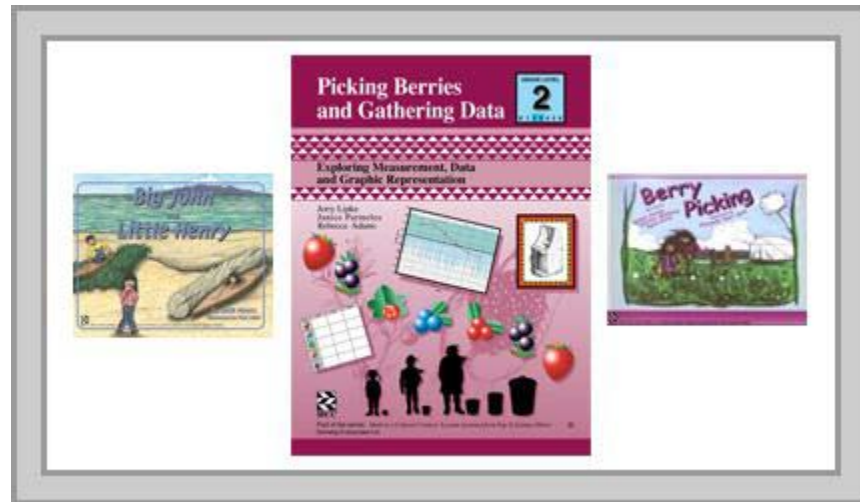


Publisher

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Click on the link for "Education –Curriculum and
Resources"

Picking Berries

Connections Between Data Collection, Graphing, and Measuring (2nd - 3rd Grades)



Picking Berries: Connections Between Data Collection, Graphing, and Measuring (2nd - 3rd Grades)

Mathematics Content

Key concepts from statistics. Students learn how to collect, organize, display, and interpret data. For example, students learn how to determine an appropriate unit for measuring and how to use a measuring device, like a ruler (collecting data), how to put the data into a table (organizing data), how to construct a line graph or bar graph of the data (displaying data), and to explain what a graph means (interpret data). Students also learn about identifying patterns in data and how to use data to formulate and test conjectures.

Yup'ik Cultural Context

The subsistence practice of picking berries provides the overall cultural context for the module. Yup'ik names of the berries found in southwest Alaska are taught. How the seasons, weather, and temperature affect the growth and harvest of berries are explored, as well as the role of berry picking in Yup'ik culture and traditional Yup'ik recipes for using berries in cooking. Students also learn Yup'ik units for measuring length, which correspond to measures of the body (e.g., arm span or hand width).

General Information

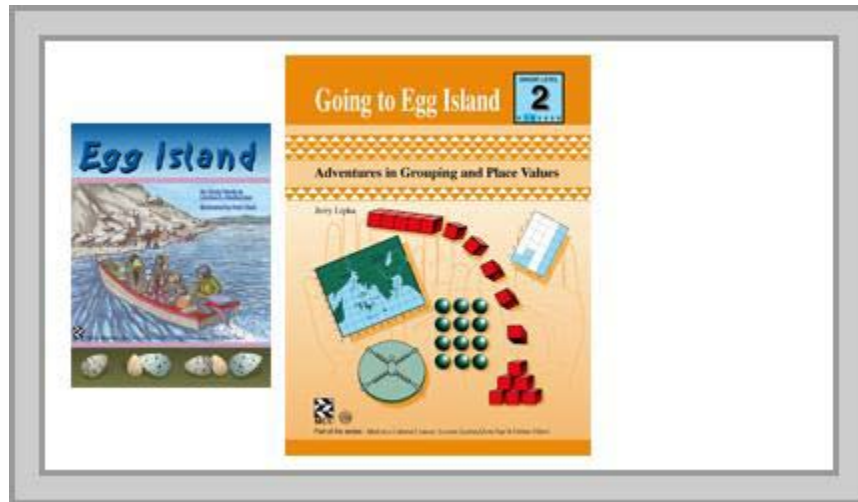
Authors: Jerry Lipka, Janice Parmelee, Rebecca Adams

Complete Kit: ISBN: 978-1-55059-294-8
\$68.95

- curriculum ISBN: 78-1-55059-282-5 \$34.95
- Berry Picking storybook (reader) ISBN: 978-1-55059-283-2 \$17.95
- Big John and Little Henry storybook ISBN: 978-1-55059-284-9 \$9.95
- Berry coloring book master
- 2 posters: Berries and Yup'ik Measures
- Yup'ik Glossary CD-ROM

Going to Egg Island

Adventures in Grouping and Place Values (1st - 2nd Grades)



Going to Egg Island: Adventures in Grouping and Place Values (2nd - 3rd Grades)

Mathematics Content

Elementary number concepts. Students learn how to group objects, decompose and compose numbers using addition or subtraction, develop the concepts of place value and numeration, learn to use a two-dimensional coordinate system. For example, students learn how to form groups of five (grouping), how to express a number in terms of a number of groups of five (composing and decomposing numbers) and/or five groups of groups of five (group of 25), record the number of units, groups of 5, and groups of 25 and make connections to the Yup'ik counting system and the base 10 system (place value and numeration), and how to find and designate objects or locations on a simple map (two-dimensional coordinates).

Yup'ik Cultural Context

Egging, which is the subsistence practice of gathering eggs, particularly that of the Black-Legged Kittiwake (a ground-nesting bird common to southwest Alaska), is the central cultural context of the module. However, in the module students also learn to count in Yup'ik and they study the mathematical structure of the traditional Yup'ik number system, which is a base 20 (with sub-base 5) number system. To reinforce the concepts of grouping, place value, and numeration, students also learn how to use different abaci from different cultures (e.g., western base 10, Chinese) and then construct their own Yup'ik abacus to correspond to the Yup'ik number system.

General Information

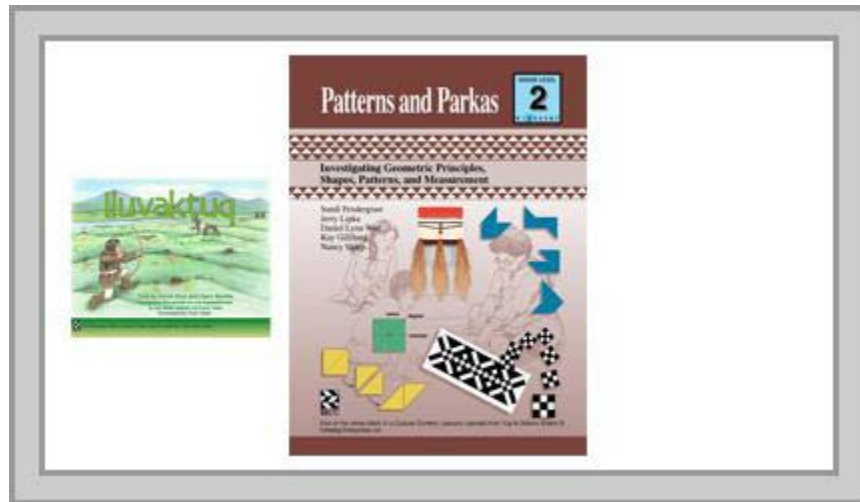
Author: Jerry Lipka

Complete Kit: ISBN 978-1-55059-257-3
\$56.95

- curriculum ISBN: 978-1-55059-245-0 \$28.95
- Egg island Storybook (the reader) ISBN: 978-1-55059-246-7 \$14.95
- Egg Island coloring book master
- 5 posters: Map of Alaska, Map of North America, Map of Egg Island with grid, Map of Egg Island without grid, Whole Body Counting
- Annie Blue CD-ROM
- Yup'ik Glossary CD-ROM

Patterns and Parkas

Investigating Geometric Principles, Shapes, Patterns and Measurement (2nd Grade)



Patterns and Parkas: Investigating Geometric Principles, Shapes, Patterns and Measurement (2nd Grade)

Mathematics Content

Fundamental geometry concepts. Students learn how to identify and construct geometric patterns, and study properties of geometric shapes.

Yup'ik Cultural Context

Making border patterns for the hood, cuffs, and hemline of a traditional parka provides the overall cultural context for the module. Students learn traditional Yup'ik ways to make patterns for parkas by constructing, manipulating, and repeating geometric figures.

General Information

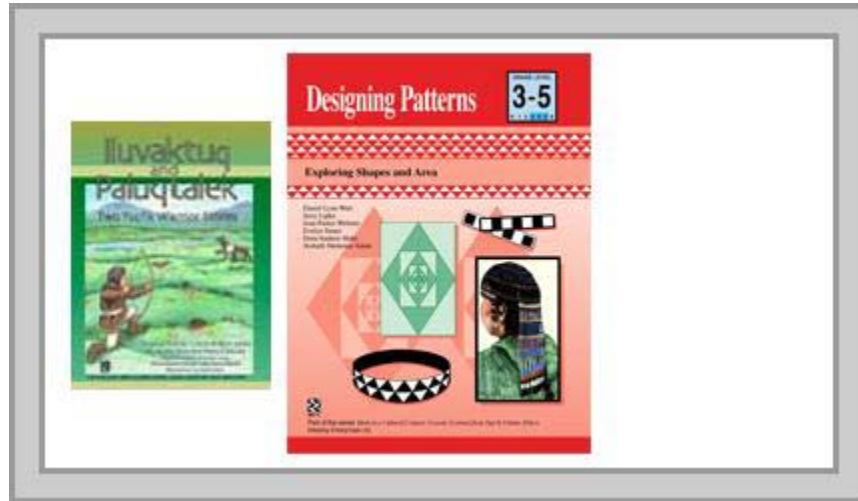
Authors: Sandi Pendergrast, Jerry Lipka, Daniel Lynn Watt, Kay Gilliland, Nancy Sharp

Complete Kit: ISBN: 978-1-55059-308-2
\$55.95

- curriculum ISBN: 978-1-55059-325-9 \$34.95
- Iluvaktuq story ISBN: 978-1-55059-307-5 \$17.95
- 7 posters: Yup'ik Border Patterns, Yup'ik Pattern Posters (Parka with Pretend Boxes, Parka with Pretend Boxes on Top of Each Other and Connected, Parka with Pretend Braids, Parka with Pretend Mountains with Reflections, Parka with Pretend Teeth or Mountains, Parka with Pretend Windows)
- Tumartat: Gathering the Pieces to make the Whole DVD
- Yup'ik Glossary CD-ROM

Designing Patterns

Exploring Shapes and Area (3rd-5th Grades)



Designing Patterns: Exploring Shapes and Area (3rd - 5th Grades)

Mathematics Content

Geometric properties of polygons (esp. rectangles, rhombi) and introduction to area. Rectangles and rhombi are decomposed into triangles and properties such as symmetry and congruence are explored. Introduction to proof and how to make and justify a mathematical conjecture and opportunities are provided to make connections to fractions.

Yup'ik Cultural Context

Students study patterns found in traditional Yup'ik headdresses. By cutting and folding rectangles to make decorative linear strips to make a headdress, students learn how Yup'ik seamstresses develop geometric patterns for headdresses. The Yup'ik cultural role of headdresses is that they are used in traditional dances and ceremonies.

General Information

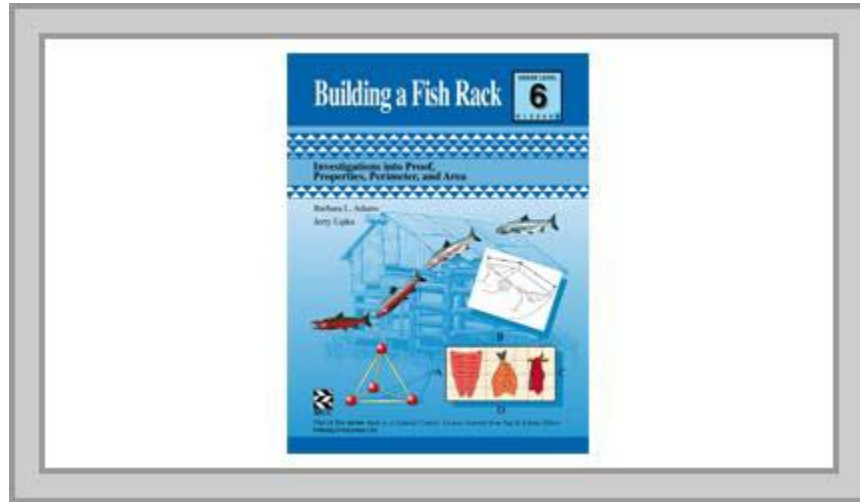
Authors: Daniel L.Watt, Jerry Lipka, Joan Parker Webster, Evelyn Yanez, Dora Andrew-Ihrke, Aishath Shehenaz Adam

Complete Kit: ISBN: 978-1-55059-306-8
\$49.95

- curriculum ISBN: 978-1-55059-318-1 \$34.95
- Iluvaktuq and Paluqtalek stories ISBN: 978-1-55059-328-0 \$14.95
- Tumartat: Gathering the Pieces to make the Whole DVD
- Yup'ik Glossary CD-ROM

Building a Fish Rack

Investigations into Proofs, Properties, Perimeter and Area (6th Grade)



Building a Fish Rack: Investigations into Proofs, Properties, Perimeter and Area (6th Grade)

Mathematics Content

Measurement concepts of perimeter and area; introduction to proving and disproving mathematical conjectures (e.g., use of reasoning, counterexamples). Exploration of the relationships between measures of rectangles (e.g., constant perimeter, varying area).

Yup'ik Cultural Context

The subsistence practices of harvesting, preparing, and constructing a fish rack to dry salmon is the overall cultural context for this module. Students learn about fish camp, the role of subsistence in Yup'ik culture, and traditional ways of building a fish rack.

General Information

Authors: Barbara Adams, Jerry Lipka

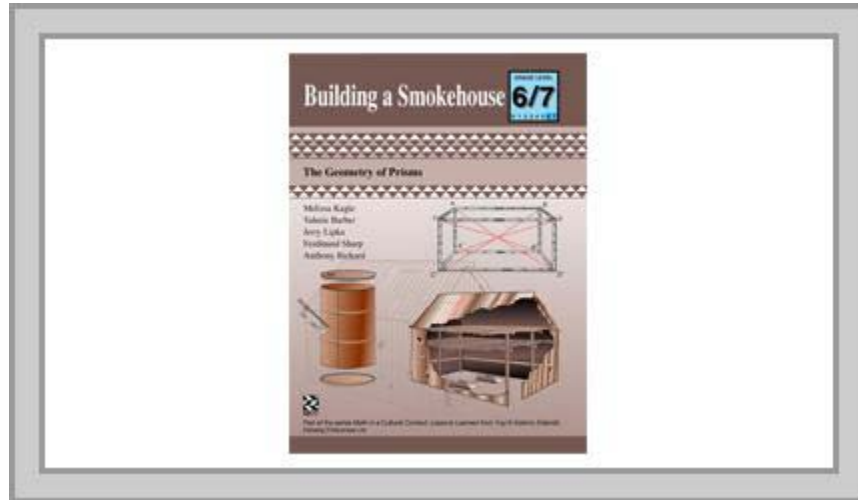
ISBN: 978-1-55059-258-0 \$34.95

Kit includes:

- curriculum
- 3 posters: Fish Racks, Salmon Life Cycle, the Five Salmon Species
- Yup'ik Glossary CD-ROM

Building a Smokehouse

The Geometry of Prisms (6th - 7th Grades)



Building a Smokehouse: The Geometry of Prisms (6th - 7th Grades)

Mathematics Content

Introduction to threedimensional geometric figures, particularly rectangular prisms and properties of prisms. The measurement concepts of surface area and volume of rectangular prisms is explored. Relationships between volume and surface area in rectangular prisms is also studied (e.g., fixed volume, varying surface area).

Yup'ik Cultural Context

Designing a smokehouse to use to prepare salmon at fish camp provides the overall Yup'ik cultural context for the module. Students use cubes to build models of smokehouses (which are in the shape of a rectangular prism), record their properties (e.g., surface area, volume) and select the best smokehouse design for particular criteria.

General Information

Authors: Melissa Kagle, Valerie Barber, Jerry Lipka, Ferdinand Sharp, Anthony Rickard

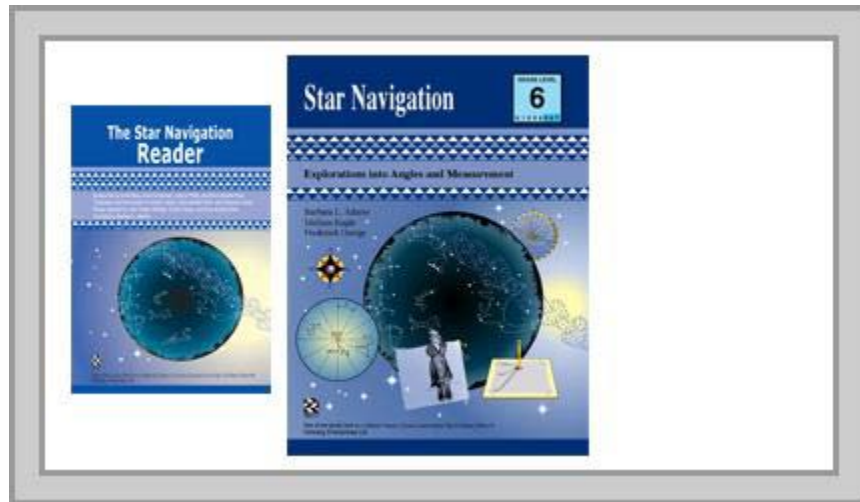
ISBN: 978-1-55059-331-0 \$31.95

Kit includes:

- curriculum
- 1 poster: Smokehouses
- Yup'ik Glossary CD-ROM

Star Navigation

Explorations into Angles and Measurement (5th - 7th Grades)



Star Navigation: Explorations into Angles and Measurement (5th - 7th Grades)

Mathematics Content

Measurement concepts of units, distance, and the process of measuring.
Number concepts of ratio and proportion, geometric concept of similarity.

Yup'ik Cultural Context

The traditional Yup'ik practice of using angles and stars (or the sun) to determine location, direction, and distance provides the overall cultural context of this module.

General Information

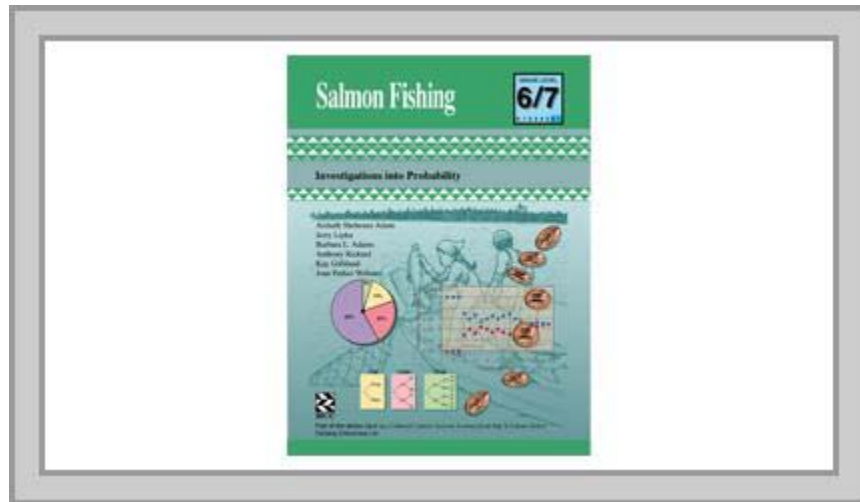
Authors: Barbara L Adams, Melissa Kagle, Frederick George

Complete Kit: ISBN: 978-1-55059-337-2
\$45.95

- Curriculum ISBN: 978-1-55059-326-6 \$32.95
- Star Navigation reader ISBN: 978-1-55059-329-7 \$13.95
- 2 posters: Sky Map and Sun and Earth Facts
- Yup'ik Glossary CD-ROM

Salmon Fishing

Investigations into Probability (6th - 7th Grades)



Salmon Fishing: Investigations into Probability (6th - 7th Grades)

Mathematics Content

Introduction to probability concepts, including sample space, experimental and theoretical probability, equally likely and not equally likely outcomes, law of large numbers, and probabilistic reasoning.

Yup'ik Cultural Context

Salmon fishing, particularly in the Kuskokwim, Yukon, and other major rivers in southwest Alaska (as well as in Bristol Bay) provide the major cultural context for the module. Students develop and apply their knowledge of probability to select suitable fishing gear, predict the salmon harvest, learn how state agencies regulate subsistence and commercial salmon fishing. Some traditional Yup'ik games are also provided and students apply probability to analyze the games, as well as develop and refine strategies for playing the games.

General Information

Authors: Aishath Shehenaz Adam, Jerry Lipka, Barbara L Adams, Anthony Rickard, Kay Gilliland, Joan Parker Webster

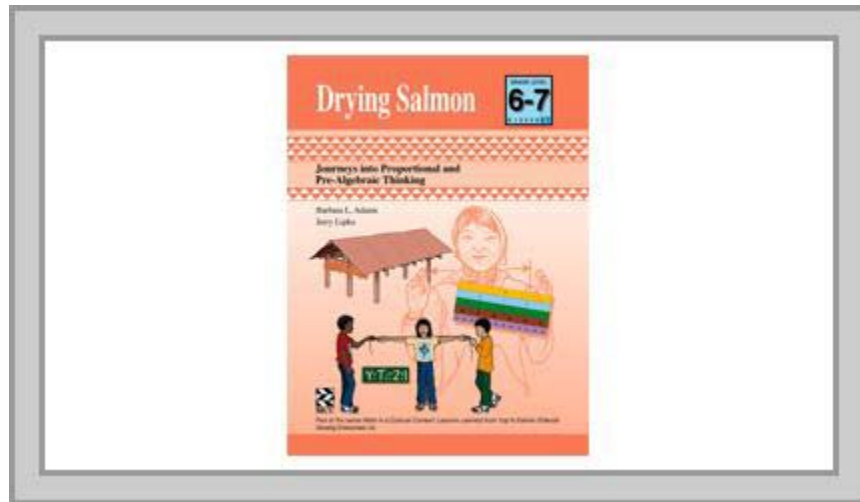
ISBN: 978-1-55059-305-1 \$32.95

Kit includes:

- curriculum
- 2 posters: The Salmon Life Cycle, The Five Salmon Species
- Excel template CD-ROM
- Yup'ik Glossary CD-ROM

Drying Salmon

Journeys into Proportional and Pre-Algebraic Thinking (6th - 7th Grades)



Drying Salmon: Journeys into Proportional and Pre-Algebraic Thinking (6th - 7th Grades)

Mathematics Content

The relationship between body proportions, fish racks, and salmon sizes establishes proportional thinking. Body measures are transformed into mathematical symbols. This begins explorations into algebraic thinking. Other topics include variables, constants, proportions, ratios, and patterns.

Yup'ik Cultural Context

Built around the Yup'ik subsistence activity of salmon fishing and drying salmon, The late Mary George of Akiachak, Alaska used a unique system of body measure to estimate the relationship of the different types of salmon and their size to her body measure and to the fish rack pole for drying. This formed the major insight into this module.

General Information

Authors: Barbara L. Adams, Jerry Lipka

ISBN: 978-1-55059-330-3 \$35.95

Kit includes:

- curriculum
- 3 posters: Hanging Salmon to Dry, Body measurements and Fish Cuts
- Yup'ik Glossary CD-ROM