Family Engagement Resources and Activities

Center for Parent Information and Resources (CPIR)
CPIR is a key resource for families of children with disabilities. It connects parents to their state's resource centers so that parents can find local information about disabilities, early intervention (for babies and toddlers), school services (for school-aged children), therapy, policies, and transportation.

Center on the Social and Emotional Foundations for Early Learning (CSEFEL)—Family Tools
CSEFEL focuses on promoting children's social emotional development and school readiness. Free Parent Training Modules teach families how to support their child's social and emotional development.

Free Materials about Child Development

http://www.cdc.gov/ncbddd/childdevelopment/positiveparenting/toddlers.html

http://www.cdc.gov/ncbddd/childdevelopment/positiveparenting/toddlers2.html

http://www.cdc.gov/ncbddd/childdevelopment/positiveparenting/infants.html

Learning Disabilities of America

https://ldaamerica.org/early-childhood-resource-websites-2/

Reading to Babies and Toddlers

Storyline Online – On this website, stories are read by famous people. The words being read appear below the picture so that the reader can follow along.

ReadWriteThink.org is a website of the International Reading Association.

Kid's Health: Reading Books to Babies

FamilyEducation.com – A great resource for parents! An excellent Ready to Read screening tool is available. It is completed on the computer and then feedback is provided. Features include School Resources for Parents, Parents' Guide for Understanding Online Acronyms, and Advice from Parents.

https://www.naeyc.org/our-work/for-families

- 10 Things to Know About Math
- 5 Ways to Build Math into Your Child's Day
- Baking Math for Families and Young Children
- Everyday Shapes
- Helping Your Child See and Show Mathematical Ideas
- Home Sorting Ideas
- Math Talk with Infants and Toddlers
- Math and Literacy—The Perfect Pair
- Math at Home Toolkit
- Math in the Bath
- Preschoolers Are Natural Mathematicians
- Support Math Readiness Through Math Talk
- Support Math with Materials in Your Home

Everyday Shapes

At home, children have the opportunity to learn about shapes in many daily activities. You can expand your children's learning environment by helping them identify, create, name, and take apart shapes during your regular routines, activities, and discussions at home. Here are some ways to help your preschooler focus on what makes shapes alike and different.
On the road

When you see a yield sign, point out that it has three sides. When you see a school crossing sign, invite your child to count the sides. (There are five). Look for other shapes, such as rectangular doors and round manhole covers.

At the store

Soup cans are cylinders. Oranges are spheres. What holds ice cream? An ice cream cone! You and your child can play a game while grocery shopping: How many different shapes can you find? Have your child help place items on the conveyor belt, then compare the items you're buying. The cheese and the bag of carrots are both orange. Which one is shorter? We got a watermelon and a kiwi. How are they alike? How are they different?

At home

The recycling bin is full of things you can use to talk about two-dimensional and three dimensional shapes. What shape is the paper towel roll? You're right, it's a cylinder. We flattened the cereal box so now it's a 2-D shape. When it was still full of cereal, it was a 3-D shape. How would you describe the oatmeal container?

Making shapes

Provide playdough (find a simple recipe online) and tools your child can use to make all kinds of shapes. Your child can turn a long rolled snake into a square or a triangle. Count the sides together. Next your child can make a ball— or in math terms, a sphere.

Source: Adapted from the Message in a Backpack, Teaching Young Children 7 (4): 26

Audience: *Family*
Age: *Early Primary*, *Infant/Toddler*, *Kindergarten*, *Preschool*
Topics: *Subject Areas*, *Math*

Math in the Bath

By Sarah Erdmann

Bath time is perfect for exploring math with your young child! Not only do you have each other's full attention, but the learning can be hands on, playful, and messy.

These explorations can also be done at a water table, sink, pool, or even a puddle! No matter what water spot you use, safety must be your main focus. Never ever leave your child alone, even for a minute! This is an activity that needs your complete attention.

Make sure that any toys or containers dry out completely between uses, and disinfect toys if several children will use them. Be sure to check toys for mold and replace them when needed. More detailed water safety tips can be found on the Red Cross's website.

Infants and Toddlers

The very youngest mathematicians are learning what numbers are and that they mean something. Children are also learning to compare the shapes, colors and patterns they see.

Comparing and contrasting

Comparing and contrasting what is happening in the bathtub is a great place to start. It builds children's math vocabulary and draws attention to what you're doing. "Your arm is dry. Now I'll pour some water on it and your arm is wet!" "This cup is floating on the water. When we fill it up, it sinks to the bottom!" With these statements, you give your child a way to describe and compare those different states and shown them the step by step process for how it happened!

"I'm going to take the red square washcloth and dip it in the water. Now it is all wet so I can wash you!" By mentioning that the washcloth is square and red, your child sees two more ways to categorize it!

Counting

Count as you wash each part of your child's body. “One arm, two arms! You have two arms!” Count their fingers and toes, gently wash each ear. This repeated, concrete exposure to numbers will help her understand the concept of counting.

Exploring

Toddlers who are able to sit up and grasp objects can do some hands-on math learning as well! Offer different sized containers and encourage your child to use them to dump and pour water. “Now there is a lot of water in the red cup! The yellow cup has less water!” Your child is building her awareness of volume, while also strengthening her fingers and hands.

When you ask her to hand you something, describe the item. “Please hand me the hard, little, cup.” You can also ask your child to wash different parts of her body and help you count as she goes.

Without a lot of extra equipment or time, you’re showing your infant or toddler that math is useful and fun to explore.

Preschool

As children grow to preschool age, they build up their understanding of numbers. They are measuring, finding shapes and patterns, and even beginning to explore the concept of time. They’re also continuing to use math terms as they talk and categorize objects by different characteristics like shape, size and color.

A lot of the math play previously described for infants and toddlers is still great for preschoolers.

Give your child the washcloth and ask him to wash and count his body parts. Not only is he counting, but he's also using one-to-one correspondence, matching one object to another object, to make sure he washes all of his fingers and toes. Give your child containers of all shapes and sizes and let him pour, drip and measure. Ask him to describe what he's doing, the types of containers he has, and which ones have more or less water. You can even start to help him understand that if you pour water from a wide container into a skinny one . . . the amount of water doesn’t change! This is an idea that may be hard for young children to understand, so don’t worry if they don’t quite believe you.

At this age, children are more comfortable with the idea of measuring, so you can go farther with it. Give your child an old ruler so he can see how deep the water is. Discuss temperature and whether the water feels hot or cold. Have him see how many rubber ducks it would take to go across the whole tub.

Bath toys can be sorted or put into patterns. They can also be props in math games. For example, line up several rubber ducks and reenact the "Five Little Ducks" song:

Five little ducks went out one day, over the hills and far away

Mother duck said, "Quack, quack, quack, quack"

But only four little ducks came back . . . (Keep the song going until you reach zero ducks)

Math in the bath (don't you like how that sounds?) is a chance for your child to play with math concepts and ideas. It also shows them what math can look like in the real world and how they might use it. And as an added bonus? They are squeaky clean by the end of the lesson!

Sarah Erdman is a mom, museum professional and early childhood educator. She teaches at FB Meekins Cooperative Preschool and is the founder of Cabinet of Curiosities LLC. Her research and professional practice explores how museums and educators can connect to make meaningful experiences for young children. She writes at cabinetofcuriositiesva.com/blog and tweets from @CabinetofCurios

Audience: *Family*
Age: *Infant/Toddler*, *Preschool*
Topics: *Subject Areas*, *Math*
MATH

Support Math with Materials in Your Home

By: Carrie Cutler

Recent research shows that children who are ready to learn math are likely to do better in school. Here are six activities that support your child's math readiness - with simple materials you may have at home.

1. Shoelace Shapes: Supports learning about geometry and exploring shapes. Children learn words used in math and begin to notice the features of different shapes as they outline the shapes with string.

Materials: Paper & markers, 20-inch shoelace or string

Instructions: Draw a large shape on a sheet of paper. It can be a geometric shape such as a triangle or oval or an irregular shape like a squiggly circle. Demonstrate for your child how to place the lace or string along the shape's outline. Then, encourage your child to do the same. Talk about curvy and straight lines. Draw a new shape and invite your child to do the activity again. Discuss how the shapes are similar and how they are different.

2. Circles and Cans: Supports learning about geometry and matching similar shapes.

Materials: Paper & markers, food cans of different sizes

Instructions: Take out a few cans of food of different sizes from the cupboard. Talk about the shape of the whole can (they are cylinders) and the shape of the top and bottom of the cans (circles). Together with your child, trace each can on a piece of paper. Shuffle the papers and help your child match the cans to the traced circles.

3. Snowball Hunt: Supports counting. Learning to count in order (1, 2, 3, and so on) is a basic math skill.

Materials: 12 cotton balls, 1 egg carton

Instructions: Number the cups of the egg carton from 1 to 12. Hide cotton ball "snowballs" around the room. Give your child the empty numbered egg

carton. Ask your child to looks for the hidden "snowballs" and fill the egg carton cups in order from 1 to 12. Then let your child hide the snowballs for you to find.

4. Muffin Tin Counting: Supports learning to: count, make sets, and use one-to-one correspondence. To find the total number of items in a set, your child must recognize that the last number in the counting sequence tells "how many." This is called cardinality.

Materials: Muffin pan, paper liners, and some small objects like buttons, pebbles, or acorns

Instructions: With your child, number the paper liners from 1 to 12. Place each liner in a muffin cup while counting out loud, "1, 2, 3 . . . 12"). Ask your child to place in the cup as many buttons as needed to match the number of the cup.

5. Nesting Instinct: Supports learning about measurement and putting items in order by size seriation. When children order objects by size, they build their comparison skills and use math words such as larger and smaller.

Materials: Empty food boxes such as cereal, macaroni, or rice

Instructions: Have your child experiment to find out which boxes fit inside one another. Model and encourage the use of correct measurement vocabulary such as longer, shorter, wide, narrow, taller, and shorter. Ask questions like: Can that one (pointing to the smaller one) fit inside that one (pointing to the bigger one)? How do you know?

6. Shoe Comparisons: Supports learning about measurement and comparing the lengths of items. Comparing how long things are helps prepare children understand why we use standard units of measurement.

Materials: Child's shoe

Instructions*:* Have your child use the shoe as a measurement tool. Say, "Can you find four things in the room that are shorter than your shoe?" Use math vocabulary such as measure, compare, length, shorter, and longer to discuss the objects your child finds. Next, ask your child to find four objects that are longer than the shoe.

These activities encourage children to build strong foundations in early childhood mathematics. With a little creativity, simple household items can become powerful

tools for learning math. Open your kitchen cupboards and open your child's mind to thinking and learning about math!

About the Author: Though she enjoys teaching and learning in formal settings, Dr. Carrie Cutler's best insights come from her own seven children, ages two months to 16 years.

Audience: *Family*
Age: *Early Primary*, *Preschool*
Topics: *Subject Areas*, *Math*

MATH

10 Tips to Support Children's Science Learning

By Yi-Chin Lan

1.Value your child’s questions.

“Mommy/Daddy, why is the moon following us?” With this question, a child lets us know she is thinking about how the world works. We can respond in ways that encourage her scientific thinking. Think of how you might respond. Do you think it’s adorable? (It is! But the question also shows your child is thinking!) What can you do if you don’t know the answer? (Don't worry. Your child just might want to share something that intrigues her.) Enjoy discussing the questions your child asks. Encourage her to share her perspective and observations.

2. Explore and find the answers together.

You don’t have to be your child's encyclopedia and quickly try to answer all your child’s questions. Responding with “What do you think?” or “I don’t know but we can find out together” can stimulate more thought and additional questions. Explore and find the answers together.

3. Give children time and space to explore.

Children learn science through trial and error. They need time to experiment, try things out, and think on their own. Wait before jumping in with "correct" answers. Give your child the time and space to explore and discover on her own.

4. Accept that explorations are often messy.

Whether it’s outdoor exploration with mud and sticks or indoors with water, children are likely to get dirty when they explore materials. Dress children in old clothing and tell them it’s ok to get dirty.

5. Learn from mistakes together.

If an experiment goes wrong, take advantage and investigate with your child to see what went wrong. A mistake can lead to all kinds of possibilities and it provides opportunities for you and your child to refine your ideas, understanding, and hypotheses.

6. Invite curiosity.

Science learning begins with curiosity. Observations and questions can create a climate of discovery – key to scientific learning. Children can learn a lot about science even at bath time. Let your child ask her own questions but you can also stimulate curiosity. For instance, when seeing a rubber duck float in the water, invite him to think by saying, “I wonder if the soap will also float?" See what questions she asks and what experiments she tries.

7. Support further exploration.

Intentional adult interactions with children can extend their learning. When the moment is right – maybe when she’s done exploring on her own, offer a suggestion to extend her exploration. Guide your child by asking questions like, “What might happen if we try this?”

Share some things you find while exploring, - a beautiful striped rock, for example. This lets your child know there is always something worthy of our attention and investigation.

8. Encourage children to record their observations.

Writing, drawing, or taking photographs are all ways to record observations - an important scientific skill. Such records allow children to keep track of what they saw, heard, questioned, or discovered. When you notice your child is interested in something (like the moon, leaves changing on the trees, or the growth of a plant) you can suggest ways for them to record what they have observed. “Do you want to draw that?” or “Do you want to take photos?” or “Do you want me to help you write down what you noticed?”

9. Make good use of your electronic devices.

Take pictures of a stunning butterfly, record frog sounds, use a website or app to learn more about a specific phenomenon or creature.

10. Use items you have at home to experiment and explore

You don't need to spend money buying science supplies. Here are some science questions your child can consider using materials you might have at home.

Question #1: How does water move up a plant’s stem?

What You Need: celery, water, food coloring.

Directions: Put a celery stalk or carnation stem in water that has some food coloring in it.

Science principle: Children can see how the colored water travels up the stalk or stem and might notice how a specific part of the celery stalk (called the xylem) draws the water up from the roots just like a straw.

Question #2: How does changing the angle of a block impact the speed of a ball?

What you need: Rubber ball, small toy cars, and long block or plank

Directions: Experiment how fast or slow the ball or car travels down a plank as you adjust its angle. You can do this by changing the height of the plank and testing the speed of the ball.

Science Principle: Children can see that items will roll at different speeds depending on the angle of the block. Try different kinds of items - a tennis ball, a super ball, small cars for example, to explore whether the size, weight, or material impacts the rolling speed.

Question #3: What will sink and what will float?

What you need: Objects you can put in the water (e.g., rubber toys, corks, coins, keys, rocks) and a plastic bucket or large bowl

Directions: Invite your child to put a few objects in the water and see what happens. Then, discuss the concept of “floating” and “sinking”. Ask, "Do you think this one will sink or float? What makes you think that?"

Science principle: Children can explore how size, weight, or other properties of an object determine if it sinks or floats and how quickly it sinks to the bottom or rises to the top.

Yi-Chin Lan received her PhD in curriculum and instruction from the University of Texas at Austin. She is currently working as a postdoctoral research fellow at National Taiwan Normal University. Her research interests include parental involvement in children’s science learning, pre-service and in-service teachers’

beliefs about science teaching, out-of-school science learning, etc. She can be reached at lollipop0913@gmail.com

Audience: *Family*
Age: *Early Primary*, *Infant/Toddler*, *Kindergarten*, *Preschool*
Topics: *Subject Areas*, *Science*

SCIENCE, NUTRITION, AND SAFETY

Message in a Backpack™ Make Animal Music

H. ELLIE FALTER

There are lots of ways to be playful and support your child's learning. Here are some ideas for how to connect children's love of animals to musical exploration.

Watch and listen

Animals appear in different ways throughout your child's day. They might be pets, characters in storybooks, spotted while on a walk, or part of your child's pretend play. Watch and listen for these appearances.

Play

If your child is pretending to be an animal, join in! Be a silly and playful partner who gives ideas but also follows your child's lead. If you come across an animal, encourage your child to bring the animal into his or her play.

Grow a sound vocabulary

We often say a cat meows. But what other sounds does a cat make? Ask playful questions to encourage your child to develop a longer list of sounds for cats—and for other animals as well. What sounds does a cat make when it's mad (*hiss*)? Happy (*purr*)?

Make an animal song

Help your child turn her developing sound vocabulary into an "animal song." Together, you can make motions or draw pictures related to each sound an animal makes. You can play around with the types of animals and sounds, making up different songs.

Stay in the moment or share it later

It's wonderful fun for your child to enjoy an animal song in the moment and then let it go. Sometimes, though, she might want to save the song so she can share it later. Make a short video or have her draw pictures to glue or tape in the "right" order, recording the important details of the animal song to share with others. Keep the experience relaxed and playful to best support your child's musical development and joy in music making.

Photographs: Getty Images

Math Talk with Infants and Toddlers

*Will feeds Maya, his 8-month-old daughter. He pauses for a moment and Maya signs "*more*." Will laughs. "You want* more*? Okay, here it comes!" When the bowl is empty, Will says and signs, "All* gone*. Maya ate her food. All* gone*." Maya looks at him and smiles.*

Children develop math concepts and skills very early in life. From the moment they are born, babies begin to form ideas about math through everyday experiences and, most important, through interactions with trusted adults. Language—how we talk with infants and toddlers about math ideas like *more, empty,* and *full*—matters.

Math is everywhere!

We use basic math language all the time, without realizing it. For example, when we separate clothes by color, we're using the math concepts of sorting and classifying. When we keep score during a game and determine how much our team is ahead or behind (number and operations), or give someone directions to get from one place to another (spatial relationships)—that's math. We constantly use comparison words (measurement) such as *big* and *little* and use patterns to explain the order of daily routines and activities ("We brush our teeth *after* breakfast"). With our children, we play games and sing songs that use numbers and counting (such as "One, Two, Buckle My Shoe").

Even without our support, infants and toddlers use math concepts to make sense of their world. For example, infants like Maya signal when they want more food. *More* is one of the first math concepts understood by children. Babies tell us—often dramatically—that they know the difference between familiar and unfamiliar adults (sorting and classifying). Toddlers try to climb into boxes of various sizes (spatial relationships) and say words and phrases from familiar stories or songs that use repetition (patterns).

We can make the math that occurs in daily life visible to children through math talk. Each day offers us countless opportunities to help children deepen their understanding of math concepts. The more we talk math, the better chance infants and toddlers have to build a positive attitude toward math learning and learning in general.

Basic math concepts

When we are aware of early math concepts, we can be more thoughtful in our everyday interactions with infants and toddlers. Here are five basic math concepts that can be woven into our everyday conversations with infants and toddlers.

1. Number and operations—understanding the concept of number, quantity, order, ways of representing numbers, one-to-one correspondence (that one object corresponds to one number), and counting.

- "You have *two* eyes, and so does your bear. Let's count:--1, 2."
- "I have *more* crackers than you do. See, I have 1, 2, 3, and you have 1, 2. I'm going to eat one of mine. Now I have the *same* as you!"
- "That's the *third* time I've heard you say mama. You've said mama three times!"

2. Shapes and spatial relationships (geometry)—recognizing and naming shapes, understanding the physical relationship between yourself and other objects and the relationships between objects.

- "Look, Jason went *under* the climber and Aliyah is on *top*!"
- "You're sitting *next to* your brother."
- "Some of the crackers we have today are *square*, and some are *round*."

3. Measurement—size, weight, quantity, volume, and time.

- "Moving that chair is hard. It's *heavy*."
- "Your nap lasted a *long* time today!"
- "Let's count how *many* steps it takes to reach the mailbox."

4. Patterns, relationships, and change—recognizing (seeing the relationships that make up a pattern) and/or creating repetitions of objects, events, colors, lines, textures, and sounds; understanding that things

change over time and that change can be described with math words. These are the basic building blocks of algebra!

- "Daddy has stripes on his shirt—*white, blue, white, blue, white, blue*."
- "Let's clap to the *beat* of this song."
- "I put the blocks *in* the bucket; you dump them *out*. I put the blocks back *in* the bucket; you dump them *out*!"
- "Our plant looks *taller* today. I think it grew overnight."

5. Collecting and organizing information—gathering, sorting, classifying, and analyzing information (data) to help make sense of what is happening in the environment.

- "Let's put the *big* lid on the *big* bowl and the *small* lid on the *small* bowl."
- "You *always* smile when Mommy sings to you!"
- "Let's put the *dolls in the basket* and the *balls in the box*."

Try it

- Talk math with your child as a matter of routine. For example, diapering, meal and bath times, neighborhood walks, and shopping trips are ideal times to count, point out shapes and sizes, talk about patterns, and describe how things are the *same* and different.
- Make a list of math talk words and phrases. Post it on the refrigerator or somewhere else handy to remind you to take advantage of math talk opportunities.

Math talk enriches everyday learning experiences for infants and toddlers. You'll be surprised at how much they know and can learn. Your math talk today can help your children be successful in math as they get older.

Source: Adapted from a Rocking and Rolling column written by Jan Greenberg and published in the May 2012 issue of *Young Children*. The full article is available at www.naeyc.org/yc/files/yc/file/201205/RockingAndRolling_YC0512.pdf.

For more information on early math learning, see the joint position statement of NAEYC and NCTM (National Council of Teachers of Mathematics): "Early Childhood Mathematics: Promoting Good Beginnings"

(2002, updated 2010)
at www.naeyc.org/positionstatements/ mathematics.
Audience: *Family*
Age: *Infant/Toddler*
Topics: *Subject Areas*, *Math*

5 Ways to Build Math into Your Child's Day

By Laura Bilodeau Overdeck

Math is everywhere. That's great news for parents, because we can talk with our kids about math in fun, natural ways. And that kind of math-talk is really important.

Studies show that a child's math skills at kindergarten entry are a better predictor of future academic success than reading skills, social skills, or the ability to focus. As parents, we can give our kids a head start by helping them get comfortable with math concepts like measuring and counting at home.

Here are five ways to add math to your child's day.

1. Bake something together

You can't help but use math when you're baking. Doubling recipes requires multiplying, halving a recipe requires dividing, and measuring a ½ cup or a ¼ teaspoon gets you working with easy fractions. At a more basic level, kids love counting out chocolate chips. (And so do the parents; we speak from experience!)

Ask your child: *How many chocolate chips do you think it will take to fill one cup? How many for 1/2 cup? Count together and see how close you came to the right answer!*

2. Measure, count, and record

Most kids love stopwatches, and watching the seconds tick by gives them opportunities to practice counting. Measure distances and heights. Count jumping jacks, push-ups, or consecutive kicks of a soccer ball.

Ask your child: *How far can you throw a ball? Take a guess, then throw the ball as far as you can and measure the distance.*
How many jumping jacks can you do in a minute? Try it!
How many times can you jump rope or bounce a ball without missing? Count and see.

3. **Build something together**

Big or small, any project that involves measuring includes counting, adding, and multiplying. It doesn't matter whether you're making a clubhouse out of shoeboxes or building a genuine tree house. Legos and other building toys are wonderful tools for incorporating both numbers and spatial thinking into playtime.

Ask your child: *How high can you build that stack of Legos? How many Legos do you need to stack to reach as high as the coffee table? Can you make a square? A rectangle? Other shapes? Talk about the shapes of whatever your child has created.*

4. **Plan dinner or a party**

Whether you're planning a party or just getting ready for a family dinner, there are plenty of math concepts involved. Have your child help set the table and count out the plates, napkins, and silverware. For a party, have your child help with the shopping. You know you're going to have to do some math since all of those plates, balloons, and party favors are packaged in different quantities!

Ask your child: *How many plates, napkins, and forks do you need for dinner? If you're inviting 10 guests to a party, and the plates come 8 to a pack, how many packs are you going to need? How many are going to be left over? If you're not planning a party in the near future, get creative. Why not host a tea party for your child's favorite stuffed animals?*

5. **Mix in math to your bedtime reading**

Most families read to their children at night. Why not add a math problem to the mix? Here's one to try.

Melt in Your Mouth
No matter how much you love your favorite snack (apples, marshmallows, pound cake), it probably tastes even better dipped in something warm and gooey. That's what you do when you eat fondue. You fill the fondue pot with cheese or chocolate, put it over a hot flame, and then dip pieces of food into the yummy meltedness using long skinny fondue forks.

It all started with cheese fondue in a Swiss recipe in 1699, but since then we've

added meat fondue (where you carefully cook chunks of steak in hot oil) and, of course, chocolate fondue. But you have to pay attention while dipping: Some say that if you drop your apple slice in the pot, you have to kiss the person to your left.

Ask your 3 or 4-year old: *If you dip 2 apple slices and 3 banana slices into your fondue, how many pieces did you dip?*
Ask your older child: *If there are 2 people sharing cheese fondue and everyone wants 3 apple slices, how many apple slices do you need to serve?*

There are plenty of other ways to keep kids thinking about math—board games, stickers, and stargazing, to name a few. The important thing is just to encourage your child to see the numbers all around us and to keep things fun. This is how we'll raise a next generation that thinks math is cool!

Laura Bilodeau Overdeck is a math-lover, mother of three, and founder of Bedtime Math Foundation, a new nonprofit that seeks to make math a fun part of kids' everyday lives. Visit www.bedtimemath.org for more math ideas to try at home.

Reference: Duncan et al. (2007) School Readiness and Later Achievement. *Developmental Psychology, Vol. 43, No. 6,* 1428-1446.
Audience: *Family*
Age: *Early Primary*, *Infant/Toddler*, *Kindergarten*, *Preschool*
Topics: *Subject Areas*, *Math*
MATH

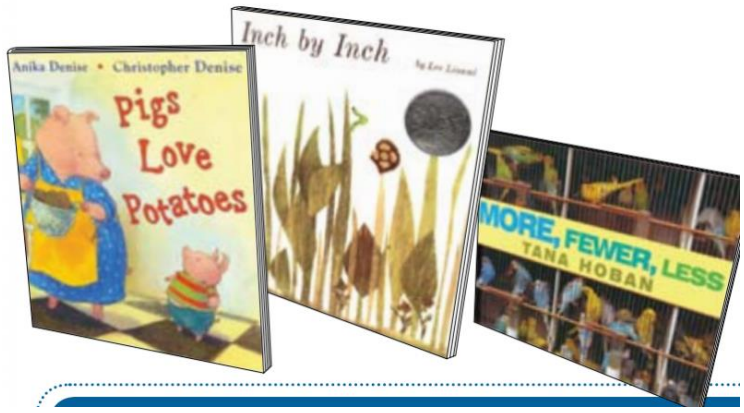
Math and Literacy—The Perfect Pair

Looking for engaging ways to weave math into the day? You might find just what you're looking for in your home or local library. Many children's books are perfect for introducing and reinforcing math concepts. Read aloud the books described here and then invite your child to explore the math concepts further. Children will love counting like pigs, measuring like inchworms, and making comparisons.

Pigs Love Potatoes, by Anika Denise. Illus. by Christopher Denise. 2007. Everyone loves potatoes—especially the pig family and their neighbors. One by one Mama adds potatoes to the pot so there will be enough for everyone. Children can count along as they enjoy this delightful rhyming story.

Think of all the things your child can count. Can your child count the different types of shoes in your household with laces? How many forks should be set on the table so that everyone has one at dinner time?

Inch by Inch, by Leo Lionni. [1961] 1995. To avoid being eaten, an inchworm measures a robin's tail. So begins the story of the inchworm who measures a flamingo's neck, a toucan's beak, and a heron's legs before finally escaping when measuring the nightingale's song. Use this classic book to introduce the concept of measurement.



Encourage your child to measure objects around your home. They can use both standard measuring tools (rulers and yardsticks) and nonstandard measuring tools (for example, pieces of yarn, hands, feet, shoes, unit blocks, or paper clips). How many inches long is the inchworm book? How many unit blocks long is your child's bed?

More, Fewer, Less, by Tana Hoban. 1998. Using this wordless book, children explore photographs of everyday objects and familiar animals grouped together in interesting ways—by color, size, or texture. For example, one page shows a pile of wrecked cars. The children can decide, Are there more green cars than yellow? More dark green or light green?

Offer an assortment of items to your child and then compare. Provide colorful buttons, cookie cutters of varying shapes, blocks of varying sizes, and so on. Let your child group these objects. Then ask questions to focus thinking on whether there are more, fewer, or less. Are there more red buttons or blue buttons? Which shape cookie cutters are there the fewest of? Are there more large blocks or small blocks?

Source: Adapted from Now Read This, Teaching Young Children 1 (4): 3
Audience: *Family*
Age: *Early Primary*, *Infant/Toddler*, *Kindergarten*, *Preschool*
Topics: *Subject Areas*, *Literacy*, *Children's Books*, *Math*
MATH

Helping Your Child See and Show Mathematical Ideas

By Laura Grandau

"Did you see that?" four-year-old Ilyana asks as she points to a squirrel high on a branch. *"That squirrel ran so fast and climbed so high!"*

Without thinking, Ilyana gestures with her arm and hand to show the squirrel's path, indicating the animal's speed and direction.

Ilyana's lively gestures are a powerful example of how children show excitement and interest in the world around them. This scenario, like so much indoor and outdoor conversation and play, connects to math in more ways than you might imagine.

Develop your eyes and ears for math concepts

At a young age, children notice big and small, slow and fast, more and less. Through both her words and her motions, Ilyana referred to the squirrel's distance, speed, location, and height in the tree. These too are math concepts.

Noticing when your child brings mathematical words and ideas like these into conversation or play can be a jumping-off point for helping him or her get a head start on understanding math. In the adult–child dialogue between Ilyana and her dad that follows, math ideas come to life in meaningful ways:

"Ilyana, that's amazing! I wonder why that squirrel climbed up so high."

"'Cause squirrels live in trees that are tall, so they can hide."

"How can the squirrel stay on that thin branch without falling?"

"I wonder if squirrels fall. They are small."

"Do you think he always moves that quickly?"

"They have to move fast, or else they could get hurt."

Promote the use of fingers to see, show, and solve

In addition to using fingers to point and gesture, children can—and should!—use their fingers for counting, arranging (ordering), and adding and subtracting (computing).

At a very young age, children recognize fingers as important visual aids. In fact, recent research tells us that using fingers is one of the best ways to learn numbers: the part of the brain that recognizes fingers as helpful thinking tools continues to find such tools useful well into adulthood. Here are some examples of how you can use fingers to teach a young child about counting, putting things in order, and computing.

"Ilyana, let's play a game. I'm going to hold up some fingers. See if you can tell me how many fingers there are. Are you ready? You'll have to look here." [Ilyana's dad shows three fingers in a row on one hand.]

"Five!"

"Hmm . . . Here are my fingers. Let's try again." [The dad uses his other hand to point to each finger as he counts aloud with Ilyana.] "One, two, three. How many fingers are there?"

"Three!"

"You got it! I showed you three fingers, all on this hand. Now, can you show me four fingers?" [Ilyana uses one hand to touch and count the four raised fingers on the other hand.] "Great! I see four fingers." [Her dad counts aloud to reinforce that one number word goes with one finger as he counts from one to four.] "One, two, three, four."

If a child is having difficulty displaying the correct number of fingers, the adult can model, physically help the child, or have the child use the adult's hand rather than his or her own.

"Let's try to show four another way. Watch this." [Dad shows two fingers on one hand and two on the other. He holds both hands fairly close to each other.] "Are there four fingers here?"

"There's two!"

"Let's see. How many fingers am I showing? Let's count them together." [He wiggles each finger as they count aloud.] "One, two, three,four. There

are four fingers here, but this time I used two fingers on this hand and two fingers on this hand to show four. So that's neat. We can show four in different ways."

You can play variations of this game with children from ages 3 and 4 years through third grade and beyond. An important goal for the end of kindergarten is to know the partners of 10 (as in 9+1, 8+2, 7+3, and so on). It is easy to see, show, and solve by using the 10 fingers we've already got built in:

"Show me one finger up. How many fingers are down? Show me two fingers up. How many fingers are down? If I have four fingers down, how many do I have up?"

Taking this further, children in kindergarten and first grade can develop tens and ones knowledge by quickly flashing 10 fingers and adding one more to see how 11 = 10 + 1. Young children love it when you flash them small two-digit numbers and they have to see and say the quantity:

"I'm going to use my fingers to flash a number. You tell me what number it is." [Flash a number using your fingers and allow the child to tell you how many.]

"You're right! I flashed 10, then another 10, and then 3 ones. That is 23. Let's count as I flash." [Flash 10 fingers.] "10." [Flash another 10 fingers.] "20." [Flash three fingers.] "23.".

Encourage reenactments and make simple drawings

Sometimes there's nothing more informative than asking a child to show you how she understands what she is seeing and saying. When asked to show, many children will demonstrate with their bodies and gestures. As they get older, children can make drawings too. Parents, caregivers, siblings, and teachers get the child thinking more when a request to visualize and show are part of the equation:

"Ilyana, can you show me how the squirrel moved across the grass and up the tree?"

“He was like this.” [Ilyana moves her body to demonstrate.]

“Oh, I see. So he sort of jumped and ran, but then he stopped and twitched. And then he jumped and ran again. Wow! Do you think he always moves like that?”

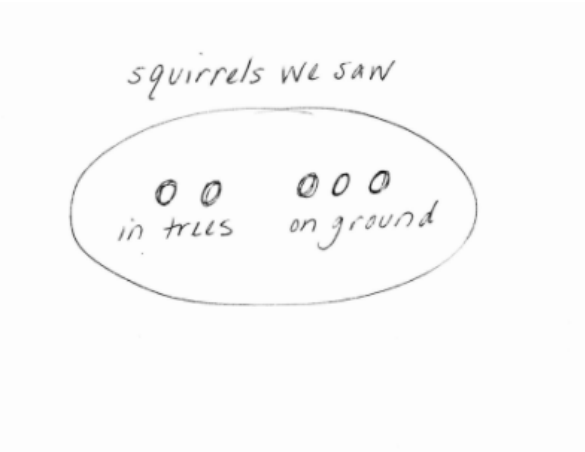
“I’ve seen a lot of squirrels today! Some in trees and some on the ground.”

“Me too! I saw two in trees and three on the ground. How many is that altogether? Let’s make a drawing to figure it out. First, we’ll draw two circles to show the two squirrels in the trees. [Ilyana’s dad draws two circles and labels them “In trees.”] Then how many on the ground?”

“Three.”

“Oh, right. So let’s draw three circles for those squirrels.” [He draws and labels three circles.] Now, if we want to know how many altogether [draws a big circle to group the five together], we can see them here and count them. Let’s do that.”

“One, two, three, four, five. We saw five squirrels altogether.”



Children who use drawings to see and show quantities can use letters and words as labels and other symbols to show groups. The drawings will help them see mathematical situations more clearly and take meaningful actions that help them make sense of and solve problems. A drawing of a child’s thoughts is also a very useful tool for looking into what a child is thinking and learning.

Books to look for at the library to read with your child:

- *Afro-Bets 1 2 3 Book, by Cheryl Willis HudsonHand,*
- *Hand, Fingers, Thumb, by Al Perkins*
- *Anno's Counting Book, by Mitsumasa*
- *Anno Hands Down: Counting by Fives, by Michael Dahl*
- *The Handmade Counting Book, by Laura Rankin (counting using American Sign Language)*

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Audience: *Family*
Age: *Early Primary*, *Kindergarten*, *Preschool*
Topics: *Subject Areas*, *Math*

WOYC Resources

Kick-off Saturday

Are you ready for #WOYC20? To help you prepare, we've come up with a list of things you can do to plan for your week of celebrations!

Things you can do on Kick-off Saturday

- Post a video, blog or social media post sharing why you celebrate Week of the Young Child and what you do to prepare
- Consider hosting a virtual event where you can share your local proclamation or lead a fun activity.
- Take some time for yourself and re-energize so that you're ready for the week ahead
- Plan for the week ahead:
- Create a dancing playlist for **Music Monday**
- Gather ingredients from your kitchen for a **Tasty Tuesday** activity
- For **Work Together Wednesday**, work with other educators in your program to draft a group letter to your elected officials, emphasizing the need to #InvestinECE
- Replenish your arts and crafts supply for **Artsy Thursday**
- Draft an email to parents explaining what they should expect during #WOYC20 and how they can prepare for your **Family Friday** activity

Articles on Playing and Learning with Music

Inspiration from the Classroom:

- Teaching and Learning with Hip-Hop Culture
- Integrating Music, Drama, and Dance Helps Children Explore and Learn
- Now Sing This! Ella Jenkins
- Experiencias Musicales

For Families at Home

- Playing with Music at Home
- Support Math Readiness Through Music
- Sing With Me Baby!
- 10 Ways Babies Learn When We Sing to Them
- *Message in a Backpack*™–Make Animal Music
- رسالة في حقيبة الظه (*Message in a Backpack*™) اصنع موسيقى من أصوات الحيوانات (Make Animal Music)
- 书包金点子 (*Message in a Backpack* ™) 制作动物音乐 (Make Animal Music)
- *Mensaje en la mochila*™: Los sonidos y la música de animales

View our 2019 Music Monday recap for inspiration.

Sponsor Resources

Our Music Monday Sponsor, Music Together, is sharing song suggestions and activity ideas to inspire children and families to make music a part of their daily lives!

With Music Together's free "Hello Everybody!" app, it's easy and exciting to play musically as a family, whether at home or on the go. The app comes pre-loaded with eight award-winning Music Together songs for listening, singing along, or even recording as a video and sending to Grandma! Go to www.musictogether.com/app for more info and links to your app store.

For Families

Music can be a fun way to help your child transition from one activity to the next throughout the day. Try making up verses for different activities and tasks that you and your child might do throughout the day and sing them to

the melody of This Train. Replace “children” with your child’s name when singing “children get on board.” For example:

- This train is bound for bed... Charlotte get on board.
- This train is bound for school... Zion get on board.

For Teachers

If you are providing a live or recorded video class to your children and their families, try a classic children’s song that asks children to come up with their own word or sound, like “Old MacDonald Had a Farm,” support self-confidence and leadership skills. (Learn more about how music supports social and emotional development.)

Tasty Tuesday

Tasty Tuesday isn’t just about eating your favorite snacks together. It’s also about cooking together and connecting math with literacy skills and science while introducing ways to incorporate healthy habits into children’s lifestyles. Use the tips, resources, and recipes below to get started.

Step It Up Activity

Explore the culture specific foods that the young children in your classroom may enjoy at home. Connect with families by engaging them in the history and tradition of meals from their countries of origin. Consider having families share a story or recipe about their favorite dish and the history behind it. Introduce your class to new ingredients and discuss where they are grown. Create a recipe book using images the children draw and share the book with the community. The creative opportunities are as endless as the meals themselves.

Articles and Resources on Cooking and Nutrition

Inspiration from the Classroom:

- Taco Cookbook
- Tacos Anyone? Preschoolers Investigate a Taco Truck
- 14-Day Salad: Using Project-Based Learning to Grow Microgreens
- أربعة عشر يومًا لاستنبات نباتات السلطة:استخدام التعلم القائم على المشاريع لاستنبات نباتات المايكروغرين
- Centros de aprendizaje: Cocina

For Families at Home:

- "I Helped Mama Too!" Cooking with a Tiny Helper
- Heathy Fit Families
- Let's Eat (Well)!
- *Message in a Backpack*™–Learning through Everyday Activities
- *Mensaje en la mochila*™: El aprendizaje en actividades cotidianas

View our 2019 Tasty Tuesday recap for inspiration.

Work Together Wednesday

When children build together they experience teamwork and develop their social and early literacy skills. Grab some materials and create!

Step It Up Activity

The young children in your classroom aren't the only ones who succeed when they work together. Take a moment to join NAEYC in advancing our profession by signing up for Power to the Profession; supporting your peers through the discussions on HELLO; reaching out to elected officials about the importance of investing in ECE; or inviting someone new to become a member. Working together makes us stronger together, and that means the impact we make can be monumental!

Articles on Building Together

Inspiration from the Classroom:

- Mathematizing with Toddlers and Coaching Undergraduates: Foundations for Intentional Math Development
- More Than a Foundation: Young Children Are Capable STEM Learners
- Making, Tinkering, and The Toy Store Project

- Over the Fence: Engaging Preschoolers and Families in a Yearlong STEAM Investigation

For Families at Home:

- Five Essentials to Meaningful Play
- Making at Home
- How to Support Children's Approaches to Learning: Play with Them!
- 10 Prop Boxes for Ideas: Mini Learning Centers at Home
- From United States Census 2020: At-Home Activities That Showcase the Country's Diversity

Artsy Thursday

Children develop creativity, social skills, and fine muscles with open-ended art projects that let them make choices, use their imaginations, and create with their hands.

Step It Up Activity

Find ways to display your classroom's art projects for the community to see, and while you have their attention, educate them about the importance of high-quality early childhood education. Here are some suggestions to get started:

- Set up a gallery at a local business or public library to share your classroom art creations. Check out how one center set up an exhibition last year in their student center.
- Include information about high-quality care as part of your art displays in community. Need brochures? Visit our online store: NAEYC.org/shop.
- Create a digital gallery on social media or on your program's website. Share using the hashtag #woyc20.
- Create a print book to share with the community. Tip: Sell the book for fundraising your trip to an NAEYC conference!

Articles on Art and Creativity

Inspiration from the Classroom:

- Every Color on the Canvas: Using Art to Explore Preschoolers' Understanding of Differences
- Centros de aprendizaje: Arte

- Spotlight on Young Children and the Creative Arts
- How Process Art Experiences Support Preschoolers
- كيف تدعم التجارب الفنية التي تركز على المعالجة الأطفال في مرحلة رياض الأطفال
- Preschoolers as Eco-Artists
- 让学龄前儿童成 为生态艺术家
- The Making of an Art Museum: A Preschool Project
- Inspired By Museums—Both Outside and Inside the Classroom
- Eight Tips for Creating Homemade Books

For Families at Home:

- *Message in a Backpack*™ Family Field Trips: Museum
- Meaningful Art Projects Parents Can Fit Into a Busy Day
- Supporting the Development of Creativity

Family Friday

Parents and families are children's first teachers. Family Friday focuses on engaging families to support our youngest learners.

Step It Up Activity

Extend your NAEYC family! The early childhood education community doesn't end outside the doors of your classroom. Connect with your local affiliate, encourage families to join our Family level membership, learn how to engage with your local policymakers, and more! There are endless opportunities to keep your entire community in-the-know about early childhood education. See how the The Akron Art Museum and the NAEYC's MaineAEYC engaged their communities last year.

Articles on Engaging and Celebrating Families

Inspiration from the Classroom:

- Principles of Effective Family Engagement
- Using Technology to Engage Families
- March of the Stuffed Animals: Activities for a Fun Family Night!
- Welcome Children and Families to Your Classroom
- NAEYC Topics: Family Engagement

For Families at Home:

- Am I Really My Child's First Teacher?

- Explore the Great Outdoors with Your Child
- *Message in a Backpack*™–Bubbles
- رسالة في حقيبة الظهر (Message in a Backpack™) الفقاعات (Bubbles)
- 书包金点子 (Message in a Backpack ™) 泡泡 (Bubbles)
- *Mensaje en la mochila*™: Receta de burbujas

View our 2019 Family Friday recap for inspiration!

Sponsor Resources

Our Family Friday Sponsor, Kindermusik, wants to help families beat cabin fever! Visit their WOYC page for a schedule of free webinars that merge thought-provoking topics with practical takeaways. And you can also download their WOYC20 album with songs ranging from familiar nursery rhymes to international folk songs.

Looking to add the NAEYC brand and official logos to your event materials?

- Download the color and black and white WOYC logos
- Review and download the WOYC brand guidelines

By participating in this event and posting video and/or photos, you are representing that you have written permission from each person in the video and/or photos, and if a child, written permission from the child's parent or legal guardian, to post the video and/or photos and use the likeness of such person therein. By posting the video and/or photos, you grant NAEYC the right to use the video and/or photo and/or any portion thereof in any manner it so chooses, including, without limitation, posting or sharing the video on NAEYC's website, Facebook page or Twitter account.

Audience: *Administrator (director or principal)*, *Faculty*, *Family*, *Student (higher education)*, *Teacher*, *Trainer*
Age: *Early Primary*, *Infant/Toddler*, *Kindergarten*, *Preschool*
Topics: *Event*, *WOYC*, *Other Topics*, *Family Engagement*, *Play*, *Subject Areas*, *Creative Arts*, *Art*, *Music and Songs*, *Math*

WEEK OF THE YOUNG CHILD

- WOYC Overview
- WOYC Activity Resources
- Map Your Event!
- WOYC FAQ