



MATH RESOURCES

AVAILABLE THROUGH THE ABORIGINAL NATIONS
EDUCATION LIBRARY
GREATER VICTORIA SCHOOL BOARD OFFICE
556 BOLESKINE ROAD
VICTORIA, BC TEL: [250] 475-4131 OR 475-4124

Button Blanket Math - A Primary Unit Grade 2 (Kit also available)

Author: School District 72, Campbell River

To order: <http://www.sd72.bc.ca/Programs/aboriginaleducation/Pages/default.aspx>

GS 371.3 SD72

The purpose of this work is to provide resource materials for use when teaching Grade Two number, pattern, and space/shapes.

An Aboriginal Travelling Adventure: A Number Story (Grades 2-3)

Author: Maxine Hadubiak To Order: www.smartstartlearning.com

GS 371.3 HAD

Mad Math on All Things Métis (Grade 3)

Author: Maxine Hadubiak To Order: www.smartstartlearning.com

GS 371.3 HAD

Math Mania and the Fur Trade (elementary/middle)

Author: Maxine Hadubiak To Order: www.smartstartlearning.com

GS 371.3 HAD

Rantin' Raven About Mathematics (elementary/middle)

Author: Catherine Hines, Ellen Johnson, Lorrie Peterson

GS 371.3 HIN

Activities to compliment the current math programs by offering a Western Canadian and Northern perspective.

Math in a Cultural Context

Author: University of Alaska

To order: University of Toronto Press, Email: utpbooks@utpress.utoronto.ca

This series is a supplemental math curriculum based on the traditional wisdom and practices of the Yup'ik people of southwest Alaska. The result of more than a decade of collaboration between math educators and Yup'ik elders, these modules connect cultural knowledge to school mathematics. Students are challenged to communicate and think mathematically as they solve inquiry-oriented problems, which require creative, practical and analytical thinking. Classroom-based research strongly suggests that students engaged in this curriculum can develop deeper mathematical understandings than students who engage only with a procedure-oriented, paper-and-pencil curriculum.

- Going to Egg Island - Grade 2**

This module is designed for students in grades one and two. In a series of problems built around the story of a second-grade girl gathering sea bird eggs in the spring, students learn and apply the mathematical concepts and skills of counting and grouping two-digit numbers, estimating, measuring, sorting and place values. Students play traditional Yup'ik games while simultaneously investigating number patterns, which lead to a strong sense of grouping and place values. Includes one teacher resource, the student reader *Egg Island*, one coloring pages master, five posters, and two CD-ROMs.
- Patterns & Parkas - Grade 2**

Grade two students learn about the properties of shapes including squares, rectangles, triangles, and parallelograms. They learn a variety of ways to make those shapes and how Yup'ik elders use these shapes to create patterns. As the students make shapes, they learn about geometrical relationships, symmetry, congruence, proofs and measuring. Students connect learning in the community to learning in school. Includes one teacher resource, one student reader (*Iluvaktuq*), seven posters, and one CD-ROM.
- Picking Berries - Grade 2-3**

In this module for grades two and three, students engage in a series of hands-on activities that help them explore data, graphic representation and linear measuring. Students gather data related to the berry harvest to build and analyze tables and graphs, and they learn to read thermometers and measure the length of their shadows. The culture and math of this module connect through an engaging story of a family gathering berries at the end of summer. Includes one teacher resource, two student readers (*Big John and Little Henry and Berry Picking*), one coloring pages master, two posters, and one CD-ROM.
- Designing Patterns - Grades 3-5**

In this module designed for grades three to five, students design patterns to be used in a headdress or similar linear strip. They explore properties of shapes, lines of symmetry, and part-to-part and part-to-whole relationships. The module provides numerous opportunities for the teacher to extend and adapt this curriculum, from further explorations of fractions to Yup'ik cultural knowledge. Includes one teacher resource, one student reader (*Iluvaktuq and Paluqtalek*), one DVD, and one CD-ROM
- Star Navigation - Grade 6**

Students in grades five to seven learn ways of observing, measuring and navigating during the day and at night, including specific details of the location and orientation of the Big Dipper and Cassiopeia. They refine their understanding of angle measurements and how they differ from linear measures throughout the activities. The mathematical goal of this module is to give students a strong conceptual sense of angles. This module also presents previously unpublished cultural information regarding Yup'ik conceptions of the night sky. Includes one teacher resource, one student reader (*The Star Navigation Reader*), two posters, and one CD-ROM.
- Building a Fish Rack - Grade 6**

In this module for grade six, formal mathematics are developed through hands-on activities related to building a fish rack for the salmon harvest. *Building a Fish Rack* provides opportunities to pursue open-ended problems and extended problem-solving projects. Students begin with the overall problem of how to build a fish rack, and from there they explore associated problems such as determining the area for a variety of fish-rack shapes and determining the type of three-dimensional shape that is most structurally stable. Includes one teacher resource, three posters, and one CD-ROM.
- Drying Salmon - Grade 6/7**

This sixth and seventh grade module explores pre-algebraic and proportional thinking using the unique system of body measures that a Yup'ik elder used when hanging her salmon to dry. Students transform their own measurements into mathematical symbols as a way to investigate variables, relationships, proportions and algebraic thinking. Includes one teacher resource, three posters, and one CD-ROM.

- **Salmon Fishing - Grade 6/7**

Students in grades six and seven use activities based on subsistence and commercial fishing in southwest Alaska to investigate various topics related to probability, such as experimental and theoretical probability, the law of large numbers, sample space and equally and unequally likely events. The module consists of nine activities, with each activity including an introduction, goals, materials used, preparation needed before class, vocabulary and instructions.

- **Building a Smokehouse - Grade 6/7**

In this module for grades six and seven, students learn how to build a smokehouse modeled after ones currently used by the Yup'ik people. Through this task, students construct models to generalize properties of rectangles to three-dimensional rectangular prisms. Further investigation into triangles and triangular prisms arise while designing roofs for the structures. The hands-on activities lead students to understand prisms in general. Includes one teacher resource, one poster, and one DVD.

- **Kayak Design - Grade 6/7**

Through creating simple clay kayak models, students in grades six and seven are able to investigate the relationship between the kayak's shape and its function. By exploring these relationships, students are guided into a series of purposeful mathematical investigations using the scientific method. They collect, organize and analyze data by developing tables, converting tables into graphs, interpreting graphs and using basic statistical techniques to determine whether there is a relationship between form and function. Includes one teacher resource, one student reader (Kukugyarpak), two posters, and three CD-ROMs.

Tluuwaay 'Waadluxan

Mathematical Adventures - Haida Gwaii

Authors: Cynthia Nicol & Joanne Yovanovich

[GS 510.71 NIC](#)

To Order: School District 50, Haida Gwaii E-Mail: jyovanovich@sd50.bc.ca

This resource is designed to expand our awareness and relationship with the land, sea and sky and transform possibilities for teaching and learning mathematics. It offers engaging mathematical problems for all from adventures that explore canoe travelling, the tides, and navigation to adventures of beauty and form, this book compels us to learn more about mathematics, Haida culture and how everything is connected.

Village Math

Author: Alan Dick, University of Alaska Fairbanks

[GS 371.3 DIC](#)

Village Math is unique in that it introduces math to young people in a culturally-relevant way using scenarios found in everyday life in Alaska's rural areas. The target audience is middle school, but many of these problems apply to older and younger students as well.

Family Math Fun!

Author: Kate Nonesuch

[GS 371.3 NON](#)

The activities in this book are designed for families to do together. They will help children learn to think about numbers, shapes and patterns. Besides the mind, the activities involve the spirit, heart and body.

Integrating Aboriginal Culture with Mathematics K-12

Author: School District 70 (Alberni)

[GS 371.3 SD#70](#)

Mathematics & Culture

Author: Squamish Lil'Wat Cultural Centre, Whistler, BC

GS 371.3 SQU

The booklet contains resources designed to assist teachers and students to explore mathematics and culture through the lens of the Squamish Lil'Wat Nations.

Teaching Mathematics in a First Peoples Context - Grades 8 & 9

Author: First Nations Education Steering Committee

GS 371.3 FNED

To order or download for free: www.fnesc.ca

Raven's Guide to BC Mathematics Grade 7

Author: Alan R. Taylor, Ed. D. Raven Research Associates Inc.

GS 371.3 TAY

To order: Raven Research Associates, West Vancouver, BC (604) 904-0277

<http://www.ravenresearch.com/>

Other Products Available

Mathematics Student Guides and Workbooks - British Columbia

Raven's BC Pre-Calculus Math 12

Raven's BC Pre-Calculus Math 11

Raven's BC Foundations and Pre-Calculus Math 10

Raven's BC Math Grade 9

Raven's BC Math Grade 8

Raven's BC Math Grade 7

Raven's BC Math Grade 6

Raven's BC Math Grade 5

Raven's BC Math Grade 4

Mathematics Student Guides and Workbooks - Alberta

Raven's Alberta Mathematics 30-1

Raven's Alberta Mathematics 20-1

Raven's Alberta Mathematics 10C

Raven's Alberta Math Grade 9

Raven's Alberta Math Grade 8

Raven's Alberta Math Grade 7

Raven's Alberta Math Grade 6

Raven's Alberta Math Grade 5

Raven's Alberta Math Grade 4

Mathematics Student Guides and Workbooks - Saskatchewan

Raven's Guide to Saskatchewan Pre-Calculus Math 30

Raven's Guide to Saskatchewan Pre-Calculus Math 20

Raven's Guide to Saskatchewan Foundations & Pre-Calculus Math 10

Raven's Saskatchewan Math Grade 9 (10F)

Raven's Saskatchewan Math Grade 8

Raven's Saskatchewan Math Grade 7

Raven's Saskatchewan Math Grade 6

Raven's Saskatchewan Math Grade 5

Raven's Saskatchewan Math Grade 4

Mathematics Student Guides and Workbooks - Manitoba

Raven's Manitoba Pre-Calculus Math (40S)
Raven's Manitoba Pre-Calculus Math (30S)
Raven's Manitoba Grade 10 Intro to Applied & Pre-Calculus (20S)
Raven's Manitoba Math Grade 9 (10F)
Raven's Manitoba Math Grade 8
Raven's Manitoba Math Grade 7
Raven's Manitoba Math Grade 6
Raven's Manitoba Math Grade 5
Raven's Manitoba Math Grade 4

Apprenticeship & Employment Math

Preparing Indigenous Students for Apprenticeship and Employment

Ningwakwe Learning Press To Order: www.ningwakwe.ca

Each booklet in this series focuses on one area of math related to that career. Practice real-life tasks and develop the math skills needed to succeed in your chosen field. Individual tasks may incorporate various Competencies and apply to multiple Goal Paths. A chart outlining the relevant OALCF Competencies and Task Groups precedes each workbook answer key.

1. Make Math Work - Budgeting
2. Make Math Work - Height, Weight & Distance
3. Make Math Work - Area & Angles
4. Make Math Work - Tables, Charts & Graphs
5. Make Math Work - Measurement Distance
6. Make Math Work - Money
7. Make Math Work - Ratios & Proportions
8. Make Math Work - Estimation
9. Make Math Work - Averages
10. Make Math Work - Teacher Guide

Useful Websites:

Greater Victoria School District, Aboriginal Nations Education/Resources/Math
<https://aned.sd61.bc.ca/resources.aspx> Click on the Math box and scroll down the page to access links

UBC Outreach - Aboriginal Mathematics Education
http://outreach.math.ubc.ca/abo_home.html

Manitoba First Nations Education Resource Centre
<http://mfnerc.org/resources/math-links/>