ask the following questions:

- Where does this money go?
- What is it used for?
- What does CPP have to do with me?

As students work through various case studies, they will revise budgets to reflect changing circumstances and to make financial decisions based on needs and wants. Students will learn that preparation for retirement is both a social and a personal responsibility.

K	1	2	3	4	5	6	7	8	9	10	11	12
										√		

#### Suggested Uses

Student Resource  
Teacher Reference

#### Publisher/Distributor

Government of Canada  
HRSDC, Partnerships and Engagement  
355 North River Rd, Place Vanier  
18TH Floor, Tower B  
OTTAWA ON K1A 0L1  
(800) 277-9914  
Website: [www.servicecanada.gc.ca](http://www.servicecanada.gc.ca)

**Price:** \$Free binder

**Pagination:** 113 p.

**No order number is required.**

**Copyright:** 2008

**Year Recommended:** 2010

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## The Geometer's Sketchpad. Version 5

### Annotation

**(WNCP, CAN)** In this updated version, students can use this software program to build and investigate mathematical models, objects, figures, diagrams, and graphs. New features include transformable pictures, hot text, a marker tool, expanded algebraic and geometric capabilities, and integrated support.

The reference manual is a print and bound document of the software reference. It is also included electronically with the Sketchpad software.

System requirements for *Windows*:

- Pentium base system or equivalent
- *Windows XP* or later (including *Vista* and *Windows 7*)
- 300 MB free disk space

System requirements for *Macintosh*:

- PowerPC or Intel based system
- *Mac OS 10.4* or later
- 300 MB free disk space

K	1	2	3	4	5	6	7	8	9	10	11	12
										√	√	√

### Suggested Uses

Student Resource  
Teacher Resource

### Publisher

Key Curriculum Press

### Distributor

Spectrum Educational Supplies Ltd.

150 Pony Dr

NEWMARKET ON L3Y 7B6

(800) 668-0600

(905) 898-0031

Fax: (800) 668-0602

Email: [customerservice@spectrumed.com](mailto:customerservice@spectrumed.com)

Website: <https://education.spectrum-nasco.ca/>

**Copyright:** 1996

**Year Recommended:** 2010

Title	Product Number	Price
Printed Reference Manual	90800	\$52.75 pbk.
School/Institution Licence	90772	1 @ \$73.90 each 5 @ \$31.70 each 20 @ \$26.40 each 50 @ \$21.15 each 100 @ \$15.85 each

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## Introducing Mathematics

**Authors:** Sardar, Ziauddin, Ravetz, Jerry, and Van Loon, Borin

### Annotation

This learning resource traces the history of mathematics in comic strip format. The authors describe the discoveries and concepts from mathematicians of the ancient world to modern times. Mathematical topics such as geometry, calculus, number systems, and statistical reasoning are also explored. This book offers a lighthearted look at how mathematical advancements create further unanswered questions. The resource includes an index and a list of suggested literature.

K	1	2	3	4	5	6	7	8	9	10	11	12
										√	√	√

### Suggested Use

General Reference

### Publisher

Icon Books Limited

### Distributor

Penguin Group (Canada)  
90 Eglinton Ave E, Suite 700  
TORONTO ON M4P 2Y3  
(800) 399-6858  
Fax: (800) 363-2665  
Email: [online@ca.penguin.com](mailto:online@ca.penguin.com)  
Website: [www.penguin.ca](http://www.penguin.ca)

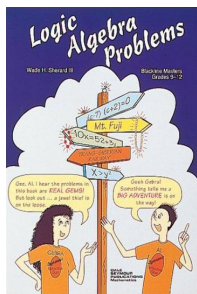
**Price:** \$17.00 pbk.

**Pagination:** 176 p.

**ISBN:** 978-1-84046-637-9

**Copyright:** 2005

**Year Recommended:** 2006



## Logic Algebra Problems

**Author:** Sherard III, Wade H.

### Annotation

Included in this resource are 50 puzzles, each has the objective of finding the missing numbers. Each puzzle gives 10 clues, although not all 10 are necessary to solve the problem. Descriptions and examples of various problem-solving strategies, including Polya's model are given in an introductory section.

K	1	2	3	4	5	6	7	8	9	10	11	12
										√		

### Suggested Uses

Student Resource  
Teacher Reference

### Publisher

Dale Seymour Publications

### Distributor

Pearson Education Canada  
School Division  
195 Harry Walker Pky N  
NEWMARKET ON L3Y 7B4  
(800) 361-6128  
(905) 853-7888  
Fax: (800) 563-9196  
Email: school\_inquiries@pearsoned.com  
Website: www.pearsonschoolcanada.ca/

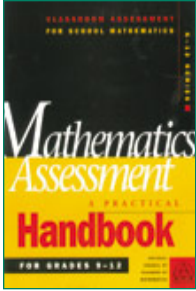
**Price:** \$18.50 pbk.

**Pagination:** 64 p.

**ISBN:** 978-0-86651-536-8

**Copyright:** 1997

**Year Recommended:** 1997



## Mathematics Assessment: A Practical Handbook for Grades 9-12. 4th ed.

**Editors:** Bush, William S. and Greer, Anja S.

### Annotation

This resource considers new ways to assess students, focuses on assessment tasks, offers ways to plan and conduct a classroom assessment program, and discusses the scoring, grading, reporting, and use of assessment data. The editors provide opportunities for teachers to reflect on their teaching practice and how they use mathematical assessment in the classroom.

The book includes a table of contents, a listing of resources, and an index.

K	1	2	3	4	5	6	7	8	9	10	11	12
									√	√	√	√

### Suggested Use

Professional Resource

### Publisher/Distributor

National Council of Teachers of Mathematics  
1906 Association Dr  
RESTON VA 20191-1502  
(800) 235-7566  
(703) 620-9840  
Fax: (703) 476-2970  
Email: [orders@nctm.org](mailto:orders@nctm.org)  
Website: [www.nctm.org](http://www.nctm.org)

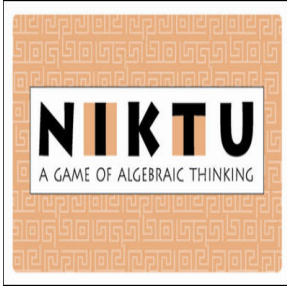
**Price:** \$33.95 U.S. pbk.

**Pagination:** 149 p.

**ISBN:** 978-0-87353-476-5

**Copyright:** 2005

**Year Recommended:** 2009



## Niktu: A Game of Algebraic Thinking

**Authors:** Greenes, Carole and Findell, Caro

### Annotation

Each level of this game offers a progressively more advanced review of algebraic concepts within a small group setting. The games allow students to achieve curriculum goals in number sense and logical thinking.

Each playing card contains an algebraic equation with a missing numeral. Players take turns rolling a die and substituting the rolled number for the missing variable. They attempt to solve the equation before the timer runs out. Players compare answers, using their communication skills, and critical and creative thinking to justify and explain their answers. The resulting discussion also provides the teacher with a window into students' thought processes and level of understanding. Concepts addressed include order of operations, inverse operations, fractional values, and integers. Variations for each game are included.

K	1	2	3	4	5	6	7	8	9	10	11	12
								√	√	√		

### Suggested Use

Student Resource

### Publisher

Creative Publications

### Distributor

McGraw-Hill Ryerson Limited

300 Water St

WHITBY ON L1N 9B6

(800) 565-5758

(905) 430-5000

Fax: (800) 463-5885

Email: [cs\\_queries@mcgrawhill.ca](mailto:cs_queries@mcgrawhill.ca)

Website: [www.mcgrawhill.ca](http://www.mcgrawhill.ca)

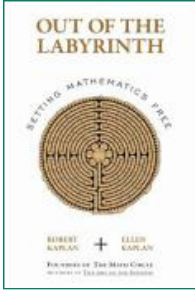
**Price:** \$32.35 each kit

**Copyright:** 2004

**Year Recommended:** 2005

Title	Grade	ISBN
<i>Level 5</i>	8-10	978-1-4045-1365-5
<i>Level 6</i>	9-10	978-1-4045-1366-2





## Out of the Labyrinth: Setting Mathematics Free

**Authors:** Kaplan, Robert and Kaplan, Ellen

### Annotation

Written as a guide for parents and educators, this book argues that mathematics 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 mathematics is meant to be explored, and that it does not require special talent or ability.

K	1	2	3	4	5	6	7	8	9	10	11	12
√	√	√	√	√	√	√	√	√	√	√	√	√

### Suggested Use

Professional Resource

### Publisher/Distributor

Oxford University Press  
70 Wynford Dr  
DON MILLS ON M3C 1J9  
(800) 387-8020  
(416) 441-2941  
Fax: (800) 665-1771  
Email: [customer.service.ca@oup.com](mailto:customer.service.ca@oup.com)  
Website: [www.oupcanada.com](http://www.oupcanada.com)

**Price:** \$27.95 hdc.

**Pagination:** 256 p.

**ISBN:** 978-0-19-514744-5

**Copyright:** 2007

**Year Recommended:** 2007



## Teaching Mathematics through Problem Solving: Grades 6-12

**Editor:** Schoen, Harold L.

### Annotation

This volume and its companion are professional research-based resources that promote 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 to select and use appropriate tasks and learning tools, and provide examples of the use of this approach in various classroom settings.

K	1	2	3	4	5	6	7	8	9	10	11	12
						√	√	√	√	√	√	√

### Suggested Use

Professional Resource

### Publisher/Distributor

National Council of Teachers of Mathematics

1906 Association Dr

RESTON VA 20191-1502

(800) 235-7566

(703) 620-9840

Fax: (703) 476-2970

Email: [orders@nctm.org](mailto:orders@nctm.org)

Website: [www.nctm.org](http://www.nctm.org)

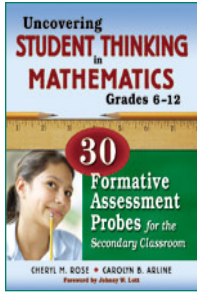
**Price:** \$38.95 U.S. pbk.

**Pagination:** 270 p.

**ISBN:** 978-0-87353-541-0

**Copyright:** 2003

**Year Recommended:** 2006



## Uncovering Student Thinking in Mathematics: Grades 6-12

**Authors:** Rose, Cheryl M. and Arline, Carolyn B.

### Annotation

The authors provide 30 formative assessment probes. The probes reveal common understandings and misunderstandings in student thinking in mathematics. The probes will assist teachers as they gauge students' prior knowledge of core mathematical concepts. These tools will assist educators to identify areas that require more instruction and to adapt their teaching to meet student needs.

K	1	2	3	4	5	6	7	8	9	10	11	12
					√	√	√	√	√	√	√	√

### Suggested Use

Professional Resource

### Publisher/Distributor

Nelson Education  
 1120 Birchmount Rd  
 SCARBOROUGH ON M1K 5G4  
 (800) 268-2222  
 (416) 752-9100  
 Fax: (800) 430-4445  
 Email: inquire@nelson.com  
 Website: www.nelson.com

**Price:** \$41.95 pbk.

**Pagination:** 231 p.

**ISBN:** 978-1-4129-6377-0

**Copyright:** 2009

**Year Recommended:** 2009

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## Digital Resources

The Saskatchewan Ministry of Education provides a forum through the Digital Resources page for teachers to access and share educationally appropriate Internet sites. The URL Database of websites can be found on the Ministry of Education website at [www.education.gov.sk.ca/digital-resources](http://www.education.gov.sk.ca/digital-resources).

Information on sites that are recommended and linked to curriculum outcomes can be found by accessing this database. Teachers are encouraged to share Internet sites with others in the province by registering in the URL Database. After an account has been created, teachers are able to suggest new Internet sites as well as access and review sites submitted by other teachers. The reviews are used to help determine a recommendation and links to curricula. Educators can register at the above address.

The General Reference Centre (GRC) provides access to general Internet sites that relate to curricula. The GRC can be found on the Ministry of Education website.

Current Internet sites that provide information for mathematics educators follow:

**Devlin's Angle** at [www.maa.org/devlin/devangle.html](http://www.maa.org/devlin/devangle.html)

**(CORE)** Keith Devlin's monthly rant/column examines mathematics topics. In each rant or column, Devlin provides mathematics educators the opportunity to reflect on practice and current thinking on mathematics.

**Fiscal Agents** at [www.fiscalagents.com/toolbox/index.shtml](http://www.fiscalagents.com/toolbox/index.shtml)

**(CORE)** The website contains investment and planning calculators to assist students in exploring financial options and opportunities.

**GeoGebra** at [www.geogebra.org/cms/](http://www.geogebra.org/cms/)

**(CORE)** *GeoGebra* provides free mathematics software for learning and teaching. Included on the website are tutorials, applets, an online instruction book, and a wiki.

**InfoTrac** at [www.education.gov.sk.ca/Databases-for-schools](http://www.education.gov.sk.ca/Databases-for-schools)

**(CORE)** *InfoTrac* contains electronic databases of more than 2,300 full-text magazines, journals, and reference sources. Examples of databases include: Junior Edition, Student Edition, General Reference Centre Gold, and CPI.Q (Canadian Periodicals).

**Math Central** at <http://mathcentral.uregina.ca/index.php>

**(CORE)** *Math Central* is a clearinghouse of mathematical resources for students and teachers.

**National Council of Teachers of Mathematics** at [www.nctm.org](http://www.nctm.org)

**(CORE)** The National Council of Teachers of Mathematics (NCTM) is committed to promoting excellence and innovation in mathematics teaching and learning for all. It publishes the journals *Teaching Children Mathematics*, *Mathematics: Teaching in the Middle School*, and *Mathematics Teacher*.

**National Library of Virtual Manipulatives** at <http://nlvm.usu.edu/en/nav/vLibrary.html>

**(CORE)** This website provides educators with electronic resources to augment student learning in the areas of shape and space, number, algebra, measurement, data analysis, and probability.