DEFINE YOUR TOPIC AND CHECK BASIC SOURCES

The current revised Mathematics program was introduced to elementary grades beginning in 2008. 2012 was the last year to complete the implementation program, with the Math 30-1, 30-2 and 30-3 courses. Alberta Ed.’s Implementation Dates of Current Programs lists last updates for each subject. Find out which subjects are under revision through the Implementation Schedule. (Mathematics is not currently under revision). Applied Mathematics 30 and Pure Mathematics 30 have been replaced with 30-1,30-2, and 30-3 and are withdrawn effective August 31, 2012.

According to Alberta Education’s Program of Studies for K-9 Mathematics (2007), the main goals of mathematics education are to prepare students to:

- use mathematics confidently to solve problems
- communicate and reason mathematically
- appreciate and value mathematics
- make connections between mathematics and its applications
- commit themselves to lifelong learning
- become mathematically literate adults, using mathematics to contribute to society (p. 2-3).

The four strands of mathematics are:

- Number
- Patterns and Relations
- Shape and Space
- Statistics and Probability

GET RELEVANT CURRICULUM PUBLICATIONS

Programs of Study (In Print)

- 375 Math Pro Includes POS for:
  - Math K-9
  - Math 7 & 8 (Knowledge and Employability)
  - Math 10-4 & 20-4 (Knowledge and Employability)
  - Math 10-12
  - Mathematics 31

Programs of Study (Online)

- Alberta Education Teacher’s Tab

Implementation Tools

- Illustrative Examples (outline how students may demonstrate they’ve learned the outcome) 375 Math
- *The Alberta K-9 Mathematics P.O.S. With Achievement Indicators K-6, 7-9, 10-12 (2007-2009) 375 Math

LearnAlberta.ca Program of Study Tab: Excellent source for innovative and interactive online activities (Gizmos: Gr. 4-12). Some Lesson material and Teacher planning guides for Gr. K-3.
Complete list of Authorized Resources is Online under Program of Study Tab. Call Numbers in the Curriculum Lab are listed below.

Grades one to six:
- **Math Focus**, grades K to 6 (510 Mat)
- **Math Makes Sense**, grades K to 6 (510 Mat)
- **Maximizing Math**, grades K, 1, 7, 8, 9 (510 Max) (NOTE: Grades K and 1 are authorized basic resources. All other grades are considered extra, non-authorized resources.)

Grades seven to nine:
- **Math Makes Sense** 7 to 9 (Pearson Education 2007) (510 Mat Gr.7, Gr. 8. Gr. 9)
- **MathFocus** 7 to 9 (Nelson 2007) (510 Mat Gr.7)
- **Mathlinks** 7 to 9 (McGraw Math 2007) (510 Mat)

Grades ten to twelve

10c
- Pearson Foundations and Pre-Calculus Mathematics 10: 515 Mat Gr. 10
- Mathematics 10 (McGraw Hill Ryerson) 515 Mat Gr. 10
10-3
- Mathworks 10 510 Mat Gr. 10
20-1
- Precalculus 11 515 Pre
20-2
- Principles of Mathematics 11 510 Pri
20-3
- Mathworks 11 510 Mat Gr. 11
30-1
- Pre Calculus 12 515 Pre
- Principles of Mathematics 12
30-3
- Mathworks 12 510 Mat

FIND RELATED ASSESSMENT MATERIALS

Other curriculum documents in the 375 Math section include:
- **Sample diploma examinations** or **sample achievement tests**, try the subject heading, "Educational tests and measurements Alberta" or a keyword search on "examinations", limited to Curriculum Lab only.
- **Castle Rock Publications** has been producing two types of assessment materials, based on the Alberta Curriculum:
  - **"The Key" Study Guides** "have been designed to help students prepare for school tests, final exams, and standardized assessments."
  - **"Student Notes and Problems,“ or SNAP workbooks**, are student focused, and provide illustrative examples and explanations of the Alberta curriculum. They can be used as study aids for teachers assigning extra questions for students.
  - These titles were developed using assessment items from Alberta licensed government examinations. For more information, these titles are available in the Curriculum Laboratory (search the Library Catalogue for "Castle Rock"), or see the [Castle Rock Research web site](#).
Search the library catalogue for practical materials to support mathematics assessment. Try the following searches, and limit your search to “U of L Curriculum Laboratory” (Modify search option will come up on results page).

- Suggested keyword searches: mathematics assessment, mathematics evaluation, mathematics testing.

Visit The Alberta Assessment Consortium (AAC)* for assessment foundations, materials, unit plans, assessment templates, performance assessments etc.

SEARCH THE LIBRARY CATALOGUE

Use the library catalogue to find other teaching materials:

- fiction and picture books
- eBooks
- non-fiction books for K-12
- manipulatives and interactive kits
- maps, posters, audio sets
- DVDs
- books with teaching ideas

Hint: Limit your search to U of L Curriculum Laboratory for practical teaching material by using the “Modify Search” option at the top of the results page or using the “Advanced Search”.

The following search terms will lead you to relevant mathematics resources:

Add study and teaching to the general mathematical subjects: mathematics, arithmetic, or geometry.--Gives you a wide variety of materials on the study and teaching of those mathematical subjects.

MATHEMATICS AND LITERATURE

1) Add "fiction" to your search terms. For example, a search for counting fiction brings up such titles as: My sister ate one hare (F Gro), and The water hole (F Bas). Try "arithmetic fiction", "geometry fiction" etc.

2) Check the Teacher's Guide for literature connections in each chapter:

   Math Focus K-9: books related to math content are listed in each chapter overview. A complete bibliography for the grade is found at the end of the Teacher's Resource Master booklet.

   Math Makes Sense K-8: literature connections bibliographies are found in the Teacher's Manuals.

3) eBooks! (K-3): Found under our Digital Resources Link (Great Sites):

Best Books and eBooks For Educators -- Links you to our FollettShelf collection of eBooks. Follett eBooks are dynamic teaching tools that enhance learning in the classroom. These titles are directly linked to the grade 1 to 3 Alberta curriculum in science, social studies, mathematics, and language arts (Best picture books). You can now search the Library Catalogue for these titles!! Simply do a keyword search for “Follett” + "subject". e.g. "Follett Peru"

   Recommendation: Read the eBooks "Online," and do not "Check Out Online." This way, more student teachers or students have access to each title.
3) Check the Edmonton Public School's **General Collection Database**, (Digital Resource subscription-password needed) for suggested literature titles connected to specific outcomes in the Alberta mathematics curriculum.

   e.g. Suggested titles for 3-D objects and 2-D objects in grades 4-6: *Grandfather Tang's story* (F Tom) and *The greedy triangle* (F Bur).

4) Search the library catalogue for the subject *mathematics and literature*. You will retrieve books with bibliographies of suggested literature titles in mathematics.

   e.g. *Geometry out loud: learning mathematics through reading and writing activities* (516.007 Mow), *Figures, facts and fables: telling stories in science and math* (372.677 Lip Gr. EC-6), and *Math and literature (K-3)* (510 Mat Gr.EC-3).

5) For mathematics titles tied to all areas of the curriculum, search the library catalogue for the subjects *interdisciplinary approach in education and mathematics*.

   e.g. Any titles in the GEMS series (*Great Explorations in Math and Science*), or *100's of ideas for primary maths: a cross-curriculum approach* (510.7 Har).

6) Browse the "**Mathematics Literature Titles**" binder found on the shelves at the Curriculum Laboratory Information Desk. Most of these titles are suggestions from the Math Makes Sense textbook series.

**MANIPULATIVES**

If you want specific types of manipulatives used in the Alberta curriculum (all available in the Curriculum Laboratory), you can search for these specific keywords, and limit to the location, "Curriculum Lab:"

<table>
<thead>
<tr>
<th>MANIPULATIVE KITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have the Following Multi-Volume Kits that Match the Program of Studies:</td>
</tr>
<tr>
<td>• Math Manipulatives Grade 1</td>
</tr>
<tr>
<td>• Math Manipulatives Grade 2</td>
</tr>
<tr>
<td>• Math Manipulatives Grade 3</td>
</tr>
<tr>
<td>• Math Manipulatives Grade 5</td>
</tr>
<tr>
<td>• Math Manipulatives Grade 8</td>
</tr>
<tr>
<td>The Kits correspond to content in the <strong>Math Focus</strong> Series, which may be helpful in illustrating how to use them. However they can be used with any activity.</td>
</tr>
<tr>
<td>* Note that kits for Grade 4, 6 and 7 are currently not available. Use a Teacher’s Guide to find out what manipulatives are recommended. We will own most if not all.</td>
</tr>
</tbody>
</table>

**Mathematical problem solving**

Search *problem solving*, and limit your results to the Curriculum Laboratory.

**For the best results, type in a specific subject heading:** e.g. "problem solving addition", “problem solving geometry”

**Other Interesting Keyword Searches:**

- **mathematics and Edmonton schools** -- Brings up Edmonton Public School's Math to the Max series, based on the 4 strands of mathematics, and their problem solving series. As well, it brings up the new **Maximizing Math** series.
- **Elk Island and mathematics** for high school math lesson plans
- **interdisciplinary approach in education and mathematics**
- **Planning for success templates** for curriculum summaries
BROWSE THE SHELVES

You will find Mathematics materials in the following sections:

510 -- Mathematical textbooks and general resources on mathematics
510.28 -- Mathematical teaching devices and their use (e.g. calculator problems and exercises)
510.7 -- Study and teaching of mathematics
510.76 -- Problem solving
511.5 -- Graphs and graphing
512 -- Algebra and number theory
512.7 -- Number theory
513 -- Arithmetic
513.2 -- Basic number concept
513.211 -- Addition and counting
513.212 -- Subtraction
513.213 -- Multiplication
513.214 -- Division
513.24 -- Ratios
513.26 -- Fractions
513.5 -- Numbers
513.52 Binary system
513.55 -- Decimal system
515 -- Calculus
516 -- Geometry
519.2 -- Probability
519.5 -- Statistics
530.8 -- Measurement

SEARCH THE INTERNET

Use our Great Sites link (found on our main page) to access a wealth of invaluable teaching resources:

- Digital Resource Subscriptions, including:
  - Reading activities and support materials
  - Audio and video clips with lesson plans and teacher guide
  - Career planning tools for students
  - Worksheet libraries
  - Assessment tools

- Teacher’s sites: lists many of the main Internet sites used by teachers.

- Lesson Plans

- Specific School Subject websites

- LearnAlberta.ca: Use the Program of Study tab to locate support by outcome, or use the Resource Search Tab. “Gizmos” are available for grades 4-12 and are highly interactive. Some videos also available.

- Literature Databases: Aboriginal Collection will have lessons and materials the embrace FNMI themes or content.
ebooks: Find K-3 math-related titles that correlate to the program of Study and can be projected on a screen (Follett Book Collection).

Digital Media Find Short, curriculum-related videos to stream to your students. Browse each Database by Subject, grade level and math topic.

SEARCH FOR EDUCATION ARTICLES

For assignments requiring a review of research, use the Library Databases to find articles. Beside the “Find Articles” tab on the library home page, click on the “Databases by subject” tab and scroll to “Education”. These databases are a great place to start:

- **ERIC**: the world's largest source of information on educational research and practice.
- **ERIC Digests.org**: short reports which give a brief overview of any educational topic or issue.
- **CBCA Complete**: An interdisciplinary database providing access to the principal literature published in Canada, including education.
- **ProQuest Education Journals** or **Academic Search Complete**

OTHER RESOURCES

- **LethSD Ed. Links**: Browse by grade level or search by keyword from hundreds of websites recommended by Lethbridge School Division.
- **Other School Jurisdictions** with links to their web pages.
- **Community resources**: such as libraries, associations, businesses, museums, guest speakers, etc.

Still have questions and/or need more resources? Ask a virtual question through the Comments and Questions link on the curriculum laboratory’s Home Page.