



Learning to Grow

MAKING A DIFFERENCE TOGETHER

Math in Everyday Activities

According to Zero to Three, learning about math starts as early as infancy. Young children naturally develop math skills through play and interactions with their environment. They develop math skills that include number sense, shape recognition, patterns, sorting, and measurement. This newsletter will focus on three of these skills:

- ♥ **Number sense** – understanding what numbers mean
- ♥ **Shape recognition** - identifying, naming, and describing different shapes by their attributes
- ♥ **Sorting** - identifying similarities and differences among a set of objects and grouping them accordingly based on their characteristics.

These skills build upon each other, starting with concepts like more and less (choosing the bowl with more cereal) and building to more complex skills such as comparing the attributes between objects (e.g., Cheerios are round like the ring-shaped pasta). To achieve that understanding, children will have to be exposed to skills such as one-on-one correspondence and counting (one Cheerio = one), as well as recognizing shapes (a Cheerio is round).

You can support your child's understanding of math concepts through everyday routines. Opportunities such as setting up for mealtime allow children to count the utensils for each person (number sense), gather square or circle-shaped plates for each person (shape recognition), and identify the utensils to use for meals such as forks or spoons (sorting). During these times, point out the math skills by talking with your child to emphasize the learning. For example, "How many napkins do we need? Four? One for each of us? Let's put four on the table...one, two, three, four." The foundational skills they gain from their daily routines prepare them for more complex math



concepts in their later years.

In this newsletter, we will share ideas to help infants, toddlers, and preschoolers develop math skills through everyday routine activities.

This newsletter includes:

- ♥ **Age-specific information and suggestions** about activities to do with your infant, toddler, or preschooler,
- ♥ **Featured activities** for each age group,
- ♥ **How This Helps:** a summary of your child's development by doing these activities together,
- ♥ **Resources:** for more information, and
- ♥ **Suggested Books:** a list of books to read with your child.

Infants

Infants develop math concepts through experiences. They may not fully understand numbers, but even from a young age, they grasp math concepts. You can see their engagement through their gaze, attention, and as they reach for objects. You will notice their growing math skills in:

- ♥ **Number sense** - infants learn the words "more," "all gone," and how they correspond to more or less of an item.
- ♥ **Shape recognition** - they display awareness of shapes through manipulating and mouthing objects.
- ♥ **Sorting** – they start to recognize the differences between objects and people.

Provide opportunities for infants to develop math skills in everyday activities by:

- ♥ Talking about quantities when washing hands. For example, "We are washing your two hands. 1 and 2. Wash your fingers... 1, 2, 3, 4, and 5."
- ♥ Pointing out shapes of foods. For example, "The peas are round like your ball. The carrots are the



same square shape as this block that you were building with."

- ♥ Helping him notice he is sorting during mealtime. For example, "I see you put the pea from your hand back on the plate with the other peas. Peas aren't your favorite. But you ate all your carrots."

Activity for Infants: *Counting fingers, toes, piko, and nose*

What You Need:
Nothing

What to Do:

1. Sing the rhyme as you gently touch the child's fingers, toes, piko (belly button in Hawaiian), and nose.

Rhyme:

*Counting fingers,
Counting toes,
Counting piko, and your nose.*

2. Then sing the rhyme again, and then count the child's body parts aloud. For example, "1, 2, 3, 4, 5, you have five fingers!"
3. You may also gently tickle the child's piko and/or nose to make it fun and exciting.

(See page 5 for information on how doing these kinds of activities with your child helps his development and school readiness.)



Toddlers

Toddlers will frequently ask you to count objects as they learn to understand numbers and their relationships. For example, they may climb stairs, counting each step repeatedly with you. As you participate in daily activities with toddlers, you will notice their growing math skills in:

- ♥ **Number sense** – they can now recognize groups of one, two, or three objects and show quantity preferences. For instance, a child may indicate that they want the box with 3 trucks rather than the one with one truck. They know 3 is more than 1.
 - ♥ **Shape recognition** – they may start to identify and name basic shapes like circles, squares, and triangles, and can begin to match items, such as playing with food storage containers and lids, and connect them together.
 - ♥ **Sorting** – they can identify similarities and differences of objects such as color, size, and shape, and can group them by these attributes. As they compare small groups of objects, they recognize which one has more or less.
- Provide opportunities for toddlers to develop math skills in everyday activities by:
- ♥ Turning clean-up time into a counting game. For example, "Can you help me find the cars on the floor? I will count the cars you find. 1, 2, 3, 4, and 5. You found 5 cars. Would you like to count again with me?"
 - ♥ Letting him pick out food items by their shape. For example, "Can you help me get a round fruit? An orange is perfect. I am slicing the eggplants and look at all these circles I made."
 - ♥ Inviting him to help sort laundry. Ask, "Help me sort the big and small socks. Let's count them to see if we have more big socks or small socks."



Activity for Toddlers: *Matching Lids to Containers*

What You Need:

- Assorted plastic containers with matching lids that you no longer need.
- Black sharpie marker

What to Do:

1. Write a number on the container that matches the same number on the lid. For example, write '1' on a container and '1' on the matching lid.
2. Invite the child to match the plastic container to the lid by the same numbers.
3. When the child finds the matching lid to the container, point to the number and say, "You found the #1 lid for the #1 container."
4. The child will have fun sorting containers and lids while learning early math skills.



(See page 5 for information on how doing these kinds of activities with your child helps his development and school readiness.)

Preschoolers

Preschoolers are learning to count accurately, recognize that numbers represent quantities, and understand the concepts of more, less, and the same. While playing with preschoolers, you will notice they use these math skills in various ways.

- ♥ **Number sense** – by age 5, most preschoolers can count to 10 and match the numbers one to five with five items, showing that they are really counting with understanding. They like to count things they have, such as crackers and toys.
- ♥ **Shape recognition** – they display their understanding of shapes when they identify and name basic shapes like circles, squares, and triangles. For example, they may point to a slice of pizza and say, "triangle".
- ♥ **Sorting** – they are continuing to learn about how items are similar or different, and will start to compare amounts (e.g., sorting their different-sized blocks and knowing which ones they have more of).

Provide opportunities for preschoolers to develop math skills in everyday activities by:

- ♥ Reading a counting book, then pointing out numbers and finding the objects that match



that number. For example, point to the number 5 and say, "There are 5 ducks in the pond. Do you see 5 ducks? Ok, let's count them. 1, 2, 3, 4, and 5." Point at the number 5 again and say, "We counted 5 ducks."

- ♥ Asking for his help to tidy up the blocks. For example, you can say, "I need your help finding the blocks and putting them back in the matching spot on the shelf. Do you see the triangle? How did you know this one was the triangle? Yes, the triangle has 3 sides and the square has four sides."
- ♥ Preparing a snack for the family and inviting them to sort it into different categories. For example, crackers of assorted shapes and/or sizes.

Activity for Preschoolers: *Count with Paper Towel Tubes*

What You Need:

3 or more recycled paper towel tubes

What to Do:

1. Invite your child to use recycled paper towel tubes to measure things around the home.
2. Ask your child to guess how many tubes it will take to measure the item. For example, ask your child, "How many tubes tall is the table?" "Let's measure it, starting from the bottom and measure all the way to the top." "Let's count, 1, 2, 3 tubes..."
3. Help your child confirm his guess by counting and measuring together.



(See page 5 for information on how doing these kinds of activities with your child helps his development and school readiness.)

How This Helps

The activities suggested in this newsletter help promote many different aspects of development:

Physical Development

- ♥ Learn through senses: seeing, hearing, smelling, tasting, and touching
- ♥ Learn to use his body with intention

Social and Emotional Development

- ♥ Feel important and good about himself
- ♥ Learn to cooperate with others

Language and Literacy Development

- ♥ Develop early reading skills and a love of reading
- ♥ Build verbal skills, vocabulary, and use of descriptive language



Cognitive Development

- ♥ Recognize math concepts like numbers, sizes, shapes, sequence, volume, measurement, and time
- ♥ Develop early math skills like quantifying, comparing, sorting, grouping, and ordering

Kids in the Kitchen

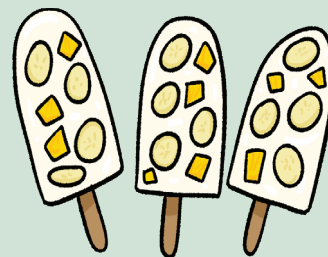
Cooking teaches valuable lessons, including math (quantity and size), science (texture and appearance), fine motor skills (cutting and peeling), and literacy (print awareness). As you make this recipe with the child, discuss kitchen safety. Show them how to handle items safely and allow them to do as much as they are capable of. Praise his efforts and ask questions throughout the process to encourage his thinking skills. Most of all, have fun!

Hawaiian Popsicles (makes about 8 popsicles)

Adapted from <https://weelicious.com/hawaiian-popsicles/>

Ingredients:

- 1 (13.5 ounces) can of coconut milk
- 2 cups fresh pineapple or 114-oz can pineapples, drained
- 1 banana, sliced



Directions:

1. Together with keiki, count and measure the ingredients. For example, "We have 1 can of coconut milk, 2 cups of fresh pineapple (or 1 can), and 1 banana, which was sliced into 8 pieces. Let's count."
2. Put ingredients into a blender and puree. When putting the ingredients into the blender, use math words: "First, 1 can of coconut milk." "Second, 2 cups of fresh pineapple (count '1, 2.')" "Next, 1 banana."
3. Pour puree into Popsicle molds. Ask keiki to guess how long it will take to freeze into a popsicle.
4. Freeze for at least 4 hours
5. Enjoy!

Resources

Children's Books for Early Math Learning

<https://earlymath.erikson.edu/the-best-childrens-books-for-early-math-learning/>

The Early Math Collaborative has a list of children's books that support math learning for young children. These stories use pictures and words to help them understand math concepts, solve problems, and explore creative solutions.

Math Talk with Infants and Toddlers

<https://www.naeyc.org/our-work/families/math-talk-infants-and-toddlers>

NAEYC shares basic math concepts that young children develop in their everyday lives.



Suggested Books

Discover these books and more at the **Hawai'i State Public Library** www.librarieshawaii.org.

Infants and Toddlers

1, 2, 3 to the Zoo by Eric Carle

A fun and playful counting book. Children will enjoy counting the animals going to the zoo, from one elephant to 10 birds.

Quack and Count by Keith Baker

A family of seven ducklings slip, slide, leap, and dive as they get ready to fly for the first time—playful and rhyming text to introduce counting.

Preschoolers

The Shape of My Heart by Mark Sperring

The world is alive with endless shapes to identify – from sunup to sundown, hands to feet, animals, cars, and treats. A fun book to introduce shapes all around us.

Rooster's Off to See the World by Eric Carle

Rooster sets off to see the world. Along the way, he met two cats, then three frogs, then four turtles, then five fish – A simple introduction to number sets, addition, and subtraction.



Learning to Grow is a project of the University of Hawai'i, Windward Community College, with funding from the Hawai'i Department of Human Services. Visit our website at www.learningtogrowhawaii.org or visit us on Facebook at www.facebook.com/learningtogrowhawaii and Instagram @uhlearningtogrow