Celebrate diversity, math, and the power of storytelling!

Joyful stories and hands-on activities make it easy for kids and their grown-ups to explore everyday math together.
About the Book

Time to garden! Mei plants a seed and watches it grow. Soon the little plant is up to her toes, then her knees, then her waist. How tall will it get?

About the Math

Young children learn about measurement as they compare the sizes of things around them. In this story, Mei explores measurement as she compares the height of the plant to the height of her toe, knees, waist, and shoulders. At the end of the story, she finds that the plant is even taller than she is! Experiences like these help children make sense of rulers and yardsticks in later years.

Douglas Clements
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About the Author-Illustrator

Grace Lin is a New York Times best-selling author and National Book Award finalist who has won a Caldecott Honor, a Newbery Honor, and a Theodor Seuss Geisel Honor. www.gracelin.com
Math Activities

Explore measurement with these activities!

A Tower as Tall as I Am

Help children use blocks or empty boxes to build a tower as tall as they are. As children build, wonder out loud, “How can we tell if the tower is as tall as you?” Have children stand next to the tower to compare.

Up to My Knees

Visit a park or green space to find a plant as high as your child’s knee. Return to visit the plant every few weeks and ask: “Is the plant still as high as your knee? How can you tell if the plant is growing?”

Hands Together

Hold your hand up against your child’s hand. Talk together about how your hands compare in size, using words such as wider, longer, taller, smaller, and thinner. Point out that both hands have the same number of fingers!

Talk About Tall

Help children notice heights in everyday life. Look for opportunities to compare heights of familiar things. “The baby doll is taller than the giraffe!” “That shelf is over your head, but you can reach it by stretching your arm up!”
Time to blow bubbles! Manny's wand is a circle. Olivia's wand is a triangle. Mei's wand is a heart. What shape will their bubbles be?

About the Math
Young children learn about shapes as they explore everyday objects. They discover that cereal boxes stack because of their flat sides, that balls roll because they are round all over, and that paper-towel tubes are open on both ends. Like Manny, Olivia, and Mei, they find that some things, such as wands, are flat, while others, such as bubbles, are not. These kinds of experiences give children a hands-on foundation for later study of geometry.

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**Make a Windsock**

Help children decorate a sheet of paper and glue long, thin strips along the bottom. Wonder out loud: “How can we make this flat piece of paper into a tube? What will happen if we put these edges together?” Tape the edges together and add a handle. Ask: “What will happen if we blow on our windsock?” Try it to find out!

**Bubble Up!**

Gather a variety of bubble blowers: straws, kitchen spatulas with holes, and wands of different sizes and shapes. You can also make wands from pipe cleaners. For each blower, ask children to predict: “What shape do you think the bubbles will be? What size?” Then have them try it!

**Squash It!**

Help children make a ball, donut, or other shape with play dough. Then wonder together: “What shape do you think this will be if you squash it flat? Why do you think so?” Invite children to squash it. Describe the resulting shape. “Look, it’s a flat circle!”

**Play the Shape Game**

Secretly choose an object in the room. Then give a set of clues, including some about its shape. Help children find the object.

- I’m thinking of something in the room.
- It’s flat on the top.
- It’s flat on the bottom.
- It’s curved on the sides.
About the Book

Time for the farmers’ market! Olivia is searching for something to fill her basket. What will fit just right?

About the Math

As children figure out “what will fit,” like Olivia does in this story, they build their spatial sense. They learn how shapes fit together in different ways. Spatial sense is important in science, math, and everyday life. We use spatial sense when we read maps, figure out how to fit a container in a refrigerator, and decide if two shoes in different positions are a pair.

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Piggy Bank
Cut a slot about 1¼" x 2¼" (about 3 cm x 5.5 cm) in the lid of an empty oatmeal container. Snap the lid back on. Gather a few small items—some that fit through the slot and some that are a little too large. As children investigate what fits, draw their attention to sizes and positions. “The crayon doesn’t fit when it’s sideways. What will happen if you turn it?”

Save It for Later
Got leftovers? Put them on the table with a few clear plastic containers of different sizes and shapes. Invite children to predict which containers are too small to hold the leftovers, which are way too big, and which are about right. Then experiment together to find the container that works best.

Find a Fit
Gather a few plastic cups of different sizes and encourage children to explore what fits inside them. “Could that green ball fit inside the red cup?” “Do you think your hand could fit inside that tiny cup?” Try it and see!

Shake It!
Talk about empty, half, and full as you make a shaker together. You’ll need a clear plastic container with a very secure lid, a bowl of dried beans, and a scoop. Help children scoop beans into the container until it is about half full. Secure the lid and invite children to shake the shaker to music!
About the Book

Time for cocoa! Olivia and Mei have three big marshmallows to share. Olivia gets one, and Mei gets one. How will they share the last marshmallow?

About the Math

“One for you, one for me, and one more . . .” As Olivia and Mei discover, sometimes sharing fairly can be a challenge. If one child ends up with one marshmallow and the other with two, they know it’s not fair, even if they can’t count yet! When children find ways to share, they begin to develop real-world understanding of division and fractions.

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More, Less, or Same?
Fill a small bowl with large beads in two colors. (Pompoms, beans, or other small objects work, too.) Ask children to take a handful. Wonder together about whether you have more of one color. Then help children match the beads up to check.

Take One and Pass It Around
Gather a few people around a table and put out a plate with two more muffins than people. (Any snack-sized food will do.) Invite children to predict: “Are there enough for everyone to have one? Will there be any left over?” Pass the plate around and try it!

Match Up
During playtime, look for opportunities to invite children to match items one for one. “Do we have enough hats for each teddy to get one? Show me.” “The dinosaurs are going on a trip. Can we put one in each car, or do some of them need to double up?”

Point Out Pairs
From bicycle tires to socks, pairs are all around us. As you go about the day with children, describe the pairs you see and wonder together about any extras: “These two chopsticks make a pair. There’s another chopstick all by itself. Let’s look for its partner.”
About the Book

It’s bedtime for Marco and his stuffed animals, but the animals have other ideas. When Marco tries to put them away, they fly, swim, and slither out of their bins. Can Marco sort the animals so everyone is happy?

About the Math

Marco wants to organize his animals so they are comfortable at bedtime. He first sorts them by how they move. He then sorts by color and size. Different ways of sorting yield different results. When he sorts by color, friends Zebra and Giraffe are tearfully separated. When he re-sorts by size, they are reunited. In the end Marco finds a solution that works for everyone.

As children explore sorting, they are thinking mathematically. They learn that they can sort sets—or organize data—in different ways. They also discover that the way they choose to sort matters.

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About the Author

Sara Levine is a veterinarian, educator, and author whose picture books include *Flower Talk* and *Bone by Bone*. She lives in Cambridge, Massachusetts. www.saralevinebooks.com

About the Illustrator

Marta Álvarez Miguéns has illustrated many picture books, including *Dinosaur Lady* and *Shark Lady*. She lives in Spain. www.martalvarez.com
Secret Sort

Play a sorting game with six to ten objects. One person sorts the objects into two groups but doesn’t tell anyone how they sorted. The others guess how the objects were sorted. They keep going until they figure it out. Next time, someone else sorts.

Secret Selection

Sharpen observation skills with a game based on “Twenty Questions.” Lay out five to ten objects. One person secretly chooses an object. The others ask yes-no questions to rule out as many items as possible. For example, a guesser might ask, “Is it red?” If the answer is no, the person who chose the object removes all the red items. Keep going until only the secret selection remains.

Guess Our Lineup

Try this game with five to ten people. Two people leave the room, while the others pick a category to line up by. It should be something everyone can easily compare or count, like height, hair length, or number of pockets. When everyone is in order, the two people return to the room and try to figure out how the group has lined up.
About the Book

Twins Lia and Luis love Brazilian snacks! But when Luis starts bragging that he has more treats, the two begin to argue. How can they tell who has more?

About the Math

Lia and Luis explore the math of comparing and measuring. As they try to figure out who has more, they discover many ways to compare. When they compare by size, Luis appears to have more—his bag is taller, wider, and deeper. When they count, Luis also has more. But when they compare by weight, Lia wins.

When children compare amounts, they build their understanding of quantity, weight, and other measurable features. They also develop a foundation for measuring in school and in daily life.

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About the Author

Ana Crespo is the author of several picture books, including The Sock Thief: A Soccer Story, winner of an International Latino Book Award. Originally from Brazil, she now lives in Colorado.
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About the Illustrator

Giovana Medeiros is the illustrator of Running on Sunshine and many other books. Born and raised in Brazil, she is now based in Lisbon, Portugal. www.giovanamedeiros.com
Math Activities

Explore comparing and measuring with these activities!

Build a Bridge

Investigate weight! Help children build a bridge strong enough for a few toy animals to “walk” across. Use just one sheet of paper and two paper cups for the bridge. Encourage children to explore folding the paper to create a stronger bridge. (Have a few pieces of paper available in case children want to try folding paper in different ways.) For more challenge, use toilet paper tubes instead of paper cups.

Compare Out Loud

As you go about the day with children, look for opportunities to compare based on size, weight, and amount. “This package contains one hundred cotton balls, but it’s so light! This bag of three oranges is much heavier—and smaller, too.” Invite children to handle the objects and describe what they notice.

Order by Weight

Gather three or four objects of different weights. Include a small, heavy item and a large, light one. Take turns picking up the objects and talking about how heavy or light they feel. Then invite children to try to put them in order by weight.
About the Book

On Luna’s birthday the family goes out for Chinese dim sum. There are six fluffy pork buns for Luna and her two brothers to share. But then splat! Luna drops one. How can three children share five buns fairly?

About the Math

As children find ways to divide up amounts fairly, they begin to make sense of division, fractions, and the notion of parts and wholes. For example, as Luna and her brothers look for a way to share equally, they cut buns in half and consider cutting a half into two or three parts. They recognize that half of a half is a small part and that a half divided into three yields even smaller parts.

As children decide how to share, encourage them to explain their thinking. Although they may not yet use the words division and fraction, they are learning about those concepts!

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About the Author

Natasha Yim was born in the Year of the Tiger in Malaysia, grew up in Singapore and Hong Kong, and now lives in California. She is the author of many picture books, including Goldy Luck and the Three Pandas. Her favorite dim sum is egg custard tarts.

About the Illustrator

Violet Kim was born in the Year of the Ox in South Korea, studied illustration at Rhode Island School of Design, and now lives in Taiwan. She is the illustrator of The Little Gray Bunny and many other picture books. Her favorite dim sum is shrimp dumplings.
**Dim Sum Division**

 Invite children to pretend they’re at a dim sum restaurant. Put out a plate with fewer bao than people. (The bao can be real or play dough.) Before children take any food, ask them to decide together: “How can we share the buns fairly?” When everyone has agreed, serve and eat!

![Dim Sum Division Image](image1.png)

**Fold into Four**

 Help children explore dividing by four. Ask: “How many ways can we fold a piece of paper into four equal parts? How can we tell that each part is the same size?” Try it with different-size pieces of paper.

![Fold into Four Image](image2.png)

**Half and Half**

 As you go about the day with children, point out opportunities to find halves:

 “How can we cut this sandwich into two equal pieces?”

 “Give your cousin half the stickers in the pack.”

 “How can the two of us divide up the lemonade equally?”

 Encourage children to explain their thinking.

![Half and Half Image](image3.png)
About the Book

Bina wants to give her brothers bracelets with special patterns for the Raksha Bandhan holiday. She wants to make them all by herself, but it’s harder than she thought. Can Bina figure it out on her own?

About the Math

Bina makes a special bracelet for each of her brothers. She recognizes that although the colors differ, each bracelet has an “every-other-one” (alternating) pattern. Children who can create, describe, and compare patterns do better in math.

As children explore patterns, encourage them to compare and contrast. “How are these patterns alike? How are they different?” Ask them to explain how they can tell if something is a pattern.

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About the Author

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About the Illustrator

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**Share the Pattern**

Choose three words to repeat, such as “yummy purple slime.” Then take turns saying the words “yummy,” “purple,” “slime,” “yummy,” “purple,” “slime,” and so on. Keep going for a few rounds. Then ask, “How did you know what word to say when it was your turn?”

**Double the Pattern**

Come up with a two-part sound pattern (tap a kitchen pot, tap a pot lid). Everyone repeats the pattern a few times. Then double it (pot, pot, lid, lid). Try doubling it again! Or try this with an action pattern (clap, jump).

**Make My Pattern**

One person secretly draws a pattern and then describes it aloud. “Two purple dots, a yellow dot—repeat.” The others try to draw the pattern from the description. Compare what each person drew. Take turns secretly drawing and describing patterns.