Walker's Summer Learning Contract

Avoiding the "Summer Slide" --

Ways to Include Mathematics in Your Summer Activities!

Research shows that on average students lose approximately 2.6 months of grade level equivalency in mathematical computation over the summer months. Researchers speculate that summer learning losses in mathematics occur because students are less likely to practice math skills outside the formal classroom setting.

How can I help my child with MATH?

Count your steps as you take a walk. Count by 1's, 2's, 5's, and 10's.

Give your child coins to practice counting money.

Give your child story problems to try and solve. Have your child **explain** how to solve the problem.

Have children point out patterns they find.

Let your child help you cook. Cooking involves a lot of counting and measuring.

Help your child learn math vocabulary.

Show your child that math is in our everyday lives.

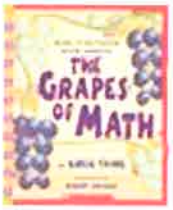
There are A LOT of fun, engaging math books available at the library, on line, or at the book store. Check out some of these top rated books!

Top 10 (Top Rated Educational Math Books for Children (11 & Under) per the voters at Goodreads.com):

Math Curse
by Jon Scieszka

How Much Is a Million?
by David M. Schwartz

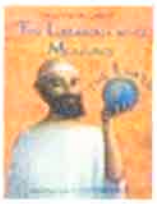
Sir Cumference and the First Round Table
by Cindy Neuschwander



Grapes Of Math
by Greg Tang

The Greedy Triangle
by Marilyn Burns

Math-terpieces: The Art of Problem-Solving
by Greg Tang



The Librarian Who Measured the Earth
by Kathryn Lasky

Sir Cumference and the Sword in the Cone
by Cindy Neuschwander

One Grain Of Rice: A Mathematical Folktale
by Demi

Measuring Penny
by Loreen Leedy

But don't take someone else's word - judge them yourself.
If these don't tickle your math fancy, explore the list on the next page!

Here are some authors (with a sampling of their books) to check out!

Mitsumasa Anno: Anno's Math Games Anno's Mysterious Multiplying Jar	Marilyn Burns: Spaghetti and Meatballs for All The I Hate Mathematics! Book Math for Smarty Pants
Pam Calvert: Multiplying Menace: The Revenge of Rumpelstiltskin	Gwen Dandridge: The Stone Lions
Fingerprints: Nico How Do We Get There? Nico Sums It Up!	Trudy Harris: The Clock Struck One: A Time-Telling Tale
Joan Holub: Zero the Hero Riddle-Iculous Math	Deborah Heiligman: The Boy Who Loved Math: The Improbable Life of Paul Erdos
Emily Jenkins: Lemonade in Winter: A Book About Two Kids Counting Money	Mij Kelly: One More Sheep
Loreen Leedy: 2 X 2 = Boo!: A Set of Spooky Multiplication Stories It's Probably Penny The Great Graph Contest The Mon$ter Money Book	Eric Litwin: Pete the Cat and His Four Groovy Buttons
Bill Martin Jr.: Chicka Chicka 1, 2, 3	Ann McCallum: Eat Your Math Homework
Ann McCallum: Beanstalk: The Measure Of A Giant	Stuart J. Murphy: Racing Around A House for Birdie (MathStart Level 1) Let's Fly a Kite Less Than Zero Divide And Ride Seaweed Soup
Cindy Newschwander: Sir Cumference and the Great Knight of Angleland Sir Cumference and the Dragon of Pi Mummy Math: An Adventure in Geometry	Theoni Pappas: The Adventures of Penrose the Mathematical Cat
Elinor J. Pinczes: A Remainder of One	Louis Sachar: Sideways Arithmetic from Wayside School More Sideways Arithmetic from Wayside School
Gregory Tang: Math for All Seasons Math Fables The Best Of Times	Barbara Tinker: The Cryptic Case of the Coded Fair

Obviously this list is not all-inclusive re authors or math related books.
Don't be afraid to seek and find other math related books to enjoy!

Building Math Skills At Home

With a little creativity, you can make math lots of fun! Here are some easy things that you can do at home to help your child with math.

•There are many games that you probably already have at home that encourage development in math: Yahtzee (basic addition), Connect Four (problem solving,, developing strategies), Puzzles (spatial awareness), Card Games (have players flip cards and greatest or least number wins), Candy Land (make your own game cards and use math facts instead of colors), Monopoly (money), Battleship (coordinate graphs), etc.

•Talk about the calendar with your child. Make it exciting by looking forward to special events. It is fun for them to count the weeks and days until birthdays or to see what day of the week a specific holiday will be on this year.

•You can help your child learn to count money by playing store with them. Use real coins and let them be the "cashier".

•Use an empty egg carton as a counting tool to practice addition and subtraction skills up to 10. Simply place an object in slots and use the empty slots to count up to/from 10.

•Notice the clock. Tell them that they can play a game at a certain time. Begin with easy times (7:00) and get progressively more difficult (7:30 and 7:45).

•Bake with your child. Read the instructions on the back of the box and allow them to measure ingredients.

•You can develop a better understanding of fractions by discussing equal parts with your child. Any time you bake a frozen pizza, it is an opportunity to let them understand what 1/6 means.

•Making flash cards of basic addition or subtraction facts can be an easy way to practice. You can make it a game by seeing how many they can answer in a minute. If they improve their score over time, reward them.

•You can make pot holders on a small loom. This is a good way to practice making and extending patterns.

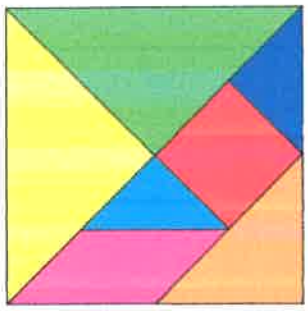
•Any time there is a project at home that involves measuring inches or feet, let your child help! This allows them to understand that the concepts they are learning in school have real world applications.

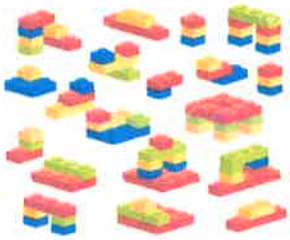
•Point out shapes and discuss them. If you see a "YIELD" sign, discuss that it is a triangle and ask your child how many sides would be on 3 "YIELD" signs.

Math Related Activities & Games

BOARD GAMES (involving money &/or counting)

Monopoly Mancala Backgammon
Money Bags Coin Value Sum Swamp
Parcheesi Yahtze





BUILDING

Blocks Legos /MegaBloks
K'nex Erector Sets
Kapla Squigz
Lincoln logs Geomags
Tinker toys Architecto
Cuisenaire Rods
Scrap materials (boxes, paper towel rolls, egg cartons, pipe cleaners)

Logic/Thinking Games

Secret Codes Brain Teasers
Patterns/Sequences Guess Who
Mastermind Coda

CARD GAMES

Concentration Crazy 8's
Slap Jack Top It
Go Fish Solitaire Uno
Cribbage Phase 10
Fluxx Blink Spot It
and
Check out the games in "Acing Math (One Deck at a Time!)" [download the pdf from http://www.pepnonprofit.org/mathematics.html]

Art/Pretend Play/Other

Tangrams Geometric Shapes
Hopscotch Origami Mosaics
Pretend store or restaurant (create price list/menu, pay for & make change)
Cooking & Baking Sports Statistics
Trip Planning (mileage / spending)
License Plate Math (adding/multiplying)

BOARD GAMES (involving space &/or strategy)

Battleship
Chess Checkers Connect Four
Bingo Pente Pentago Jenga
Sequence Latice Blokus
Katamino Quoridor Othello
Quixo Rush Hour Tic-Tac-Toe

Math Apps and Websites

Free Apps

Sushi Monster

Kahn Academy

Prodigy

Dreambox

Starfall– *app is very limited free – it has some number activities for younger learners but you can access all activities with the paid app.*

Paid Apps (some have free trials on line)

Marble Math

Marble Math Jr.

Motion Math Hungry Fish (Or Hungry Guppy)

Motion Math Pizza

Motion Math Wings

Motion Math Zoom

Motion Math Match

Top It

Tric Trac

Monster Squeeze

Websites:

ABCYa.com

PBSparents

Starfall

(Website for reading learning is free;
The website for math learning is paid.)

Coolmath4kids
Math + Games for Kids, Teachers & Parents

MATH NOOK
[Math Games and More.]

This final suggestion is an enjoyable way for your family to end the day, mixing a bit of literacy and math!

Each day **Bedtime Math** [http://bedtimemath.org/] presents a short, timely tale incorporating math concepts. As the site describes its nightly math:

> Just 5 quick minutes of number fun for kids and parents at home. Read a cool fun fact, followed by math riddles at different levels so everyone can jump in. Your kids will love you for it.

Here's a problem from earlier this month:

THE BANGED-UP CAR WINS THE RACE

HTTP://BEDTIMEMATH.ORG/FUN-MATH-DIMPLED-CAR/

May 1, 2017 By Laura Overdeck

What the heck happened to that car? Why is it covered in dents? To save gas. It turns out golf balls, which you hit with a club, fly faster through the air because they're covered with round dimples. So of course someone had to ask, what if we put little dimples all over a car? Would the car use up less fuel pushing against the air? Adam Savage and Jamie Hyneman at Mythbusters tested 3 Ford Taurus cars: one normal car, one car covered in smooth clay, and one covered in clay with 1,082 dimples scooped out. Sure enough, while the smooth cars could drive 26 miles on a gallon of gas, the dimpled car drove almost 30 miles! On a long trip that saves a lot of gas, if you're okay with driving a funny-looking car.

Wee ones: What shape is a golf ball?

Little kids: Golf balls don't all have the same numbers of dimples. Which has more, a ball with 20 dimples or a ball with 30 dimples? *Bonus:* If the dimpled car could drive 30 miles on a gallon of gas while the regular car drove only 26 miles, how much farther could the dimpled car drive?

Big kids: If you helped smash the dimples into Adam and Jamie's test car, and you can smash 10 dimples each minute, about how long would it take you to make the 1,082 dimples? *Bonus:* If your car tank holds 20 gallons of gas, and you'll drive 4 miles farther on each gallon after banging up your car, how many more miles do you get out of every tank of gas?

Answers:

Wee ones: A circle, or if you're talking about 3-D (chunky) shapes, it's a "sphere."

Little kids: The 30-dimple ball. Bonus: 4 miles farther.

Big kids: 108 minutes. Bonus: 80 more miles!