

2019 Summer Opportunities to Engage with Mathematics

Books

PREK - K

- [12 Ways to Get to 11](#) by E. Mirriam
- [7 Ate 9](#) by T. Lazar (ages 5-6)
- [Countablock](#) by C. Franceschelli
- [Five Creatures](#) by E. Jenkins
- [Ten Black Dots](#) by D. Crews

K-3

- [1 + 1 = 5 and Other Unlikely Additions](#) by D. LaRochelle
- [100 Snowmen](#) by J. Arena
- [Anno's Magic Seeds](#) by M. Anno (ages 4-8)
- [Billions of Bricks: A Counting Book About Building](#) by K. Cyrus (ages 5-8)
- [Counting on Frank](#) by R. Clement (ages 5-8)
- [The Greedy Triangle](#) by M. Burns
- [How Big is a Foot](#) by R. Myller
- [How Many? A Counting Book](#) by C. Danielson
- [How Many Seeds in a Pumpkin?](#) by M. McNamara
- [Lifetime: The Amazing Numbers in Animal Lives](#) by L. Schaefer
- [Math Fables](#) by G. Tang
- [Measuring Penny](#) by L. Leedy
- [One Hundred Hungry Ants](#) by E. Pinczes
- [One is a Snail, Ten is a Crab](#) by A. Pulley Sayre

3-5

- [Go Figure, A Totally Cool Book About Numbers](#) by J. Ball
- [The Grapes of Math](#) by G. Tang
- [A Remainder of One](#) by E. Pinczes
- [Spaghetti and Meatballs for All](#) by M. Burns
- [Sweet Clara & the Freedom Quilt](#) by D. Hopkinson

K-5

- [Counting on Katherine: How Katherine Johnson saved Apollo 13](#) by H. Becker
- [The Girl with a Mind for Math: The Story of Raye Montague](#) by J. Mosca
- [A Hundred Billion Trillion Stars](#) by S. Fishman (ages 4-8)
- [Infinity and Me](#) by K. Hosford and G. Swiatkowska
- [Nothing Stopped Sophie: The Story of Mathematician Sophie Germain](#) by C. Bardoe
- [Patterns in Peru: Adventures in Patterning](#) by C. Neuschwander
- [Perfect Square](#) by M. Hall

Board Games & Card Games

All ages

- *Tiling turtles* (geometry)
- *Rat-a-Tat-Cat* (memory, probability)
- *Blokus* (strategy/geometry)

PreK-K

- *Zingo* (number/quantity matching)
- *Set Jr.* (matching, attributes)

Grade 1 and up

- *Farkle* (addition, risk-taking)
- *Blink* (matching, subitizing)
- *Gobblet* (strategic thinking, memory)
- *Qwirkle* (strategic thinking, attributes)
- *Toss Up* (strategic thinking, risk-taking)
- *Tiny Polka Dot* (subitizing, logic, addition)
- *Shut the Box* (addition, number decomposition)

Grade 3 and up

- *24 Game* (mental fluency with addition, subtraction, multiplication, division)
- *Rummikub* (sequencing, pattern recognition, strategy)
- *Zeus on the Loose* (addition, multiples of 10)
- *Yahtzee* (strategy, addition)
- *On the Dot* (brain teaser, spatial organization)
- *Qwixx* (addition, strategy)
- *Set* (strategy, problem solving, attributes)
- *Prime Climb* (addition/subtraction/multiplication/division)
- *Mastermind* (strategy game)
- *Clumsy Thief* (adding to make 100)
- *Cat Crimes* (problem solving, logic)

Technology Opportunities

GAME CENTER

Games are frequently used in class to learn and review concepts and skills. The [GAME CENTER](#) is a place to play curriculum games in a digital format. Choose your grade level on the left toolbar and you will have access to all games from the curriculum.



Outdoor Opportunities

MiniMaths

This is an [Australian based website](#) seeking to engage young learners with mathematics through experiences in the natural environment



1. How many leaves?



2. Big Bigger Biggest



3. Same Same Different

Everyday Opportunities

Bedtime Math - Make math a part of your family routine with these fun videos, pictures, and prompts.

Engage in mathematical discussions with your child so they can practice sharing math ideas in a way that is understandable to others. Ask: "Can you say more about that?" or "Tell me more about what you're thinking." Revoice ideas by repeating all of or part of what your child says and then ask them to verify whether or not you are correct. This helps them to clarify their original ideas.

Model a positive attitude about math! Encourage your child to believe in themselves- we are all capable of learning and doing math. If you're child is stuck, instead of showing them what to do, ask questions like, *What makes sense? What have you tried so far? What might you change? How can you draw a math picture to help you visualize the problem?*

Embrace your inner mathematician. Demonstrate a growth mindset that anyone can be a mathematician. Value deep thinking over speed. Ask, "Why?" "How do you know?" "Can you show me?" "What do you notice?"

Point out where there is an opportunity for math, problem solving, persevering in everyday life. Read math related children's books and ask children what they notice and what they wonder about. Math related games can be a fun way to have family time and discuss some math related ideas!

Talk about numbers in everyday situations: exit signs on the highway (what number will be next?), license plates (add up the numbers), prices in the grocery store, cars in the parking lot (how many cars? how many tires?). Make predictions and estimate. Have fun with numbers. Make up your own card games. Do puzzles.

Ask "I wonder" questions about the world around you. Ask what your child wonders. Think about how you could figure out the answer to these questions about the world. Look for shapes and patterns. Make estimates. Solve puzzles together and model perseverance.

Ask "How many?" and count everything and anything. Count as you put away silverware, count your change, count your collections. Find different ways to count and keep track of what you have counted. Estimate how many windows on a house and then count, estimate how many people at a basketball game, then count. Play games that involve counting, anything from Chutes and Ladders to Dominoes to Parcheesi.

Model curiosity by vocalizing your own mathematical noticings and questions about the world around you. Help them to see that mistakes are part of learning and encourage them not to shy away from a challenge -- challenging problems make us stronger!