Stories That Count:
Cultivating Math Identities Through Culturally Relevant Books

RUSMP Conference 2026

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Culturally relevant picture books foster positive mathematical identities by:

- Connecting math to real-world experiences
  - portraying math in various contexts and fields
- Integrating cultural elements
  - embedding math concepts with narratives that resonate with students' cultural backgrounds and lived experiences
- Making math tangible
  - incorporating math concepts naturally within the stories and providing meaningful contexts for students
- Promoting a growth mindset
  - highlighting the importance of perseverance and effort in learning
- Fostering a sense of belonging
  - allowing students to see their culture and identity valued within the context of mathematics, reinforcing their self-esteem and pride

Culturally Responsive Picture Books and Suggested Math Activities

Book	Brief Summary	Mathematics Teaching Idea
COUNTING AND OPERATIONS		
10 Gulab Jamuns by Sandhya Acharya Story Guide	Idu (Ee-doo) and Adu (Aa-doo) are very excited. Mamma is cooking Gulab Jamuns, but Idu and Adu don't know what Gulab Jamuns are. Before long, they discover just how good these wonderful golden, sugary syrup-soaked balls are and how quickly they melt in their mouths. But Mamma has only made 10 Gulab Jamuns. Will they last until their guests come?	Follow the recipe for gulab jamuns in the back of the book to practice measurement concepts. Act out the story using puppets to represent the boys and cotton balls to represent the gulab jamuns drawing attention to counting up and back.
Alma and How She Got Her Name / *Alma y cómo obtuvo su nombre* by Juana Martinez-Neal	What's in a name? For one little girl, her very long name tells the vibrant story of where she came from — and who she may one day be. If you ask her, Alma Sofia Esperanza José Pura Candela has way too many names: six! How did such a small person wind up with such a large name? As she hears the story of her name, Alma starts to think it might be a perfect fit after all — and realizes that *she* will one day have her own story to tell.	Children can build towers with one cube for each letter of their names, then look for a classmate with a name that is longer, shorter, or the same length.
Baby Goes to Market by Atinuke	When Baby and Mama go to the market, Baby is so adorable that the banana seller gives him six bananas. Baby eats one and puts five in the basket, but Mama doesn't notice. As Mama and Baby wend their way through the stalls, cheeky Baby collects five oranges, four biscuits, three ears of sweet corn, two pieces of coconut -- until Mama notices that her basket is getting very heavy!	Write the numbers 0 – 5 on a sheet of paper. Children roll a die then cross out the number that is one less than the number shown on the die. The first player to cross out all the numbers wins.

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Dumpling Day by Meera Sriram Story Guide	Readers follow ten diverse families as they cook dumplings inside their homes in preparation for a neighborhood potluck. Dumplings are added to plates one by one, encouraging children to count with each new addition. Authentic recipes for all the dumplings and a map showing their regions of origin are included in the endnotes.	Have children describe the attributes of the different dumplings. Count the number of dumplings on each plate on the cover or pages. Graph and compare the results.
Feast for 10 by Cathryn Falwell	Count from one to ten and then count again. What does it take to make a feast for ten hungry people? First, there's shopping, then there's cooking, and setting the table. Everyone in the family helps, and as fast as you can count to ten, the feasting begins.	Talk with children about the nutritious foods in the story (e.g., beans, greens, tomatoes, and potatoes). Place numbered cards in the corners of a placemat. Children use play foods to create a 1-2-3-4 meal. They choose 1 meat or protein, 2 grains, 3 fruits, and 4 vegetables and place them in the correct corners of the placemat.
One Sweet Song by Jyoti Rajan Gopal	In a quiet neighborhood, a single note trills through the air. Another note joins, and then another. One by one, curious people are drawn to their windows, doorways, and balconies to support the medley. Written by a kindergarten teacher and inspired by the balcony singing in Italy during the pandemic—with a countdown from one to ten and back gently woven in.	Hang number cards on a clothesline (benchmark numbers like 0, 5, 10). Have students place cards with numbers in the correct sequence and practice saying the numbers in order. (To make it more challenging, start from 5, 10, 15, etc.) For backwards counting, place a sequence of numbers in decreasing order on the clothesline. Have students remove cards one by one, counting backwards as they go.
The Day You Begin / El Día En Que Descubres Quién Eres! by Jacqueline Woodson	When Angelina, a young African-American girl, enters her classroom, she notices that her skin, clothes and the curl of her hair are different from her classmates'. When Rigoberto tells the class he's from Venezuela, the class laughs because they don't understand him. When Angelina introduces herself during circle time, Rigoberto notices that she has the same name as his sister. In that moment, Angelina makes a connection and notices there's room for her similarities and her differences.	Have students write down 2-4 things about themselves. Elevate some of the common qualities you see they are choosing and graph the results. For example, ask how many said they were friendly. Graph the number that chose friendly as one of their qualities.
GEOMETRIC SHAPES		
Again, Essie? / ¡Essie! ¿Otra vez? by Jenny Lacika	Rafael wants to protect his toys from his little sister, Essie. Gathering materials from around the house, he builds a wall tall enough and wide enough to keep her out. But will it be strong enough? And what does Essie really want?	Play a block building game with a friend. Put two pieces of construction paper on the floor. Roll a die. Choose which tower you want to add blocks to. If the tower falls over, say, "Oh, well," and start building again. What types of shapes work best for towers?

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Circle! Sphere! / Circulo! Esfera! by Grace Lin	It's summer, and that means it's time for these three friends to blow bubbles! Olivia, Alex, and Mei each get a different shape of bubble wand. Does this mean the bubbles will be different shapes?	Experiment to find out if a bubble wand that is shaped like a rectangle, triangle, or square will make bubbles in those shapes. Use pipe cleaners to create the shapes and try it out. Why is a bubble always a sphere? Do research on the internet to find out.
City Shapes by Diana Murray Story Guide	From shimmering skyscrapers to fluttering kites to twinkling stars high in the sky, everyday scenes become extraordinary as a young girl walks through her neighborhood noticing exciting new shapes at every turn.	Go on a walk in the school hallway or playground pretending to be the pigeon in the story. Have students draw pictures of the shapes they see. As students are identifying shapes, ask them questions about the shapes and how they know they have correctly identified the shapes (i.e., shape attributes).
Crescent Moons and Pointed Minarets: A Muslim Book of Shapes by Hena Khan	In a simple rhyming text a young Muslim girl celebrates shapes and traditions in Muslim culture - guiding the reader through the art, architecture, and other features of Islam.	Divide the children into teams: Circles, Squares, and Triangles (other any other shapes). Lead children around the classroom, school, playground. As a group, each team must look for their assigned shape in objects. Have students draw a collage of the items their team found for display in the classroom.
Round is a Tortilla: A Book of Shapes by Roseanne Thong	In this lively picture book, children discover shapes all around them: rectangles are ice-cream carts and stone metates, while triangles are slices of watermelon and quesadillas. Many of the featured objects are Latino in origin, and all are universal in appeal.	Sit across from a small group of children. Show children a sphere. Make a sphere with your playdough, then have the children do the same. When all the children have made a ball ("You can call it a ball. Or I call it a sphere.") have them "transform" the dough into another 3D shape such as a cone, cylinder, cube, etc.
POSITIONAL WORDS		
Beto's Berry Treasure by Jenny Lacika	Beto wants to play tea party with Cora, but his big sister just wants to be a pirate. To get Cora on board, Beto makes a map to a delicious hidden treasure. But Cora ends up in the wrong place! Will Cora find the treasure before Beto eats it all?	Take the children outside for a walk and have them make a map of their surroundings. Encourage them to use pictures to represent a path, tree, fence, etc. Have children share their maps with each other explaining what the pictures represent and how they decided where to put it.
Lia & Luís Puzzled! by Ana Crespo	Twins Lia and Luís have received a secret puzzle from their grandma! Can they put it together to read the hidden message?	Provide children with pentomino puzzles that require them to use a specific number of pentominoes to fill a grid or shape. Encourage students to use positional language when describing how they are placing the pentominoes (i.e., flipping, rotating, turning, etc.)

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Martha Maps It Out by Leigh Hodgkinson	Martha's maps will take you on an enchanting journey through her world, starting from outer space and zooming in, map by map, to our planet, Martha's neighborhood, and beyond.	Children use the kitchen tools to make prints on large sheets of paper. The prints must fill up the entire paper but not overlap. When finished, children describe to the teacher the location of the prints using shape and position words such as beside, under, over, next to, between, up, down, top, bottom.
Usha and the Big Digger by Amitha Jagannath Knight Story Guide	Indian American characters discover that flipping or turning a shape does not change its attributes. Children experience big ideas in geometry as they visualize shapes in various positions and listen to the book's characters describe the direction, distance, and location of a constellation in relation to other objects, such as a tree or house.	Guide children on a walk around the school. When a child recognizes an object's geometric shape (such as a rectangular door, square floor tile, or circular clock), ask them to mark it with the sticker that matches its shape. Encourage children to describe the attributes (number of sides, number of corners) of the shapes they find. Ask children to describe the shapes' positionality (below the sink, beside the door).
MEASUREMENT TERMS		
Amara's Farm by JaNay Brown-Wood	Amara is hosting a potluck for friends on her farm, and she needs help finding her pumpkins to serve a tasty dish. Amara explores the crops growing on her family's intergenerational farm. Playful text guides young readers to hunt for visual clues and compare and contrast the unique characteristics of pumpkins against okra, cauliflower, eggplant, and other produce that grows on Amara's farm.	Gather play/real food. Count the number of food types. Have students write those numbers, graph the results, and compare and contrast the food types. Have students compare and contrast the size of two foods. Which is largest? Lightest? Skinniest? Heaviest?
Leaves to My Knees by Ellen Mayer Story Guide	Camille is determined to rake her own pile of leaves - all the way up to her knees! Her pile grows bigger alongside the piles made by Daddy and her little brother, Jayden. After raking leaves to the top of her boots, a giant breeze blows the pile back down to her ankles. But Camille won't be stopped until she gets the job done!	Have children find something that is the same height as their knees or other parts of their body. Compare objects in the room that are small, big, wide, skinny. Have students use mathematical vocabulary to describe and compare the objects.
Lia & Luís Who Has More? by Ana Crespo	Twins Lia and Luís argue over who has more of their favorite snacks. Can the siblings use math--and a little sharing--to pick the winner?	Have children compare objects in the classroom using comparison words (i.e., more, less, equal to, etc.). Use everyday objects to measure things around the classroom.
Littles and How They Grow by Kelly DiPucchio	With adorable scenes from the busy life of a "little"—peekaboo, feedings, tantrums, giggles—and a final scene that reminds us how they become big kids all too soon, this is the ideal gift for any new parent and their child.	Measure the children at the beginning and end of the year. Have parents send baby and current photos of the children and match them.

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What Will Fit? / Qué llenara la canasta? by Grace Lin	Olivia wants to find the perfect piece of produce to fill her basket at the farmer's market. An apple is too small, and a zucchini too long. Can she find just the right fit?	The teacher gives each student a small orange or other fruit. Children go on a hunt inside or outside the classroom to find items that are longer, shorter, and the same length as their fruit. The teacher can make a chart showing the results by taking photographs, using words, or drawings.
CAPACITY		
Look, Grandma! Ni, Elisi! By Art Coulson	Bo needs the perfect container to show off his traditional marbles in his family's booth at the Cherokee National Holiday. He compares the capacity of a too-big mat, crate, box, and vase before finding that a basket Grandmother wove for him is the perfect size to display his wares.	Show a small pile of cubes and four containers. Ask children to guess which container will be too small for all the cubes. Which will be too large? Which will be just right? Have children fill the containers and discuss their findings.
LINEAR MEASUREMENT		
Sometimes We Do by Omo Moses	Johari loves Daddy days, when he and his father make pancakes and play with trains. Together Johari and his father chat about size, number, amount, recipes, and family chores. Playful illustrations allow a glimpse of Johari's fantasy world and invite furth er discussion of the book's early math concepts.	Cut pieces of ribbon, yarn, or paper to the lengths of some of the illustrations in the book and label them. Put in order from longest to shortest.
WEIGHT		
In Our Garden by Pat Zietlow Miller Story Guide	Millie has recently moved to a new city, from a place more than an ocean away. More than anything she misses the garden where her family used to grow food. Then one day she has an idea—the school has a fine flat roof, perfect for a garden. Soon her teacher and classmates are on board. It takes a lot of waiting. But as Millie's teacher Miss Mirales says, "Be patient. Good things take time."	Children use a pan balance to explore weight and equality of real foods versus plastic play foods. Emphasize terms such as *heavier*, *lighter*, and *equal*.
PASSAGE OF TIME		
Rocket Says Look Up by Nathan Bryon	A comet will be visible tonight, and Rocket wants everyone to see it with her--even her big brother, Jamal, whose attention is usually trained on his phone or video games. Rocket's enthusiasm brings neighbors and family together to witness a once-in-a-lifetime sighting.	Draw a timeline on adding machine tape to show the events in the story beginning with Rocket's announcement in the grocery store. Discuss and draw a simple picture to represent what happened *before* Rocket and Jamal go to the park and *after* they arrive at the park.

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Rosie Goes to Preschool by Karen Katz	Rosie follows the preschool routines and schedule with ease and confidence.	Take pictures of children doing various classroom activities. Have them place the photos in order for the daily class schedule.
The King of Kindergarten by Derrick Barnes	This new kindergartener dressed himself, eats a pile of pancakes, and can't wait to be part of a whole new kingdom of kids. The day will be jam-packed, but he's up to the challenge, taking new experiences in stride with his infectious enthusiasm! And afterward, he can't wait to tell his proud parents all about his achievements--and then wake up to start another day.	Use picture cards to create a daily schedule. Mix up the classroom schedule and see if students can "fix" it. Use benchmarks for understanding the passage of time such as, "What comes before lunch? What comes after lunch?"
GRAPHING AND DATA ANALYSIS		
All Are Welcome by Alexandra Penfold	Readers will follow a group of children through a day in their school, where everyone is welcomed with open arms. A school where students from all backgrounds learn from and celebrate each other's traditions. A school that shows the world as we will make it to be.	Talk about how the characters feel during different times of the day (i.e., arriving at school, participating in class, playing at recess, eating lunch). Take a poll to see how many students feel the same way as the characters. Graph the results.
Yumbo Gumbo by Keila V. Dawson	Annabelle's grandparents are finally going to teach her how to cook gumbo! But the family can't agree on what type of gumbo to make. They vote for their favorite, but the vote results in a tie. Now what?	Based on interest, decide on a poll question and gather children's votes. Predict which choice received the most votes. Count the votes, graph and compare the results.
CLASSIFICATION & PATTERNS		
Bracelets for Bina's Brothers / Brazaletes para los hermanos de Bina by Rajani LaRocca	For the Hindu holiday of Raksha Bandhan, Bina is determined to make beaded bracelets for her brothers all by herself. She finds out which colors her brothers like and dislike and sets to work. Working with her every-other-one beading pattern causes Bina to discover something new about patterns –and her brothers.	Sort beads by color then create bead bracelets using an AB pattern like Bina used. Replicate that pattern using movements (clap-jump-clap-jump) or sounds (honk-whistle-honk-whistle).
Hundreds of Hijabs by Razeena Omar Gutta	Hana has a humongous collection of hijabs and accessories – and her hijab is always styled superbly. But when her overflowing collection gets a little out of hand, Hana knows something needs to be done . . . and comes up with a clever plan for sharing her talents and possessions with her community!	Consider using this book on the 100th day of school. Do you have hundreds of something? Have students bring in a collection of 100 objects. Have them count their collection and record it two different ways.
Last Stop on Market Street by Matt de la Peña	Every Sunday after church, CJ and his grandma ride the bus across town. But today, CJ wonders why they don't own a car like his friend Colby. Why doesn't he have an iPod like the boys on the bus?	Make a bar graph to keep track of how many times the words bus, beauty, CJ, rainbow, crumbling, graffiti, Nan, and church appear in the book. Which of the

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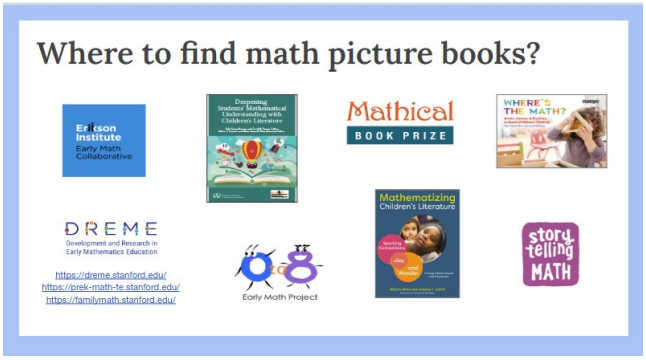
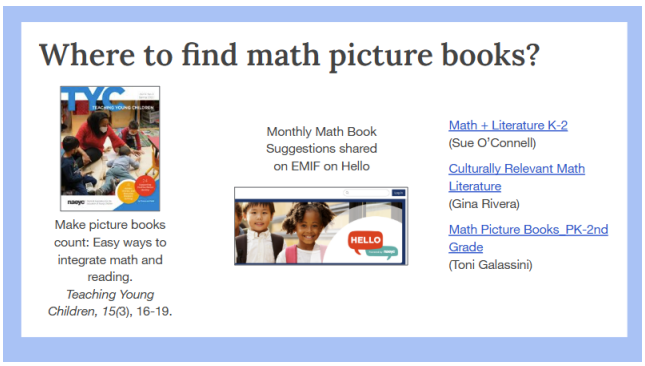
	How come they always have to get off in the dirty part of town? Each question is met with an encouraging answer from grandma, who helps him see the beauty—and fun—in their routine and the world around them.	words we counted was used the most/least?
One Watermelon Seed by Celia Barker Lotteridge	Readers count from 1 to 10 as Max and Josephine plant their garden then by 10s as the watermelon, eggplants, beans, tomatoes, and other foods are picked.	Have children identify the skip counting pattern of tens in the book, and color the tens on the hundreds chart. Challenge children to find other patterns on the hundreds chart and color them as well.
Pitter Pattern by Joyce Hesselberth Story Guide	Pitter, pitter, pat! Pitter, pitter, pat! Hey, it's a pitter, pitter, pattern! Lu and her friends love spotting patterns in their daily activities. Lu learns that patterns can be found at soccer practice, during her piano lessons, in dance class, at snack time, and even at the park!	How many patterns can you spot as Lu goes about her week? Create your own pattern with colored dot stickers. Then "play" the pattern using instruments with corresponding dots.
Red Shoes by Karen English	Malika has all sorts of adventures in her beloved red shoes. When the shoes become too small, Malika and her Nana take them to a resale shop. There, Inna Ziya gives them a second life as a Ramadan gift for Amina, her niece in Ghana.	Ask children to remove one shoe. Sort the shoes according to a variety of attributes (color, style, type of closures). Discuss similarities and differences between the groups. Help children line up the shoes to make a graph. Ask children which type of shoes do we have the most/least of? Guide children to use shoes to create a pattern such as slip-on, Velcro, lace, slip-on, Velcro, lace.
Soup Day by Melissa Iwai	On a cold, snowy day, a young girl and her mother shop to buy ingredients for vegetable soup. At home, they work together—step by step—to prepare the meal. While the soup is cooking, they spend the time playing games and reading. Before long, Daddy's home and the family sits down to enjoy a homemade dinner.	Sort vegetables (or pictures of vegetables) by size, shape, color, number, weight, texture, whether the vegetables have leaves, or whether they are root vegetables. Sort again with a new attribute.

Resources