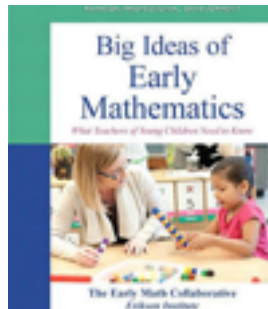


'Finding Great Math in Great Books'

The Early Math Collaborative
Erikson Institute

"We believe that using a good book or story assures that children will be engaged and creates a shared experience that can be discussed and analyzed."

Big Ideas of Early Mathematics



MathRack also believes in connecting text to the math experience to enhance children's understanding of mathematizing their world. We have created this list of books suggested by the Early Math Collaborative resources as a quick guide for you to use with your instruction. For more information about the books and in many cases lessons to accompany them please visit: <https://earlymath.erikson.edu>

Join the Collaborative for valuable information and recent research to empower your teaching. <https://earlymath.erikson.edu/join/>

Math - Literacy Connection

Sets...Sorts, Sorting and Categorizing

BIG IDEAS "Sets are basic to children's thinking and learning. Sets are also basic to our number system. Counting requires a set, and as a result, the properties of sets have a large influence on the number system, and on mathematics."

A Lost Button by Arnold Lobel (from Frog and Toad Are Friends)

A Mother for Choco by Keiko Kaza

*A Pair of Socks by Stuart Murphy

Five Creatures by Emily Jenkins

Goldilocks and the Three Bears

Is it Larger? Is it Smaller? by Tana Hoban
Is Your Mama a Llama? Deborah Guarino
Shapes, Shapes, Shapes by Tana Hoban
Shoes, Shoes, Shoes by Ann Morris
The Three Pigs

Number Sense

BIG IDEAS “Numbers are used in many ways, some more mathematical than others. Quantity is an attribute of a set of objects and we use numbers to name specific quantities. The quantity of a small collection can be intuitively perceived without counting.”

“The key to identifying better number books is to look for illustrations in which numbers are meaningfully associated with objects or events so that cardinal amount is emphasized—and of course it helps if the book is fun, beautiful or otherwise engaging!”

Anno’s Counting Book by Mistusmo Anno
Count and See by Tana Hoban
Splash by Ann Jonas
Ten Black Dots by Donald Crews

Counting

BIG IDEAS “Counting can be used to find out ‘how many’ in a collection. Counting has rules that apply to any collection.”

A Frog in a Bog by Karma Wilson
*Baby Goes to Market by Atinuke (2018 winner)
*Caps for Sale by Esphyr Slobodkina
*Count Me In! by Cynthia Weill
*Count the Monkeys by Mac Barnett (honor title)
*Count to a Million by Jerry Pallotta
*Dog’s Colorful Day by Emma Dodd
*Doorbell Rang by Pat Hutchins
Fish Eyes by Lois Ehlers
Five Little Monkeys by Eileen Christelow
From Head to Toe by Eric Carle (body movement)
*How Big is a Million by David Schwartz

*Max's Math by Kate Banks (advanced counting)
*One Big Pair of Underwear by Laura Gehl (advanced counting)
One Gorilla by A. Morozumi
One Stuck Duck by Phyllis Root
Over the Meadow
* Sheep Won't Sleep by Judy Cox (advanced counting)
Ten in Bed by Penny Dale
*Ten Little Fish by Audrey Wood
Ten, Nine, Eight by Molly Bang
This Jazz Man by Karen Ehrhart
*Count the Monkeys by Mac Barnett (honor title)
10 Minutes till Bedtime by Peggy Rathman

Number Operations

BIG IDEAS—"Sets can be changed by adding items (joining) or by taking some away (separating) Sets can be compared using the attribute of numerosity, and ordered by more than, less than, and equal to. A quantity (whole) can be decomposed into equal or unequal parts; the parts can be composed to form the whole.

' Many books support the close relationship between counting and number operations. They can help children understand that number operations are an efficient way to count- as the quantity grows, it is much easier to count on that to count one-by-one.'

*Balancing Act by Ellen Stoll Walsh
Five Creatures by Emily Jenkins
Hippos Go Berserk by Sandra Boynton
More, Fewer, Less by Tana Hoban
Mouse Count by Ellen Stoll Walsh
Ones is a Snail, Ten is a Crab by April Pulley Sayre
Over in the Meadow
*Twelve Ways to Get to Eleven by Eve Merriam

Patterns

BIG IDEAS—“ Patterns are sequences (repeating or growing) governed by a rule; they exist both in the world and in mathematics. Identifying the rule of a pattern brings predictability and allows us to make generalizations. The same pattern can be found in many forms.

‘Many well-loved children’s books incorporate pattern because it supports young children’s literacy development. Children use language and picture patterns to ‘read’ predictable books. They often use or extend language patterns from books in their own story dictation. Patterns support children to predict what will happen next in a story. These literacy skills overlap with a mathematical understanding of pattern, and you will want to, at times, shift your read-aloud objectives to focus on the math.’

Brown Bear, Brown Bear, What Do You See? by Bill Martin Jr.

I Went Walking by Sue Williams

Lots and Lots of Zebra Stripes: Patterns in Nature by Stephen R. Swinburne

Pattern Bugs by Trudy Harris

Rooster’s Off to See the World by Eric Carle

The Napping House by Audrey Wood

Measurement

BIG IDEAS ‘Many different attributes can be measured, even when measuring a single object. All measurement involves a ‘fair’ comparison. Quantifying a measurement helps us describe and compare more precisely!’

*A Million Fish... More or Less by Patricia C. McKissack,

Actual Size by Steve Jenkins

*Blue Sea by Robert Kalan

*Balancing Act by Ellen Stoll Walsh

Carrot Seed by Ruth Krauss

*Growing Story by Ruth Krauss

*Inch by Inch by Leo Lionni

*Is it Larger? Is it Smaller? by Tana Hoban

*Just a Little Bit by Ann Tompert

*Life Size Zoo: From Tiny Rodents to Gigantic Elephants, An Actual-Size Animal Encyclopedia by Teruyuki Komiya

*Line Up Book by Marisabina Russo

*One Bean by Anne Rockwell
Next to an Ant by Mara Rockliff
Prehistoric Actual Size by Steve Jenkins
*Strega Nona by Tomie dePaola
Tall by Jez Alborough
* Three Feet Small by Michael Rosen
Tikki Tikki Tembo by Arlene Mosel
The Growing Story by Ruth Krauss
Where's My Teddy by Jez Alborough

Data Analysis

BIG IDEAS - “ The purpose of collecting data is to answer questions when the answers are not immediately obvious. Data must be represented in order to be interpreted, and how data are gathered and organized depends on the question. It is useful to compare parts of the data and to draw conclusions about the data as a whole.”

‘Books that inspire children to think about data are often nonfiction. Any text that helps bring the complexity of the real world into the classroom can be a rich springboard for data collection and analysis.’

*Anno’s Flea Market by Mitsumasa Anno
Apples by Gail Gibbons
*Birds by Kevin Henkes
*How Many Snails?: A Counting Book by Paul Giganti Jr.
Pete the Cat by Eric Litwin
Shoes, Shoes, Shoes by Ann Morris
The Best Part of Me: Children Talk about Their Bodies in Pictures and Words by Wendy Ewald
*Tiger Math: Learning to Graph from a Baby Tiger by Ann Whitehead Nagda and Cindy Bickel
Which Would You Rather Be? by William Steig
Whose Shoes? A Shoe for Every Job by Stephen Swinburne
Whose Shoes Are These? A Look at Workers’ Footwear—Slippers, Sneakers, and Boots by Laura Salas

Spatial Relationships

BIG IDEAS Relationships between objects and places can be described with mathematical precision. Our own experiences of space and two-dimensional representations of space reflect a specific point of view. Spatial relationships can be visualized and manipulated mentally.”

‘Spatial thinking is critical for building subtilizing skills and more advanced counting strategies.’

Acka Backa Boo collected by Opal Dunn

*Big Bug by Henry Cole

Block City by Daniel Kirk’s illustrated version of Robert Louis Stevenson’s poem

Building a House by Byron Barton

Changes, Changes by Pat Hutchins

*Elephants Aloft by Kathi Appelt

*Flotsam by David Wiesner

*Follow That Map! by Scot Ritchie

From Here to There by Maria Cuyler

Going on a Bear Hunt

Henry’s Map by David Elliot

Houses and Homes by Ann Morris

*Katie and The Big Snow by Virginia Burton

*Lucy in the City: A Story About Developing Spatial Thinking by Julie Dillemath

Me on the Map by Joan Sweeney

*Over, Under and Through by Tana Hoban

*Piggies in the Pumpkin Patch by Mary Peterson and Jennifer Rofe

Rosie’s Walk by Pat Hutchins

*Shrinking Mouse by Pat Hutchins

Skip Across the Ocean collected by Floella Benjamin

*The Secret Birthday Message by Eric Carle

The Village of Round Houses and Square Houses by Anna Grifalcone

*Up, Down, Around by Nadine Bernard Westcott

*We’re Going on a Ghost Hunt by Marcia Vaughan

Where Do I Live? by Neil Chesnow

* Which is Round? Which is Bigger by Mineko Marmada

*Yellow Ball by Molly Bang

* You Are (Not) Small by Christopher Weyant

Shape Geometry

BIG IDEAS-Shapes can be defined and classified by their attributes. The flat faces of solid (three dimensional) shapes are two-dimensional shapes. Shapes can be combined and separated (composed and decomposed) to make new shapes. 'Shapes are all around us.'

Color Farm by Lois Ehlert

Color Zoo by Lois Ehlers

Changes, Changes by Pat Hutchins

Grandfather Tang's Story by Ann Tompert

Grandpa's Quilt by Betsy Franco

I Read Signs by Tana Hoban

I Spy Shapes in Art by Lucy Micklethwait

Mouse Shapes by Ellen Stoll Walsh

Round is a Mooncake: A book of Shapes by Roseanne Thong and Grace Lin

Shapes, Shapes, Shapes by Tana Hoban

When a Line Bends....A Shape Begins by Rhonda Greene

Whoo? Whoo? by David Carter

Woof Woof by David Carter

Algebraic Thinking

'When someone says something like algebra begins in pre-kindergarten (or before), immediately others may begin to question their sanity. But the foundations of algebraic thinking do begin with core concepts that take shape early, such as [comparing and ordering objects](#) or [patterns and the rules they are governed by](#).' EMC

*I Know an Old Lady Who Swallowed a Fly by Mary Ann Hoberman

*Is it Red? Is it Yellow? Is it Blue? by Tana Hoban

*Napping House by Audrey Wood

*Rooster's Off to See the World by Eric Carle