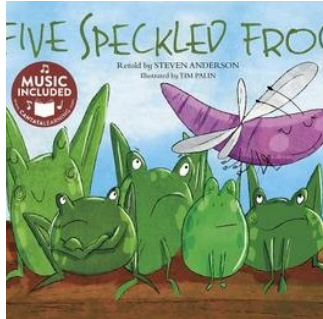


Math in literature ~ Primary

Selected by Debbie Nelson & Joan Pearce in collaboration with SD 72

Big Idea : Numbers



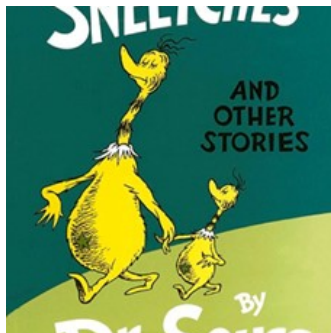
Title: Five Speckled Frogs

by Steven Anderson

CD included with book has a rendition of the nursery rhyme 'Five speckled Frogs' (also available online)

Pictures and text demonstrate the successive subtraction pattern of subtracting by one until there are no longer any frogs on the log.

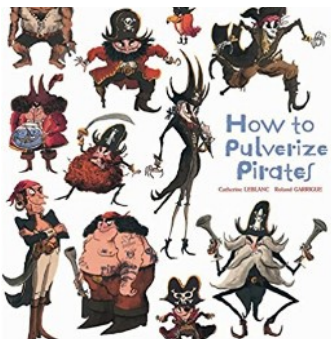
<http://teachmath.openschoolnetwork.ca/kindergarten/number-sense/screened-tasks/>



Title: The Sneetches

by Dr. Seuss https://www.youtube.com/watch?v=qPhOZzsi_6Q

Zax are all about 59! Just like the Sneetches, the Zax certainly wasted a lot of time arguing. One of the Zax threatened to stand there for 59 days, and the other Zax, for 59 years! 59 is an interesting number. Can you use blocks to represent 59 as groups of 10s and 1's? Can you find another way of representing 59 with groups of 10s and 1's? Hint: Think about how many 10s are needed to make 50. Now think about how many 1's are needed to make 9.



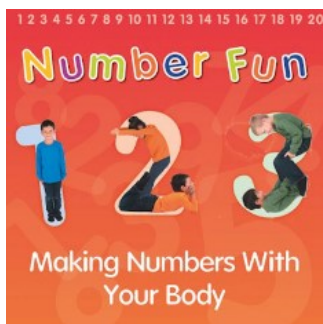
Title: How to Pulverize Pirates

by Catherine Leblanc and Roland Garrigue

This book reveals the most precious of treasures: unbeatable tricks to make a pirate walk the plank!

All kinds of opportunities for **counting** ~ pirates behind doors, sea urchins, folks floating in an enormous rubber ducky.

Bath-time = pirates riding the waves



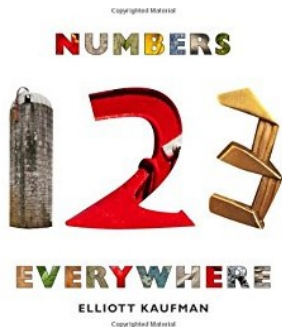
Title: Number Fun

by Isabel Thomas

Children can learn the numbers 1 to 20 while getting "in shape!" To successfully form many of the numbers, children must work cooperatively. Active learning suggestions included at the end of the book.

Math in Literature ~ Primary

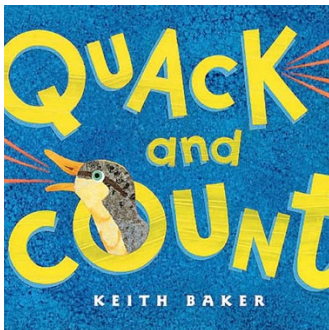
Numbers/Counting



Title: Numbers 1, 2, 3 Everywhere

by Elliott Kaufman

Identify the numerals the students see in the images. This invites a number search through the classroom, the school, the neighbourhood. Students may record findings on clip boards or take cameras to capture images in the style of Elliott Kaufman. *The number is an idea, the numeral is how we write it.*



Title: Quack and Count

by Keith Baker

Captivating rhymes and illustrations of seven ducklings slipping, sliding, leaping, diving and finally flying. All these descriptive verbs beg students to *BUILD & TELL* number stories. Reading equations aloud emphasizing *equality*; alternating using "equals" and "is the same as" for the equal sign. Plus and minus are *operation* symbols indicating an action. The equal sign, however, is a *relational symbol* with no action associated with it. Perfect book for emphasizing the equivalence between two expressions.

One Gorilla A Counting Book



Title: One Gorilla

by Author A. Browne

Beautiful illustrations of primates will give children opportunities to count gorillas, chimps, lemurs and much more.



Title: The Pros and Cons of being a Frog

by Sue deGennaro

This book is a celebration of the imagination and friendships. A boy who likes to dress as a frog and a girl who loves numbers. Great book for encouraging a productive disposition toward math for all our learners.

Math in Literature ~ Primary

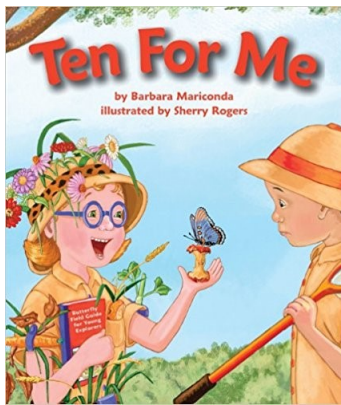
Big Ideas : Numbers/Counting



Follow the Line

By Laura Ljungkvist

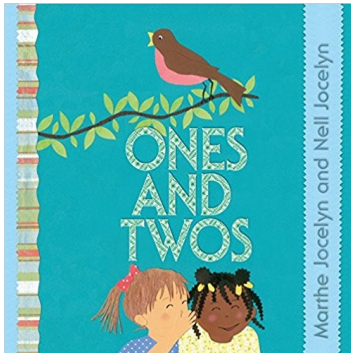
The author uses her trademark continuous line to create crisp, detailed scenes containing questions to entice students to count, think, and observe. The book offers opportunities to examine scenes from various angles or perspectives and pay close attention to illustrations to decipher their meaning. Developing spatial skills through oral language with particular emphasis on spatial skills development.



Ten for Me

By Barbara Mariconda

Addition adventure with a touch of the natural world. Ways to make ten.



Ones and Twos

By Marthe Jocelyn and Nell Jocelyn

"Numeracy is the willingness and ability to interpret and apply mathematical understanding to solve problems in complex situations, and the perseverance to analyze and communicate these solutions in ways that are relevant to the given context." BC curriculum definition of numeracy

An enticing book following a couple of pals with surprising details with each turn of the page.

Math in Literature ~ Primary

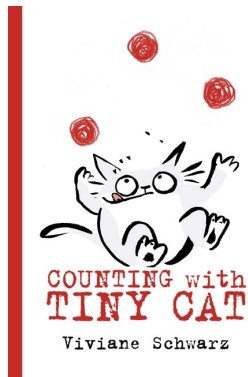
Big Ideas : Numbers/counting



Counting Colorful Shapes

By Isabel Hill

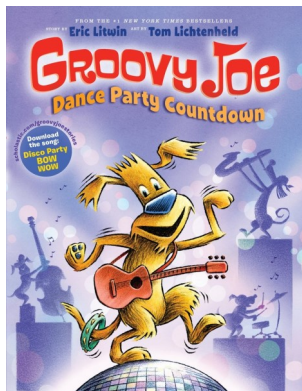
What better way to learn numbers, colors, and shapes than by looking at the world around us! Buildings take on a new flair when you're looking for circles, squares, diamonds, and lines. Shapes in everyday life. (2017)



Counting with Tiny Cat

By Viviane Schwarz

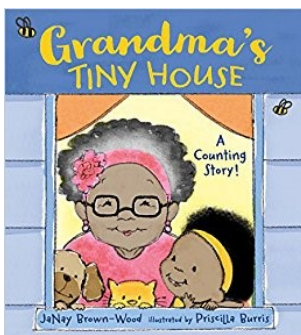
Will tiny cat ever have just enough?



Dance Party Countdown

By Eric Litwin

A counting book tailor made for story-times and dance parties.



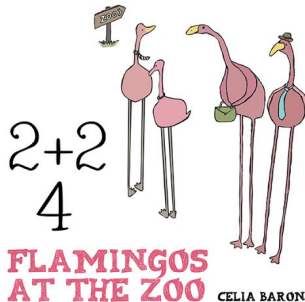
Grandma's Tiny House: A counting story

By JaNay Brown-Wood

This sweet, rhyming counting book introduces young readers to numbers one through fifteen as Grandma's family and friends fill her tiny house on Brown Street. Neighbors, aunts, uncles, nieces, nephews, and grandkids crowd into the house and pile it high with treats for a family feast.

Math in Literature ~ Primary

Big Idea : Fluency



Title: 2 + 2 = 4 Flamingos at the Zoo

by Celia Baron

Exploring addition doubles to support fluency with addition number facts.

This story has a memorable cadence that you



Title: One fish, Two fish, Red fish, Blue fish

by Dr. Seuss

How many different ways could the 3 fish arrange themselves? To help you, act out the problem with 2 friends. Make some colored fish, then model the problem. The yellow fish with the little star on its belly decided to join them in their swimming adventure. How many different ways could the fish arrange themselves now?

<https://www.youtube.com/watch?v=yauPbZKzChs> 16:08

Rooster's Off to See the World

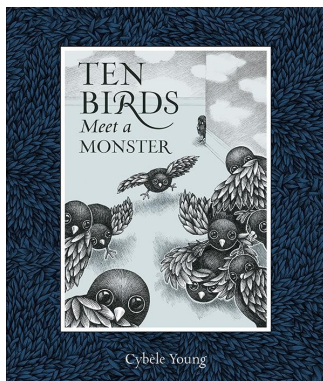


ERIC CARLE

Title: Rooster's off to See the World

by Eric Carle

A book to explore the concepts of counting, addition and graphing with students. So many great mathematical possibilities exist in this classic story.



Title: Ten Birds Meet a Monster

by Cybele Young

Fluency = strong sense of number

These ten birds display many of the learner traits and core competencies we are developing in young mathematicians. A counting story truly about creativity and cooperation.

Math in Literature ~ Primary

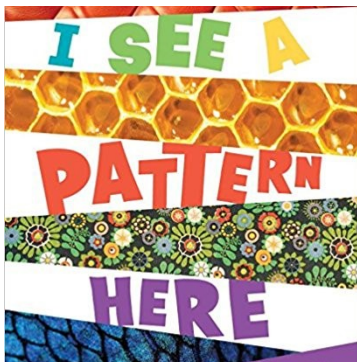
Big Idea: Patterns



Title: Spotty, Stripy, Swirly

by Jane Brocket

Inquiry Question: What is the pattern rule you used to create your increasing pattern? How would you describe it. Identify patterns, non-patterns, and increasing patterns represented in the book. Begin with the 1st element and ask students to model how it might grow. Create and extend increasing patterns.



Title: I see a Pattern Here

by Bruce Goldstone

Patterns appear everywhere: beehives, dinner plates, even the bottoms of your shoes! With stunning photographs that show examples from nature and artwork around the world, Bruce Goldstone reveals the secrets behind patterns—and gives you some fun ideas for making your own.

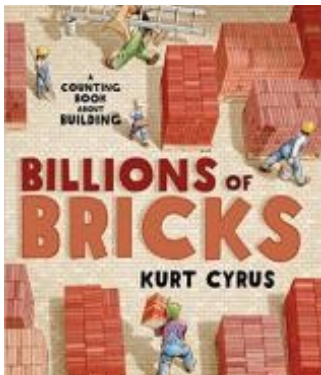


Title: Mister Horizontal & Miss Vertical

by Noemie Revah

Exploring horizontal and vertical lines and identity all in one text. Simple graphics.

Dad wears horizontal stripes, Mom vertical stripes and the child sports a checkered shirt.



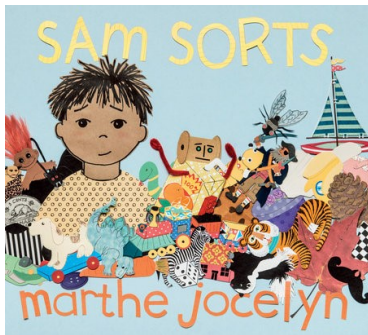
Title: Billions of Bricks

by Kurt Cyrus

Patterns in place value. A brick may seem like just a simple block, but in groupings of ten, twenty, and more, it can create many impressive structures, from hotels to schools to skyscrapers. This is a terrific introduction to counting in quantities for children.

Math in Literature ~ Primary

Big Ideas : Patterns



Sam Sorts

by Marthe Jocelyn
Sorting

A lovely text about sorting things into categories and how some things can belong to several categories. Some use of Venn diagrams.



Patterns

By Joanna Brundle

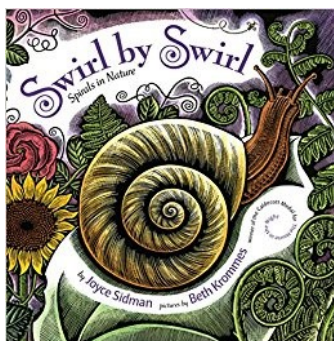
Filled with examples of stripes, spirals and other patterns. Photos revealing how patterns can be found everywhere. Explains how numbers, time and seasons follow patterns.



Spotty, Stripy, Swirly: What are patterns?

By Jane Brocket

Dotty, stripy, straight and swirly patterns are all around us. How many different patterns can you find pictured in this book?

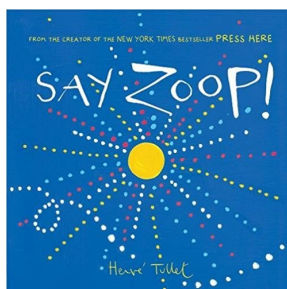


Swirl by Swirl: spirals in nature

by Joyce Sidman

Patterns, fibonacci spiral, math in nature

What makes the tiny snail shell so beautiful? Why does that shape occur in nature over and over again-in river, flower bud, inside your ear.



Say Zoop!

By Herve Tullet

Demonstrate how a **steady beat** is an unchanging, continuous pulse or beat. 1, 2, 3, 4 • **Accent** a note to make it stand out from other notes by playing it differently. 1 2 3 4 • Explain that a **crescendo** happens when notes grow louder. 1 2 3 4 • Show various examples of **tempo**, or the rate of speed. 1234 or 1 2 3 4

Math in Literature ~ Primary

Big Idea: Geometry and Measurement



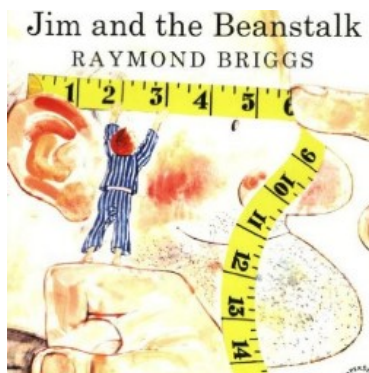
Title: Which One Doesn't Belong? A Shapes Book and Teacher's Guide

<https://talkingmathwithkids.com/>

by Christopher Danielson

Danielson writes, "I made this book to spark conversations, thinking and wonder". Bold-color shapes book is a resource to promote student's and teacher's geometric thinking and student's ability to craft mathematical arguments in support of their choices.

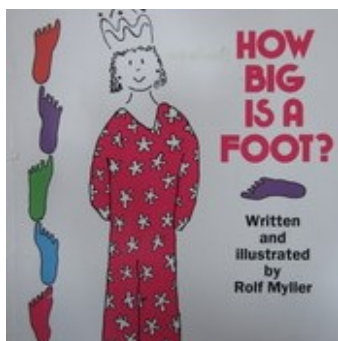
<http://wodb.ca/>



Title: Jim and the Beanstalk

by Briggs 1970 & 2002 Destiny has different version

Design challenges with standard units of measurement and the engineering design process can be introduced. Teacher leave giant handprints around the room. They are exaggerated in size. A friendly giant had broken into the room the night before. The challenge was to conduct an investigation to create a cutout of the giant's head to match the handprints left in the room. *How might we create a cutout of the giant's head when we have only the handprints to use as a reference.?*



Title: How big is a Foot

by Myller 1991 (we would introduce metric)

The King wants to give the Queen something special for her birthday. The Queen has everything, everything except a bed. The trouble is that no one in the Kingdom knows the answer to a very important question: HOW BIG IS A BED? because beds at the time had not yet been invented. The Queens' birthday is only a few days away. How can they figure out what size the bed should be? Another design challenge opportunity!



Title: The Odd Egg

by Author: E. Gravett

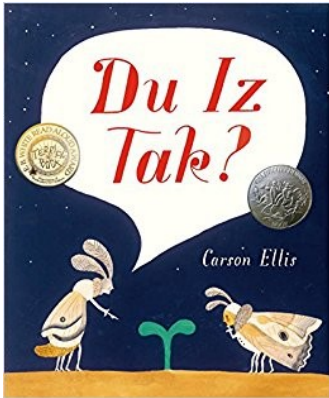
A great book for Early Primary ~ time to explore all sorts of eggs and talk about size, shape and things that are the same and different too.

Children between the ages of 3-6 are ready to develop skills at expressing directions from different locations and understanding relative positions.

The more such experiences they have, particularly in the company of adults who help to mathematize them, the easier it will be to make their own representations of space mathematically precise. Erickson Early Math Collaborative

Math in Literature ~ Primary

Big Ideas : Geometry and Measurement

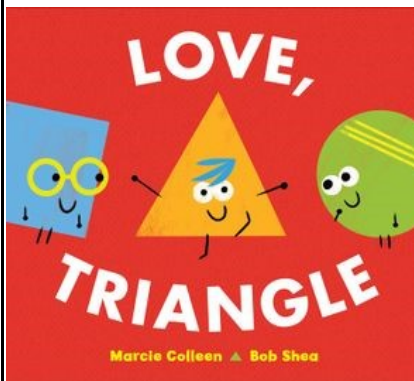


Du Iz Tak?

By Carson Ellis

Coding, inference, invented language, insects, nature

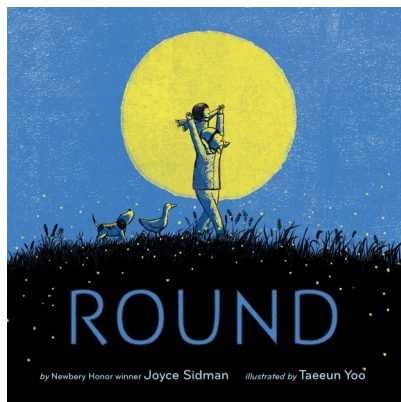
Lovely book written in an invented language about backyard insects wondering what a plant is as it unfurls. Fabulous illustrations! Infinite possibilities with this book. Look carefully.



Love, Triangle

By Marcie Colleen

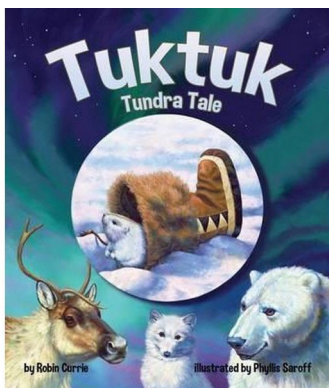
Filled with subtle math and geometry jokes. A picture book true to its title: two-friends-are-joined-by-a-third-friend where both of the original friends prefer the newcomer.



Round

By Joyce Sidman ill. Taeun You (2017)

A contemplation of all things circular. Not to be missed ~ the final pages explore: Why are so many things in nature round?



Tuktuk: Tundra's Tale

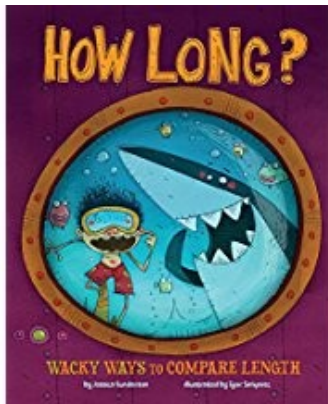
By Robin Currie

We can describe, measure and compare spatial relationships.

"Can Tuktuk outwit the other animals and convince them that one furry kamik is no good for anyone bigger than a lemming?"

Math in Literature ~ Primary

Big Idea: Geometry and Measurement

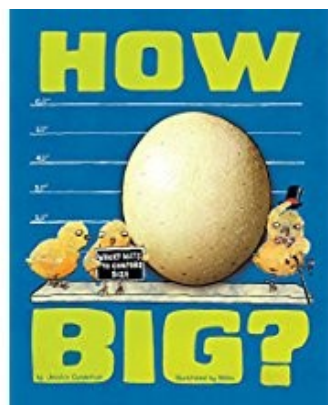


How Long: Wacky Ways to compare length

by Jessica Gunderson

Objects and shapes are described, measured and compared in many ways.

Questions to prompt students when communicating their strategies and thinking processes: *How do you know which object is longer around? How did you choose your objects to compare? Could there be a different solution?*



How Big?

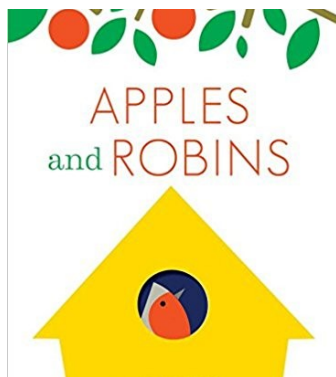
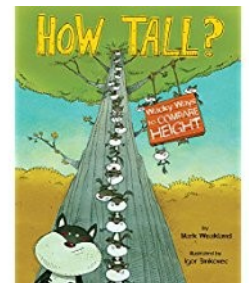
by Jessica Gunderson

How big is a gorilla? Or a gorilla's paw?

Is either as big as a tarantula?

These books will have students reasoning, analyzing, understanding and solving.

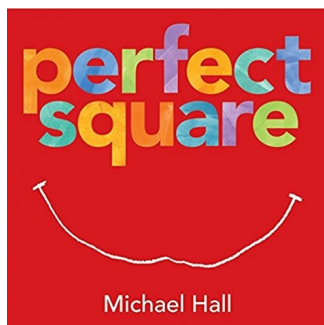
Look for these titles as e-books through Destiny.



Apples and Robins

by Lucie Félix's

All you need for apples . . . are circles and the color red. one thing transforms into another as each page turns—a circle becomes an apple, an oval becomes a bird, winter becomes spring. Constantly surprising and brilliantly constructed, Apples and Robins is full of the magic of shape, color, and imagination.



Perfect Square

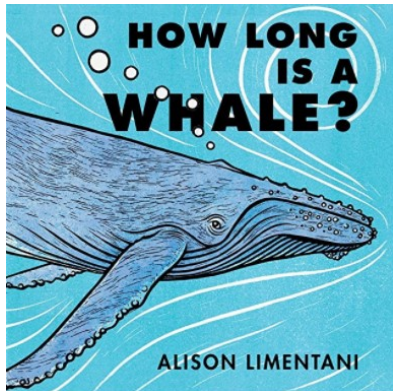
by Michael Hall

A perfect square is transformed in this adventure story that will transport you far beyond the four equal sides of this square book.

Creativity and critical thinking abound.

Math in Literature ~ Primary

Big Idea: Geometry and Measurement



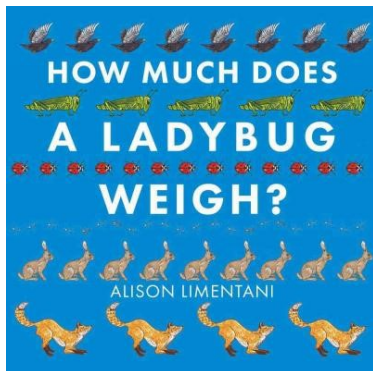
How Long is a Whale?

by Alison Limentani

Measurement, decreasing pattern, relative size

Simple clear text about the relative size of sea creatures.

Decreasing pattern from 10 to 1. Ends with a fold out of a blue whale.

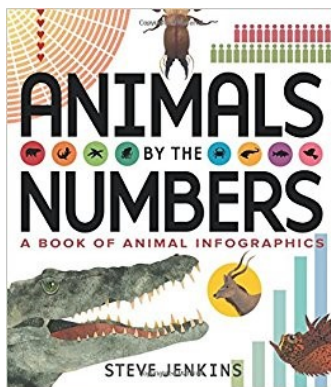


How Much Does a Ladybug Weigh?

by Alison Limentani

Comparative measurement, pattern

Simple decreasing pattern book comparing animal weights. How many ants weigh the same as one ladybug? Playful picture book looks at wildlife weight, counting and comparisons

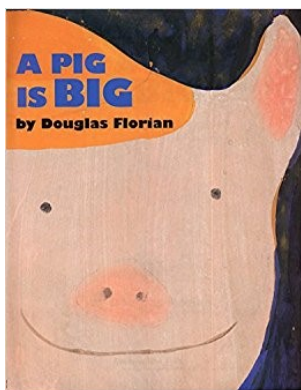


Animals by the Numbers

by Steve Jenkins

Measurement, graphing, using a flow chart, speed

Do all the insects in the world weigh more than all the humans? Which animal can survive both boiling water and the vacuum of space? Great illustrations. Lots and lots of math!!



A pig is BIG

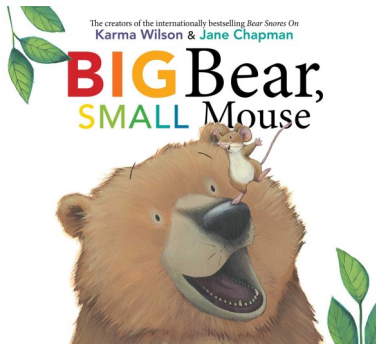
by Douglas Florian

What is big?

A simple rhyming text about what is bigger than a pig. It telescopes out to the 'size of the universe'.

Math in Literature ~ Primary

Big Idea: Geometry and Measurement

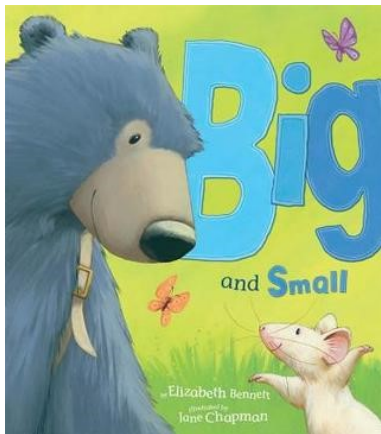


BIG Bear, Small Mouse (2016)

by Karma Wilson

Objects and shapes have attributes that can be described, measured and compared.

Delightful book of opposites.

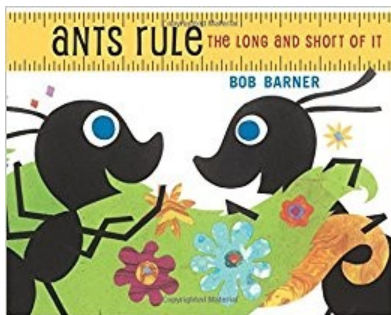


Big and Small

by Elizabeth Bennett

A text filled with spatial reasoning. Invites classes to examine scenes from various angles or perspectives and broaden spatial language/vocabulary as the illustrations require close attention to decipher their meaning.

Find opportunities throughout the day to use and explicitly teach words such as: on, over, under, beside, left (position and 'result of'), more, less, equal, sum/some, big, bigger, small, add, subtract, first, zero, part, half, whole (vs. hole), etc.



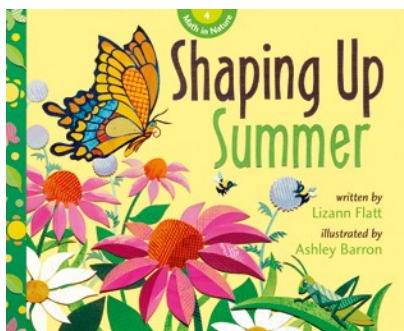
Ants Rule : The Long and the Short of It (2017)

by Bob Barner

We can describe, measure and compare spatial relationships.

Non-standard units K-2

Fun-filled introduction to nonstandard measurement, comparison and organizing and representing data.



Shaping up Summer

by Lizann Flatt

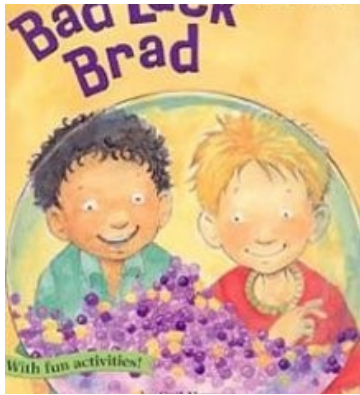
Evocative artwork to introduce geometry and spatial sense.

"Shaping Up Summer" transports the reader into a world where numbers flourish along with whimsy."

Math in Literature : Primary

Big Idea : Data and Probability (graphs, outcomes)

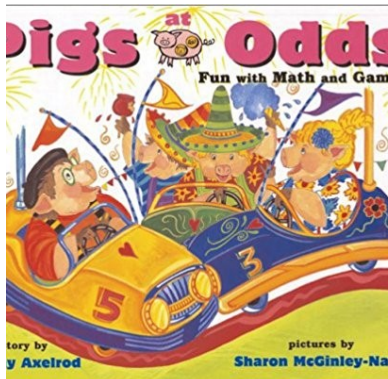
Data analysis uses math to make sense of the world. It can begin as simple as writing down a list of grocery items and jotting in parenthesis the number to purchase.



Title: Bad Luck Brad

by Gail Herman

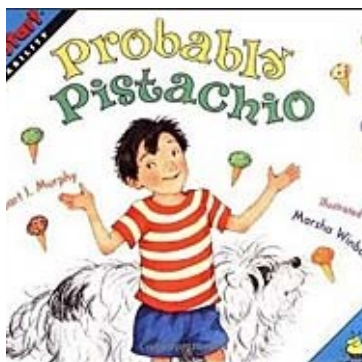
On his last day of school before summer vacation, Brad discovers an important lesson. His chances of getting what he wants may not be based on luck at all! By estimating and calculating before making choices, he can increase the likelihood of those choices being the ones he wants.



Title: Pigs at Odds

by Amy Axelrod

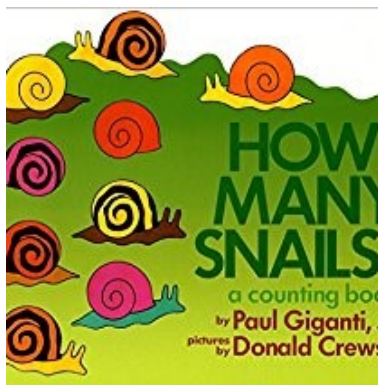
The Pigs are raring to go to the county fair to play games and win prizes. But no matter how many times Mr. Pig tries to win, the odds seem to be against him. Will his luck ever change? If every player has equal odds, or chances, of winning, then the game is fair.



Title: Probably Pistachio

by Stuart Murphy

First, Jack wakes up late and trips over his dog Pirate. Dad makes tuna-fish sandwiches for lunch. Yuck. But Jack remembers that Emma's mom usually gives her pastrami—four out of five days last week. Maybe he can trade. What are the chances that she'll have pastrami today? And what's the probability that Jack's day will improve? Learning to make astute predictions helps children analyze data to make informed decisions.



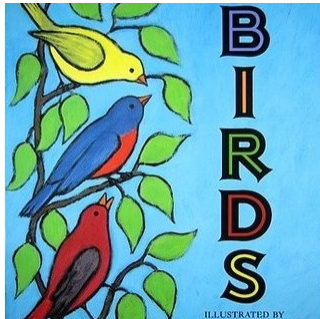
Title: How many Snails?

by Paul Giganti Jr.

At the heart of it, data analysis is compiling info. And describing it in a quantitative way. *How many?* That then allows us to organize it, make comparisons, and generalize. Mathematics is all about making sense of the world. In this title the analysis of collections of different animals provides opportunities to delve into making sets in order to count and compare.

Math in Literature ~ Primary

Data and Probability ~ Primary

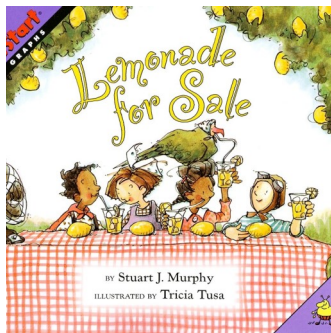


Title: Birds

by Kevin Henkes

This colourful book follows a child who is fascinated with birds. She uses her imagination and critical thinking to wonder about the important questions: IF.

Questions like this open up reasoning, investigating and predicting. Activities outside the book can create real data that can be collected and evaluated.

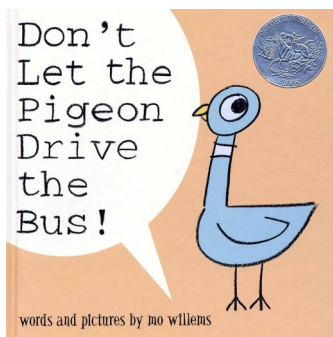


Title: Lemonade for Sale

by Stuart Murphy

Gathering, charting and comparing data is an important skill for assessing progress and making predictions.

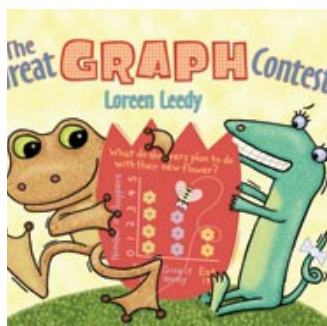
All sorts of curricular competency practice with this text.



Title: Don't let the Pigeon Drive the Bus

by Mo Willems

Many links to math exploration with this text. Students can explore the idea of constructing an argument with logical reasoning as well as critiquing the reasoning of others. Students can inquire about: *What is a good argument and how can I create a good argument to support my thinking in math?*



Title: The Great Graph Contest

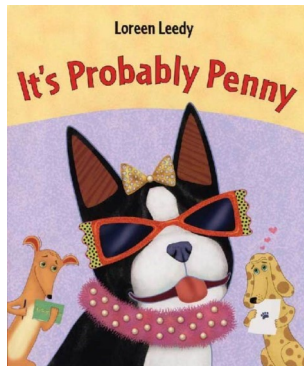
by Lauren Leedy

Who can make the best graph ?

In the process story characters explore data collection methods like surveys and tallies, as well as graphing methods like line graphs, bar graphs, pie charts, Venn diagrams and more.

Math in Literature ~ Primary

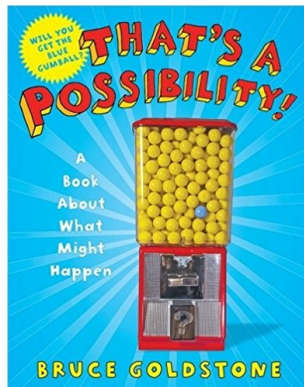
Data and Probability ~ Primary



It's Probably Penny

by Loreen Leedy

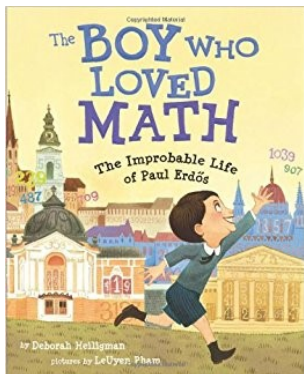
For her homework, Lisa has to think of an event that will happen, one that might happen and one that can't happen. Who is the Boston terrier that keeps popping up? It's probably Penny! A fun way to introduce probability



That's a Possibility: A book about what Might Happen

By Bruce Goldstone

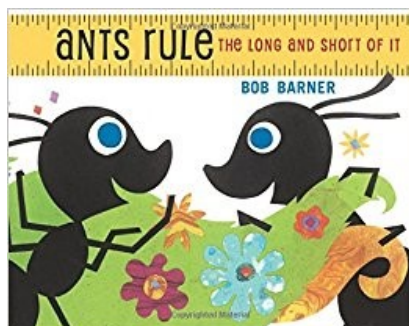
Introduction to the ideas of something being possible, probable, or impossible. Each spread features an easy-to-understand scenario such as dice rolling, with questions about probable outcomes and simple explanations.



The Boy who Loved Math: The Improbable Life of Paul Erdos

By Deborah Heiligman

This is a beautiful introduction to the world of math and a fascinating look at the unique character traits that made "Uncle Paul" a great man. Math mindsets.



Ants Rule : The Long and the Short of It (2017)

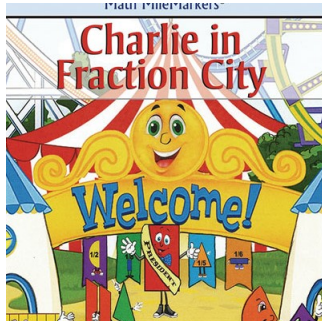
by Bob Barner

Analyzing data enables us to compare and interpret. (Numeracy)

Fun-filled introduction to nonstandard measurement, comparison and organizing and representing data.

Math in Literature ~ Primary

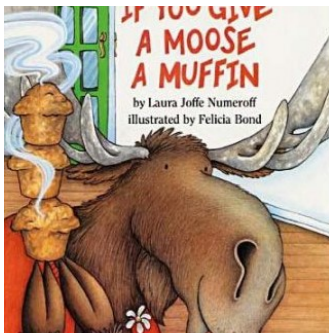
Big Ideas : Fractions Grade 3



Title: Charlie in Fraction City

by Lynda Brennen

The focus of the book is how various fractions are part of the whole unit. Visuals include use of rectangles, both tall and wide, as well as circles and ways to divide them into fraction. The language is appropriate for grade 2 and 3 but can easily be read to K/1's.

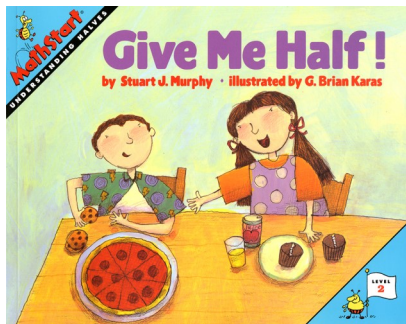


Title: If you Give a Moose a Muffin

by Laura Numeroff

If You Give a Moose a Muffin (1991) serves up fraction-based math explorations and also provides the basis for connecting quality literature across the curriculum. What happens if you *give a mathematician a book* ?

Students can make muffins at school, or teachers can prepare a "muffin bag" for a delicious take-home activity. The bag would contain a six-muffin tin, muffin liners, just-add-water muffin mix, and the book. an exploration of this story.



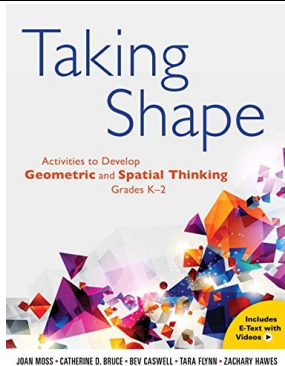
Give Me Half!

By Stuart Murphy

Recognizing that half means one of two equal parts begins the foundation of fractions. (vocabulary: half, whole share, divide equally).

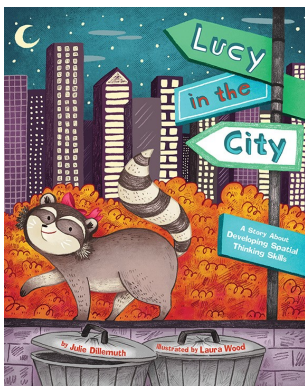
Math in Literature ~ Primary

Big Ideas : Spatial Skills Development

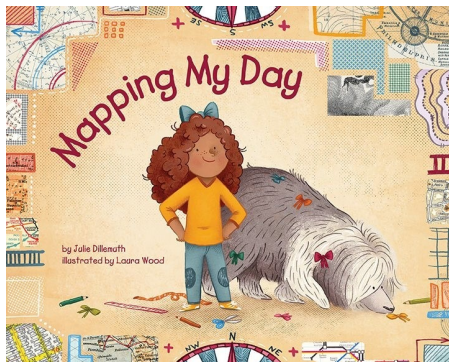


Professional resource and classroom activities.

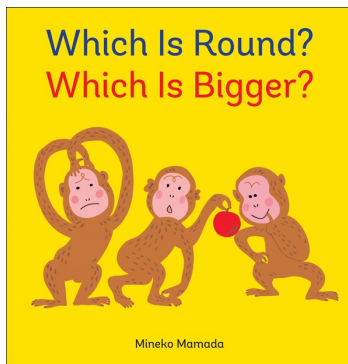
"Having strong spatial skills—the ability to understand and mentally manipulate shapes and figures—has been identified by researchers a characteristic of those who find success in STEM fields and creative pursuits." Deborah Kris
Spatially challenging picture books include those which examine scenes from various angles or perspectives, that include maps and spatial language, or whose illustration requires close attention to decipher their meaning.



Lucy in the city: A story about Developing Spatial Thinking Skills by Julie Dillemath
 Three fundamental mapping concepts: interpreting bird's eye view map, paying attention to one's surroundings and retracing one's steps as a navigation strategy.
 Offers additional activities to support spatial reasoning.



Mapping My Day
 Julie Dillemath
 Flora loves drawing maps and uses them to tell us about her life. The text introduces spatial relationships and representation: *where things and places are in relation to other things*. This book shows readers how maps can convey information, inspires children to draw their own maps, and introduces basic map concepts and vocabulary.



Which is Round? Which Is Bigger?
 by Mineko Mamada
 For each pair, children are asked to compare them based on their shape, size, height, speed or color. At first the answer to the question seems obvious, but then a turn of the page provides an unexpected twist. Young children get drawn in, first to figure out the easier answer, then to laugh when they discover the new way of looking at things.