

MATHEMATICS

BOOKS

BABIES & TODDLERS

1, 2 Buckle My Shoe by Anna Grossnickle Hines
Color Zoo by Lois Ehlert
Good Night Gorilla by Peggy Rathman
The Very Hungry Caterpillar by Eric Carle*
My Numbers/Mis Numeros by Rebecca Emberley
Baby Bear Sees Blue by Ashley Wolff
Brown Bear, Brown Bear, What Do You See?
by Bill Martin Jr.*

PRESCHOOLERS

Who Sank the Boat? by Pamela Allen
Ten Black Dots by Donald Crews*
Anno's Counting Book by Mitsumasa Anno
The Doorbell Rang by Pat Hutchins
Five Creatures by Emily Jenkins
The Three Bears by James Marshall*
The Line Up Book by Marisabina Russo
Each Orange Had 8 Slices by Paul Giganti
One Hundred Hungry Ants by Elinor Pinczes
How Many Jelly Beans? by Andrea Menotti

* Available in Spanish

All books available through the Rhode Island Library system

Children begin learning about math ideas as early as their first year of life.

And while it may not seem obvious, many of children's early experiences encourage them to think about math. For very young children, math is more about observing the world and playing with interesting objects, and less about adding and subtracting. Having fun with math encourages children to be excited about and interested in learning about math.

In this domain your child will develop skills in these specific areas:

Number Sense & Quantities: Children recognize numbers and develop counting skills. They learn that numbers can be used to figure out "how many."

Number Relationships & Operations: Children learn to use numbers to compare quantities and solve problems.

Classification & Patterning: Children learn to sort and organize objects by thinking about how things are the same or different.

Measurement, Comparison & Ordering: Children learn to measure and compare objects by length, height, weight, and volume.

Geometry and Spatial Sense: Children learn to label and talk about shapes and use what they know about shapes to solve problems. They learn to think about how to move objects to fit them together or fit them in specific spaces.



Having Fun with Shapes

Young children explore different shapes and find shapes in the world around them.

ACTIVITIES



BABIES

Babies begin learning about shapes by touching objects and putting them in their mouths. Provide your child with toys that come in different shapes and sizes, with different angles or points. Talk with your baby about what toys look and feel like, and how they are the same or different.



TODDLERS

Children this age will start to find shapes in their environment—in books and pictures, on food containers, or in the grocery store. Point out and label shapes for your child when you see them. When you play together, talk about what shapes are like (e.g., balls are round and smooth, boxes have straight sides and points, etc.).

Give your child opportunities to try to fit shapes into different places. You can use puzzles, shape sorters, different sized containers, or nesting cups.



PRESCHOOLERS

Help your child to think about what makes shapes the same or different. You can sort shapes by how many sides they have or how many points they have. Put shapes together to make new shapes. For example, sometimes two triangles make a rectangle or square. You can cut a cereal box into different shapes and then your child can put them together in different ways to make different things.

MATHEMATICS

Additional Domains:



TIPS

- We see shapes every day, everywhere we go. When you see shapes, describe them – their colors, how many sides they have, what they look like when we turn or spin them, etc.
- Lots of things come in very interesting shapes and sizes. Help your child to notice and describe things that are interesting, like the shapes of the food you are eating (peas are round like a ball, pasta is a tube, etc.), or the shape of leaves you find on a walk (long, short, fat, skinny, pointy or round spots, etc.).

REFLECTIONS

- Look around you and write down the shapes you see with your preschooler. How would you describe them? How are they the same or different?

Things That Go Together

Young children think about and describe how things are the same or different and organize materials by what they have in common.

ACTIVITIES

MATHEMATICS

Additional Domains:



BABIES

Very young children learn about how things go together by looking at them, touching them, or putting them in their mouths. As your child plays with toys, talk about how they look or feel, how they are the same or different.



TODDLERS

Children at this age enjoy putting things together that go together. Help your child to match things that go together, like socks or shoes, mommy and baby animals, or crayons that are the same colors.

Use describing words when you work together to organize things. When you put the laundry away, tell your child that socks go in one drawer and shirts go in another drawer. Ask your child to help clean up by putting all of the cars in one bin and all of the balls in another bin.



PRESCHOOLERS

Older children enjoy figuring out on their own how things should go together. They like to organize their toys in a way that makes sense to them and sometimes explain their reasoning.

You can use everyday materials, like coins or crayons or a box of bottle caps to help your child think about how items are the same or different and how they can be sorted.

TIPS

- Use describing language when talking about things that are the same or different. For example, "I am using a big spoon and plate, and you are using a little spoon and plate." or "We are both wearing clothes today that have red in them."
- Provide children with opportunities to sort and match everyday objects and materials, like putting away silverware, matching socks when the laundry is clean, putting away toys into organized bins, etc.
- Look for and point out patterns that you see, like red and blue stripes on a shirt, short and tall flowers lined up in a picture book, or different colored squares on a carpet.

REFLECTIONS

- What happened when you tried these activities? What did you learn about your child? Use the back of this card to write down some additional ways your child can help sort and organize. Write down some ways your child can help you organize things in your home.

Filling and Emptying

Young children explore and begin to understand measurement ideas like heavy and light, empty and full, more and less.

ACTIVITIES



BABIES

Infants begin learning about measurement ideas when they play with different sized objects and fill and empty containers. During bath time, give your child different sized containers to play filling and dumping with. You can also talk with your baby about weights, quantities and volumes during every day activities. For example, pouring milk, carrying a heavy diaper bag, or filling a plate with more.



TODDLERS

Children at this age love to fill and empty and build and knock down. They are also very interested in figuring out where things fit, like doing puzzles or trying to squeeze big toys into small containers. Give your child lots of opportunities to fill and empty containers or baskets of varying sizes, with things your child is interested in. Explore what kinds of objects fit into different spaces or fit inside each other. You can use cups or boxes that come in different sizes where the small ones fit into the larger ones.



PRESCHOOLERS

Preschoolers are interested in comparing things that are heavy or light, full or empty. Ask your child to use sand or water to try and fill several different containers to the same height. You can also ask your child to count as you fill a bucket together using a small container or cup. How many cups does it take to fill the bucket? Count again as you use a large container to fill the same bucket and compare the results. Ask your child to describe things to you using measurement language. For example, "Are these the same size or different? How can you tell?" or "How did you know that shape would fit in that space?"

MATHEMATICS

Additional Domains:



TIPS

- Use describing language throughout the day as you play and run errands or do chores. For example "I will carry this grocery bag because it's heavy. You can carry this one because it's light." Or, "We need to use 4 cups of water to make the pasta." Or, "You made a really tall tower! Now I'm going to make one that is just as tall. Can you help me?"
- Toddlers begin to use the word "more" very often! This shows that they understand something about measurement. They will also begin to notice when things are very different in size and may refer to small things as "babies." Use your hands when describing things that are really big or small or tall or short.
- Many household materials are great for exploring measurement, like clean and empty juice or milk containers, cereal boxes, yogurt cups, etc. Fill an empty drawer or cabinet in the kitchen that has different containers with lids that match, or different sized food boxes. Allow your child to explore and figure out what fits together.

REFLECTIONS

- Make a list of some of the ways you use measurement throughout the day. Think about how you can measure together and ask your child to help.

Playing with Numbers

Young children use numbers in all kinds of ways.

ACTIVITIES



BABIES

Infants are born ready to learn about numbers! It is never too early to start counting with your child. Babies like it when you make a game out of counting fingers and toes or count how many pieces of cereal or spoons of food they eat. Another way they begin to think about number ideas is by holding objects. Once they are able, give them a toy to hold in each hand.



TODDLERS

Children at this age are very interested in numbers and counting. Take time with your child to count during chores and errands or during play. Sing number songs together and encourage your child to count. Another way you can help your child to think about numbers is to fill and empty containers or build towers one block at a time. Use describing words like “more” and “less” and “all gone.” These are the first ideas children have about addition and subtraction.



PRESCHOOLERS

This is a great time to have fun with numbers, as your child is beginning to understand that they can be used for more than just counting. They can use them to find out answers to questions and solve problems. Ask your child to compare groups of objects—which has more or less? Before you go to the grocery store, ask your child to write down how many apples (or other fruit) you will need in order to give one to each member of the family. When you are at the grocery store, ask your child to help you count.

MATHEMATICS

Additional Domains:



TIPS

- It's important to keep counting fun! Count things children are interested in. Use counting for a purpose – to find out how many you need of something or who has more.
- Use numbers to compare and solve problems – I want to make a tower as tall as yours. How many blocks do I need?
- You can help your child to read and write numbers and understand that the number means a certain amount. Play number games – roll dice or use a number card and then move that many spaces. Or use numbers to make shopping lists together.

REFLECTIONS

- Think about the ways you measure, and can measure together. For example, counting the number of footsteps it takes you to get to the door, or keeping a growth chart on the wall.