

Integrating Math across the K–6 Curriculum

Articles by Topic and Grade Band

The following lists present the articles and lessons in *Integrating Math across the K–6 Curriculum* by three main topics (science, social studies, and the arts) within three grade bands (K–2, 3–4, and 5–6).

Kindergarten–Grade 2

SCIENCE

Body Balance (*K–Grade 2*)
Balance the Pans (*K–Grade 2*)
Balancing Act (*K–Grade 2*)
Block Pounds (*K–Grade 1*)
Block Views (*K–Grade 2*)
How Do I Build the Strongest, Safest Bridge? (*K–Grade 2*)
How Many Are Too Many? (*Grades 2–3*)
Mapping, Measuring, Graphing (*Grade 3*)
Measuring a Puddle (*Grades 1–2*)
Ribbon Heights (*K–Grade 2*)
Scoop It! (*K–Grade 2*)
Sorting and Graphing (*Grade 2*)
The House That We Built (*K–Grade 2*)
Time Is of the Essence (*Grades 1–3*)

SOCIAL STUDIES

Before, After, or Between (*K–Grade 2*)
Conducting a Survey (*K–Grade 2*)
Explore Ancient Number Systems to Understand Place Value (*Grades 2–3*)
Exploring Mayan Numerals (*Grades 4–5*)
Exploring Patterns and Culture through the Art of Kolam (*Grades 4–6*)
Exploring the Volume of Mayan and Egyptian Pyramids (*K–Grade 6*)
Families (*K–Grade 2*)
From Here to There (*K–Grade 1*)
How Far? (*Grades 1–2*)
Map Maker (*Grades 1–2*)
Piggy Bank (*Grades 1–2*)
Travel Agent (*K–Grade 2*)
Walking with Mathematics (*K–Grade 6*)
Which Town Is Which? (*K–Grade 1*)

THE ARTS

A Fraction of Color in a Quilt (*Grades 2–4*)
Design Tiles (*K–Grade 2*)
Piecing it Together: Using Quilts to Investigate Area and Perimeter (*Grades 2–3*)
Stained Glass Window Designs (*Grades 1–6*)
Tessellating T-Shirts (*K–Grade 4*)

Integrating Math across the K–6 Curriculum

Grades 3–4

SCIENCE

7,000 Pancakes! (*Grades 3–4*)
A Fibonacci Simple Ecosystem: Prey and Predator (*Grades 4–6*)
A Greener Greendale (*Grades 3–6*)
Amazing Hummingbirds! (*Grade 3*)
An Engineer’s Challenge: Devising a Formula for Making Structures Rigid (*Grades 4–6*)
Area Conceptions Sprout on Earth Day (*Grade 3*)
Being an Environmentally Friendly Package Engineer (*Grades 4–6*)
Butterfly Gardens (*Grades 3–4*)
Connecting Multiplication to Contexts and Language (*Grade 3*)
Does the Height of a Bird Feeder Affect the Amount of Birdseed That Wildlife Eat? (*Grades 3–4*)
EEK—A Cockroach! (*Grades 4–5*)
Estimating Fractions and Percentages Using Pie Charts (*Grades 4–6*)
From Leaks to Liters: Estimating Water Loss (*Grades 3–6*)
How Many Are Too Many? (*Grades 2–3*)
How Many Blades of Grass Are on a Football Field? (*Grades 4–6*)
Remarkable Recycling! (*Grade 4*)
Rethink Your Drink (*Grades 4–6*)
Sun Catchers (*Grades 4–6*)
Time Is of the Essence (*Grades 1–3*)
Using Angles to Measure Spine Curvatures (*Grades 4–6*)
Using Linear Measurement to Investigate Water Projectiles (*Grades 4–6*)
Water Collection Tank Capacity (*Grades 3–4*)
What If We Were Built like the Dinosaurs? (*Grades 4–6*)
Which Foil Boat Will Be Able to Hold the Most Pennies? (*Grades 4–6*)
White Trillium (*Grades 4–5*)

SOCIAL STUDIES

A Tale of Two Stock Markets (*Grades 4–6*)
Bubblegum Math (*Grades 3–5*)
Discovering Primes (*Grade 4*)
Egyptian Fractions (*Grades 4–6*)
Enriching Number Knowledge by Exploring Different Number Systems (*Grades 4–5*)
Explore Ancient Number Systems to Understand Place Value (*Grades 2–3*)
Exploring Mayan Numerals (*Grades 4–5*)
Exploring Patterns and Culture through the Art of Kolam (*Grades 4–6*)
Freedom Quilts: Mathematics on the Underground Railroad (*Grades 3–5*)
From Leaks to Liters: Estimating Water Loss (*Grades 3–6*)
Geo City (*Grades 3–5*)
Home Area and History (*Grades 4–6*)
Lacing Together Culture and Mathematics: Finding Area in a Moccasin Pattern (*Grades 4–6*)
Magic with Mayan Math (*Grades 4–6*)

Mapping the Future (*Grades 3–6*)
Mapping, Measuring, Graphing (*Grade 3*)
Math for Community Planning as Population Increases (*Grades 4–6*)
Movie Money Matters (*Grades 3–4*)
Neighborhood Survey (*Grades 4–5*)
North Dakota’s Centennial Quilt (*Grades 4–6*)
The Electoral College (*Grades 4–6*)
The Fruit Basket Challenge (*Grades 4–6*)
The Inaugural Address: Making Predictions Based on Data (*Grades 4–6*)

THE ARTS

A Fraction of Color in a Quilt (*Grades 2–4*)
An Arts-Based Approach to Teaching Fractions (*Grades 4–6*)
Creating Symmetry (*Grades 4–6*)
Exploring Patterns and Culture through the Art of Kolam (*Grades 4–6*)
Freedom Quilts: Mathematics on the Underground Railroad (*Grades 3–5*)
Geo City (*Grades 3–5*)
Home Area and History (*Grades 4–6*)
Movie Money Matters (*Grades 3–4*)
North Dakota’s Centennial Quilt (*Grades 4–6*)
Patterns: Visually, Physically and Auditorially (*Grades 3–5*)
Piecing it Together: Using Quilts to Investigate Area and Perimeter (*Grades 2–3*)
Reflections and Kaleidoscopes: Not Always What You Expect (*Grades 4–6*)
Stained Glass Window Designs (*Grades 1–6*)
Tessellating T-Shirts (*K–Grade 4*)
Unraveling Escher (*Grades 4–6*)

Integrating Math across the K–6 Curriculum

Grades 5–6

SCIENCE

- A Fibonacci Simple Ecosystem: Prey and Predator (*Grades 4–6*)
- A Greener Greendale (*Grades 3–6*)
- Algebra of the Arches National Park (*Grades 5–6*)
- An Engineer’s Challenge: Devising a Formula for Making Structures Rigid (*Grades 4–6*)
- Being an Environmentally Friendly Package Engineer (*Grades 4–6*)
- Bouncing Tennis Balls (*Grade 6*)
- EEK—A Cockroach! (*Grades 4–5*)
- Estimating Fractions and Percentages Using Pie Charts (*Grades 4–6*)
- Exercise Away the Big Mac: Ratios, Rates, and Proportions in Context (*Grades 5–6*)
- Final Bridge Design Challenge (*Grade 5*)
- From Leaks to Liters: Estimating Water Loss (*Grades 3–6*)
- Gone Fishing: Science, Proportions, and Probability (*Grade 6*)
- Hanging in the Balance (*Grades 5–6*)
- How Can We Design a Children’s Recreation Room? (*Grades 5–6*)
- How Many Blades of Grass Are on a Football Field? (*Grades 4–6*)
- Long or Short? It’s All Relative! (*Grade 6*)
- Making Insulation Decisions through Mathematical Modeling (*Grades 5–6*)
- Measuring Time with Moon Phases (*Grades 5–6*)
- Modeling Surface Area to Volume Ratio Using Manipulatives (*Grade 6*)
- Pelican Colonies Model-Eliciting Activity (*Grade 6*)
- Promoting Fifth Graders’ Mathematical Modeling (*Grades 5–6*)
- Rethink Your Drink (*Grades 4–6*)
- Sink or Float (*Grade 6*)
- Statistical Reasoning over Lunch (*Grade 6*)
- Storm-Water Management (*Grades 5–6*)
- Sun Catchers (*Grades 4–6*)
- Using Angles to Measure Spine Curvatures (*Grades 4–6*)
- Using Aviation to Change Math Attitudes (*Grade 6*)
- Using Linear Measurement to Investigate Water Projectiles (*Grades 4–6*)
- Walking Rates (*Grade 6*)
- What If We Were Built like the Dinosaurs? (*Grades 4–6*)
- What’s on Your Plate? Thinking Proportionally (*Grade 6*)
- Which Foil Boat Will Be Able to Hold the Most Pennies? (*Grades 4–6*)
- White Trillium (*Grades 4–5*)

SOCIAL STUDIES

A Bargain Price for Teaching about Percentage (*Grade 6*)
A Tale of Two Stock Markets (*Grades 4–6*)
Bubblegum Math (*Grades 3–5*)
Egyptian Fractions (*Grades 4–6*)
Enriching Number Knowledge by Exploring Different Number Systems (*Grades 4–5*)
Exploring the Volume of Mayan and Egyptian Pyramids (*K–Grade 6*)
Freedom Quilts: Mathematics on the Underground Railroad (*Grades 3–5*)
From Leaks to Liters: Estimating Water Loss (*Grades 3–6*)
Geo City (*Grades 3–5*)
Home Area and History (*Grades 4–6*)
Lacing Together Culture and Mathematics: Finding Area in a Moccasin Pattern (*Grades 4–6*)
Magic with Mayan Math (*Grades 4–6*)
Making Insulation Decisions through Mathematical Modeling (*Grades 5–6*)
Mapping the Future (*Grades 3–6*)
Math for Community Planning as Population Increases (*Grades 4–6*)
Maya Calendars: Mathematics and Culture Mixed in the Classroom (*Grade 6*)
Neighborhood Survey (*Grades 4–5*)
North Dakota’s Centennial Quilt (*Grades 4–6*)
Our School as 100 Students: Cultivating Awareness through Statistics (*Grade 6*)
The Electoral College (*Grades 4–6*)
The Fruit Basket Challenge (*Grades 4–6*)
The Inaugural Address: Making Predictions Based on Data (*Grades 4–6*)
Walking Rates (*Grades 6*)
Walking with Mathematics (*K–Grade 6*)

THE ARTS

An Arts-Based Approach to Teaching Fractions (*Grades 4–6*)
Connecting the Threads of Area and Perimeter (*Grade 6*)
Creating Symmetry (*Grades 4–6*)
Exploring Patterns and Culture through the Art of Kolam (*Grades 4–6*)
Freedom Quilts: Mathematics on the Underground Railroad (*Grades 3–5*)
Geo City (*Grades 3–5*)
Home Area and History (*Grades 4–6*)
How Can We Design a Children’s Recreation Room? (*Grades 5–6*)
Long or Short? It’s All Relative! (*Grade 6*)
Masterpieces to Mathematics (*Grades 5–6*)
North Dakota’s Centennial Quilt (*Grades 4–6*)
Patterns: Visually, Physically and Auditorially (*Grades 3–5*)
Reflections and Kaleidoscopes: Not Always What You Expect (*Grades 4–6*)
Stained Glass Window Designs (*Grades 1–6*)
Unraveling Escher (*Grades 4–6*)