

Math-Related Children's Books

There are many excellent children's books with math-related themes and content. We have selected some examples here, organized by the standards of the National Council of Teachers of Mathematics.

These standards are

- number and operations;
- patterns and algebra;
- geometry and spatial relations;
- measurement; and
- data analysis and probability (NCTM 2000).

These books also feature rich vocabulary important for both captivating young children's imaginations and building their language skills. A few selections are either wordless or with sparse text, instead featuring outstanding illustrations that teachers can discuss with children.

Consider enriching your preschool library with these wonderful choices, which are sure to delight preschoolers ages 3–5. Many of these books can be checked out of your local library or bought used in bookstores or online.

Number and operations

Aker, S. Illustrated by B. Karlin. *What comes in 2's, 3's, & 4's?*

This book invites children to count various objects that are grouped in small amounts. Rich math vocabulary reinforces concepts familiar to young children.

Baker, K. *Big fat hen.*

A hen lays eggs in quantities that increase by two, up to a total of ten. This book features number comparison, object grouping, addition, and subtraction.

Baker, K. *Quack and count.*

Using simple verse with rhymes and alliteration, this book teaches children about the different ways numbers can be added together to equal seven. Through illustrations of varying numbers of ducklings (which children can find on each page and count), children learn about different ways to add to get the same result.

Bang, M. *Ten, nine, eight.*

Each page focuses on a set of objects found in a young girl's bedroom, on her clothing, or on her body. The number of objects featured diminishes by one on each successive page. Shapes of objects (e.g., round buttons) and the objects' locations (e.g., hanging down) are sometimes noted in the text. [also in Geometry and Spatial Relations]

Capucilli, A. Illustrated by J. Rankin. *Mrs. McTats and her houseful of cats.*

Mrs. McTats welcomes cats into her home, often in multiples, until she has a total of 25. Using good math vocabulary, this book encourages young children to think about adding more than one item at a time.

Carle, E. *Rooster's off to see the world.*

A rooster, on a walk to see the world, is joined one at a time by other animals. But when it begins to get dark, animals leave one by one to return home. Both increases and decreases by one are depicted in a graph on each page.

Carter, D.A. *How many bugs in a box?*

[see Measurement]

Coxe, M. *6 sticks.*

Six Popsicle sticks are rearranged to make many different objects, which appear in subsets (e.g. two skis each for three people). The sparse text names

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the number of sticks (always six) and how many of each creation there are (e.g., three *ts*). Children can count the sticks in each illustration, realizing that the same total is reached each time.

[also in Geometry and Spatial Relations]

Fox, M. Illustrated by P. Mullins. *Hattie and the fox*.

Hattie the hen notices something in the bushes—a fox—and announces to the other barnyard animals the body parts she detects. This story introduces the concept of “parts of a whole”—that creatures and objects can be broken down into smaller parts.

[also in Data Analysis and Probability]

Giganti, P. Illustrated by D. Crews. *Each orange has 8 slices: A counting book*.

Each illustrated spread depicts a number of items and some of their parts, such as “2 calves” with “4 skinny legs” each, followed by prompts to count them. This book provides pictorial representation of numbers and groupings (e.g., three tricycles with three wheels each; two clowns, each holding two bunches of five balloons).

[also in Data Analysis and Probability]

Lee, H.V. *1, 2, 3, Go!*

This number concept book shows children playing actively (e.g., catching a butterfly, hitting drums). The number of children depicted on each successive page increases by one, up to a total of ten. Chinese characters, appearing in the right margin, add to the scope of the book.

Leuck, L. Illustrated by C. Vulliamy. *My baby brother has ten tiny toes*.

In rhyming verse rich in alliteration, a big sister names her baby brother’s body parts, toys, clothing, and eating utensils. The number of each item progresses from one to ten. Pictures invite children to locate and count the objects featured on each page.

London, J. Illustrated by M. Moore. *Count the ways, little brown bear*.

Mother Bear compares her love for Little Bear to Little Bear’s fondness for various things, with examples progressing from one to ten. Groupings of objects sometimes show subsets. This book includes ideas of comparing and contrasting, counting, and number grouping.

Moss, L. Illustrated by M. Priceman. *Zin! Zin! Zin! A violin*.

Orchestral instruments are introduced one by one in verse, with each one joining its sounds with those already introduced. This book reinforces counting skills and the addition of one to a group of similar objects. It also details the kind of sounds each instrument makes.

Stevens, J., & S.S. Crummel. *Cook-a-doodle-doo!*

[see Measurement]

Wallwork, A. *No dodos: A counting book of endangered animals*.

[see Patterns and Algebra]

Wellington, M. *Mr. Cookie Baker*.

[see Measurement]

Patterns and algebra

Grossman, V. Illustrated by S. Long. *Ten little rabbits*.

Ten rabbits wear Native American blankets from five different tribes. The patterns woven into the blankets are intricately colored, and each blanket is labeled with the name of its corresponding tribe and information about the tribe’s cultural traditions. The blankets can serve as a discussion starter on the topic of patterns.

Paul, A.W. Illustrated by J. Winter. *Eight hands round: A patchwork alphabet*.

Patchwork quilt patterns are illustrated, labeled, and described in this book. Twenty-six patterns—one for each letter of the alphabet—are pictured and accompanied by written descriptions of the patterns.

Pinkney, B. *Max found two sticks*.

After he realizes that rhythm is everywhere in his environment, Max uses two sticks that he finds outside to make his own beats. Drumming on different objects, he imitates the sounds and patterns of his neighborhood. Children will enjoy hearing and repeating the words representing Max’s rhythms and sounds.

Rotner, S., & R. Olivo. *Close, closer, closest*.

Enlarged photographs show what objects look like from three different distances: close, closer, and closest. Children can learn about the patterns that

make up familiar objects. Children are also exposed to three-dimensional shapes and textures.

Stockdale, S. *Nature's paintbrush: The patterns and colors around you.*

This book shows children that in nature, colors and patterns are all around us. Examples include the tiger, which uses his stripes to hide in the grass, and the cactus, which has patterned spines to protect it from predators. Children can learn to spot patterns as well as things that interrupt patterns.

Wallwork, A. *No dodos: A counting book of endangered animals.*

This counting book also contains themes of patterns and algebra. Each page uses shape and color to create patterned borders, a technique that children can copy and use in their own work. [also in Number and Operations]

Geometry and spatial relations

Ayers, K. Illustrated by N.B. Westcott. *Up, down, and around.*

Through verse, this book contrasts plants that grow down (e.g., carrots), up (e.g., corn), and around (e.g., tomato vines). Engaging pictures help children think about different types of spaces and directions.

Bang, M. *Ten, nine, eight.*

[see Number and Operations]

Baranski, J. Illustrated by Y.M. Han. *Round is a pancake.*

Rhyming verse filled with alliteration names things that are round, all of which are depicted in lively illustrations. On the last few pages, complex scenes filled with different items encourage children to search for additional round objects.

Coxe, M. *6 sticks.*

[see Number and Operations]

Dodds, D. Illustrated by J. Lacombe. *The shape of things.*

This patterned rhyming text first presents a flat shape (e.g., a square) and then adds other elements to create familiar objects out of that shape (e.g., a house). After learning about many different

shapes, children can apply this knowledge in the final spread by finding examples of shapes in new locations.

Ehlert, L. *Color zoo.*

The pictures in this book use geometric shapes to form animals. Children can identify the shapes used to compose each animal. The pages of the book are cut out in shapes, as well.

Hutchins, P. *Changes, changes.*

This wordless picture book portrays two characters as they arrange and rearrange the same set of colored blocks to create different shapes and objects. Children can interpret the scenes and fill in the story as they see how the same set of blocks can be used to make many different things.

Hutchins, P. *Rosie's walk.*

Rosie the hen goes for a walk around the farmyard, not realizing a fox is following her. Rich spatial vocabulary is featured as the fox tries to keep up with Rosie on her winding route.

Leake, D. *Finding shapes: Rectangles.*

Rectangles are described using geometry-related vocabulary. Children are invited to find rectangles in many common objects. (Part of a set of four books; the others feature circles, triangles, and squares.)

Peat, A. *Shapes.*

The features of shapes are explained, compared, and contrasted through colorful diagrams and simple text. Photographs of objects encourage children to find shapes in the environment.

Skalak, B. Illustrated by S. Long. *Waddle, waddle, quack, quack, quack.*

Five ducklings hatch from five eggs and set out with their mother to explore the world. One duckling, though, gets lost. The rhyming verse is rich in spatial terms as the ducklings move about and the lost duckling searches for his family.

Stockdale, S. *Carry me: Animal babies on the move.*

This information book shows a variety of mother animals carrying their babies. Some are carried on the mother's back, others are carried in the mother's teeth, while still others are held in the mother's arms. Children learn about spatial relationships from these different mother-child interactions.

Thong, R. Illustrated by G. Lin. *Round is a mooncake.*

A book of verse in which round, square, and rectangular things are located within a variety of environmental contexts. On several pages, children are invited to find shapes in objects that have not been discussed.

Measurement

Allen, P. *Who sank the boat?*

Animals attempt to balance their weight in a boat, but unfortunately, the boat sinks. This book introduces weight and balance experiences, which children can experiment with at the classroom water table.

Carter, D.A. *How many bugs in a box?*

Providing an introduction to the concept of capacity, this pop-up counting book features a variety of boxes, each holding a specific number of bugs. [also in Number and Operations]

Leedy, L. *Tracks in the sand.*

This story of the life cycle of a sea turtle features vocabulary used to measure time (such as *full moon, night, day, season, and years*).

Miller, M. *Now I'm big.*

Filled with photographs of babies and 3- and 4-year-olds, this book talks about what children can do now that they are "big." This can be used to prompt discussions related to growth and measurement.

Say, A. *The bicycle man.*

Japanese children holding a sports festival in their country schoolyard are charmed by the bicycle tricks of an American soldier. This story incorporates measurement skills in the context of judging sports events.

Stevens, J., & S.S. Crummel. *Cook-a-doodle-doo!*

A rooster enlists the help of a turtle, a pig, and an iguana in making strawberry shortcake. Through humorous interpretations of ingredients and measuring devices, which ultimately reinforce the correct meanings of items such as teaspoons, children learn about measurement. [also in Number and Operations]

Tompert, A. Illustrated by L.M. Munsinger. *Just a little bit.*

This story, about a mouse and an elephant playing on a seesaw, uses illustrations and text that encourages young children to think about measurement.

Wellington, M. *Mr. Cookie Baker.*

A baker locates and measures the ingredients he needs to make cookies. Bright illustrations show utensils, measuring cups and spoons, and a kitchen timer. Varying amounts of cookies are shown on trays, and flat pieces of dough are shown with holes left by cookies cut out of them. [also in Number and Operations]

Data analysis and probability

Baker, A. *Gray rabbit's odd one out.*

Each page features a particular category (e.g., animals), but one item on each page does not fit (e.g., not an animal). Children learn about object analysis and the process of elimination.

Fox, M. Illustrated by P. Mullins. *Hattie and the fox.*
[see Number and Operations]

George, L.B. *In the garden: Who's been here?*

In this information book, two children visit their garden to pick vegetables for their mother. While there, they notice clues indicating the presence of animals. Children can join in trying to find clues and figuring out which animals might have left them. (One in the *Who's Been Here?* series of books.)

Giganti, P. Illustrated by D. Crews. *Each orange has 8 slices: A counting book.*

[see Number and Operations]

Hindley, J. Illustrated by I. Bates. *Do like a duck does.*

A fox, pretending to be a duck, joins a mother duck and her five ducklings. Suspicious, the mother names the features of ducks and contrasts these with the fox's. This book encourages the discussion of categories and classification.

Jenkins, S., & R. Page. *What do you do with a tail like this?*

This book, about the body parts of different animals, shows one part on each spread, along with

a question: “What do you do with a tail (or nose, mouth, etc.) like this?” The book provides partial data, in a guessing/thinking format, and then shows full data to support children’s analysis.

Morris, A. *Shoes shoes shoes*.

Shoes are loosely organized into categories such as working shoes, dancing shoes, shoes for ice or snow, and anytime-at-all shoes. Children can learn that objects of almost any type can be divided into groups based on common attributes.

Onishi, S. *Who’s hiding?*

This book features eighteen animals, which are always pictured in the same order in three rows of six. All of the animals are shown on the first page, but one of the animals is hiding on some of the pages—only one feature, not its whole body, is visible. Children must analyze the illustrations to determine which animal is hiding. On other pages, one animal differs from the others in one way—e.g., is crying, is sleeping, has horns, etc.