Summer Fun Weekly Math Tasks

Source- *Teaching Children Mathematics* – National Council of Teachers of Mathematics

Week	Kindergarten – First Grade
1	**Batter up.** After 3 innings, your baseball team has scored 10 runs. What are some of the ways your team could have scored 10 runs after 3 times at bat? One possible solution is 2 runs in the first inning, 2 in the second inning, and 6 in the third inning. Work with a partner and think of a way to record your ideas so that others can see your combinations. Compare your record with another group's. How are they the same and different?
2	**Mapping a room** … After reading the book Mapping Penny's World by Loreen Leedy, imagine that you are a spider on the ceiling. On a blank piece of 8 1/2" × 11" paper, draw a map of a room in your house from the spider's viewpoint. Represent each table with a square. Place an X in the square that represents your place in the room. Draw the path you would follow to go from the door to your favorite place in the room. Use a different color to draw a different route you could take. Exchange maps with a family member. How are your maps similar? How are they different? **Challenge:** Draw maps of the yard and school street. Show how you would go from your house to another location near your house.
3	**Bat's incredible.** The bat in Stellaluna (Cannon 1993) loves fruit. If she eats 2 pounds of grapes a day, how many pounds will she eat in a week? A month?
4	**Leggy lambs.** Bedtime is a problem for the goofy sheep in Six Sleepy Sheep (Gordon 1991). How many different ways could we line up 3 sheep on the bed? 4 sheep? 5 sheep? 6 sheep? Can you find a pattern? What is your strategy for solving this problem?
5	**Measure up.** Inch Worm, in Inch by Inch (Leonni 1960), saves his own life by measuring a robin's tail. He then uses his body to measure other birds' necks and legs. Measuring the nightingale's song is a little more difficult. What can you measure? What can you measure using your hand the measuring tool? Your foot? Choose arm and measure 2 objects in your house.
6	**Fair share.** Imagine that you bring a granola bar for your camp snack time. This healthy snack is in the shape of a rectangle. You want to share it equally with some friends. Decide how you would share your bar with 1 friend. Make a record of how you would split the bar. How would you share the bar with 2 friends, 3 friends, and 4 friends? Do not forget to give yourself a piece. Record your thinking. Compare your ideas with a friend's ideas. How is your thinking alike? How is your thinking different?
7	**Supermarket Math Shape Hunt.** The supermarket is full of objects having different shapes. The next time you are in the grocery store, take time to notice the various food items, packaging, and storage displays. What are some of the different shapes you can see? How many different shapes of crackers can you find? Choose some crackers that have interesting shapes and bring these to school to compare them with crackers your classmates found. Group the

	crackers by their attributes, such as shape and size.
8	**In the Garden.** On an outing through their neighborhood, 5 friends pick baskets of spring greens. Marcos picks 14 ounces, Gina picks 11 ounces, Fernando picks 9 ounces, Mira picks 17 ounces, and Scott picks 23 ounces. Put the baskets in order from lightest to heaviest. Who picked the most lettuce? Who picked the least? How many ounces altogether did the friends pick? Write your own problem about friends and vegetables. Share it with 2 classmates, and see if they can solve it.
Week	**Second – Third Grade**
1	**Soccer time.** As part of a special event, you and 15 of your friends are playing in a city-wide 6-on-6 soccer tournament. This means that each team needs 6 players on the field at a time. Your friends agrees that everyone should be on a team. Your coach has asked for your help. How many teams will there be? Did it come out even? If not, how can you solve this problem so that everyone is on a team? Make sure that your mathematics thinking is clear.
2	**Get into the swim.** Swimming pools often have a shallow end that is 3 feet deep and gradually slope to 5 feet deep or more. Use a measuring tape or ruler to determine how deep 3 feet of water would be on your body. Compare water depths of 3 feet, 4 feet, and 5 feet to your body. Diving is usually prohibited in pools 5 feet deep or less. Why do you think the water depth must be greater than 5 feet before it is safe for diving? Use mathematics to justify your reasoning.
3	**Where's the ball?** After getting possession of the football on the 12-yard line, a football team advances the ball 10 yards. On the next play, the players advance the ball another 17 yards. A foul is called on the play, which pushes the team back 10 yards. Where will the ball be spotted now? You may want to draw a picture. Write another series of plays and share with a friend. Can your friend spot the ball on the correct yard line?
4	**Estimating sums**. In Betcha! (Murphy 1997), two friends are taking a walk. One boy is estimating the sums of things around him while the other is finding the exact sum. Then they compare sums. Try this with a partner: Imagine that you are eating out with 3 other people. Your meals cost $4.25, $5.50, $4.75, and $3.35. One of you estimates the total cost of the meal and another finds the exact amount. Use a menu from a local restaurant or make up your own set of prices for a group of 6 people eating out. Estimate the total cost of the meal. Now find the exact total. How do they compare?
5	**Marvelous marbles.** Fraction Action (Leedy 1994) is a story about a classroom full of animals learning about fractions. In the second chapter, "Get Ready, Get Set," the class is dividing groups of items equally. If you have 24 marbles, how many would be in a set if the marbles were divided into fourths? What about eighths? What if you started with 36 marbles? If 1/4 of the set is 12 marbles, how many are in the whole set?
6	**Something fishy.** In Room for Ripley (Murphy 1999), Carlos wants to buy a fish named Ripley. His sister tells him that he must make a good home for Ripley. Carlos chooses a bowl and begins to fill it with water. He remembers that 2 cups = 1 pint and 2 pints = 1 quart. If his bowl will hold 4 quarts of water, how many

	cups can it hold? If it takes 16 cups of water to fill a fishbowl, how many quarts will it hold?
7	**A spoonful of sugar.** Health experts agree that most Americans eat too much sugar. Measure out 10 teaspoons of sugar and place it in a small container. This is the amount of sugar in most regular cans of soda. Many drinks and snacks contain high amounts of sugar. Food labels list the amount of sugar in grams. Collect the wrappers of your favorite snack foods. Check the labels and compare the amount of sugar in each snack. Which snack is lowest in sugar? Which snack is highest? Make a graph of your results to share with your class
8	**Supermarket Math Pack 'em up.** A stock clerk needs to repack some rolls of defective paper towels to ship back to the manufacturer. The rolls fill up 4 shelves, and each shelf holds 25 rolls. The original boxes are long gone, but the clerk can use other boxes of different sizes for packing the paper towels. Some boxes hold 10 rolls, some hold 5 rolls, and still others hold only 3 rolls. What are some ways that the clerk can pack the rolls of paper towels by using the different sizes of boxes? What is the fewest number of boxes he can use?
Week	**Fourth – Fifth Grade**
1	**Sport boards.** A local sporting goods store wants to expand its market. The store conducts a survey of prospective buyers, asking them to choose the kind of sport board they would purchase if it were available. The buyers cast 1132 votes for surfboards, skateboards, and snowboards. There are 250 more votes for surfboards than skateboards, and 118 fewer votes for snowboards than surfboards. How many votes are there for each type of board?
2	**Butterflies**. Monarch butterflies are remarkable insects. Each year, they migrate about 3100 miles from Canada and the northern United States to Zitacuaro in Michocan, Mexico. Their flight speed averages about 12 mph, although they can fly as fast as 30 mph with a good tail wind. In one day, they fly about 80 miles. Calculate how many days it takes for a Monarch butterfly to make its journey. An elite marathon runner averages 12 mph. If such an athlete runs 6 hours per day, how many days would it take the runner to cover the same distance as the butterfly? If you drove the same distance in a car, averaging 50 mph for 7 hours per day, how many days would it take you to make the journey?
3	**Car Purchase.** Your parents are trying to decide which car to purchase; they want either a Ford Escape or a Ford Escape Hybrid. The Escape costs $21,000 and gets 22–28 miles per gallon (mpg). The hybrid costs $30,000 and gets 29–34 mpg. Why might someone buy a hybrid? At what point would your parents begin to save money after buying the hybrid? Explain your solution. Based on your findings, is it a good economic decision to buy one? If the average family drives 12,000 miles per year, how much money would it save in gasoline by driving a hybrid (if the cost of the car is not considered)? Make an estimate, then prove the amount of gasoline saved.
4	**Bike Ride.** You want to bike to a friend's house that you visit every day Monday - Friday, so you ask your mom for permission. She says, "If you make a strong argument with facts to convince me, I will let you ride your bike." You find out that your mom's car uses 1 gallon of gasoline a day total for the drive to and from your friend's house. If a gallon of gasoline costs $3.65, how much money is

	it costing your mom a week? A month? Remember, she only takes you on 5 days. Prepare a presentation making a case for riding your bike instead of driving in a car. Be sure to include mathematical data in your argument.
5	**Pattern or pi?** Read the story <u>Sir Circumference and the Dragon of Pi</u> (Neuschwander 1999) through page 13. Measure the diameter and circumference of various circular objects in your home. Do you notice a pattern or relationship with the circumference and diameter of each object? Read the rest of the story to find how the character solves the riddle. Then try using the resolution of the story with your data.
6	**What pigs!** In the book <u>Pigs Will Be Pigs</u> (Axelrod 1997), the pigs search for spare change so they can go out for dinner. Keep a running tally of the money they find in their house. Collect take-out menus from restaurants in your area or create your own restaurant menu. Using the amount of money that the pigs collect as a limit, what combinations of entrees could they order at the "new" restaurant? Try figuring your local state sales tax and tips into your totals.
7	**Are you drinking what you are thinking?** Your body is approximately 60 percent water. Every day, your body takes in liquids and loses liquids. You take in liquids in the form of the foods you eat and the fluids you drink. Chart the fluid ounces you drink every day for a week. Keep track of how much you drink and what you drink each day. Compare your results with those of a classmate. Ask an adult to do the same. Graph all the results you gather. Examine your results for likenesses and differences. What health benefits can you find out about water, milk, soda, tea, and coffee? Present your findings to your family.
8	**In the Garden.** A ladybug sits at the bottom of a tomato plant that measures 36 inches. Every day, the ladybug climbs up 6 inches. Every night after the tomato plant is watered, she slides down 3 inches. How many days will it take the ladybug to climb to the top of the tomato plant? Illustrate your solution.

Math Books to Check out at Your Local Library

This condensed list is divided into the following categories: Adding and Subtracting; Counting; Fractions and Geometry; Measurement; Money; Multiplying and Dividing; Sequences and Patterns; Time, Months and Days;

Counting
Counting Wildflowers, by Bruce McMillan
Numbers, by Henry Pluckrose
Fish Eyes: a Book You Can Count on, by Lois Ehlert
Annie's One to Ten, by Annie Owen
Zero: Is it something? Is it nothing?, by Claudia Zaslavsky
Ten Black Dots, by Donald Crews
Moja Means One: A Swahili Counting Book, by Muriel Feelings
One Sun Rises: An African Wildlife Counting Book, by Wendy Hartmann
Emeka's Gift, by Ifeoma Onyefulu
Gathering: A Northwoods Counting Book, by Betsy Bowen

Fractions and Geometry
Fraction Action, by Loreen Leedy
Eating Fractions, by Bruce McMillan
Grandfather Tang's Story, by Ann Tompert
The Wheeling and Whirling-Around Book, by Judy Hindley
The Village of Round and Square Houses, by Ann Grifalconi
Circus Shapes, by Stuart J. Murphy
Give Me Half, by Stuart J. Murphy
The Greatest Gymnast of All, by Stuart J. Murphy
Jump, Kangaroo, Jump, by Stuart J. Murphy
Let's Fly a Kite, by Stuart J. Murphy
Fractions are Parts of Things, by Dennis J. Richard
String, Straightedge, and Shadow: The Story of Geometry, by Julia Diggins
If You Look Around You, by Fulvio Testa
The Mirror Puzzle Book, by Marion Walter

Measurement
Big Friend, Little Friend, by Eloise Greenfield
How Big is a Foot?, by Rolf Myller
Is it Larger? Is it Smaller?, by Tana Hoban
The Best Bug Parade, by Stuart Murphy
Size, by Henry Pluckrose
Long, Short, High, Low, Thin, Wide, by James Fey
Bigger and Smaller, by Robert Froman

Money
Alexander, Who Used to be Rich Last Sunday, by Judith Viorst
Bunny Money, by Rosemary Wells
Jelly Beans for Sale, by Bruce McMillan
My Rows and Piles of Coins, by Tololwa Mollel

Multiplying and Dividing
The Doorbell Rang, by Pat Hutchins
Divide and Ride, by Stuart J. Murphy
Give Me Half, by Stuart J. Murphy
Jump, Kangaroo, Jump, by Stuart J. Murphy
Too Many Kangaroo Things to Do, by Stuart J. Murphy
Bunches and Bunches of Bunnies, by Louise Mathews

Time, Months and Days
Big Time Bears, by Stephen Krensky
This Book is About Time, by Marilyn Burns
The Sun's Day, by Mordicai Gerstein
Clocks and More Clocks, by Pat Hutchins
When this Box is Full, by Patricia Lillie
Time, by Henry Pluckrose
A Moment in Time, by Joel Rothman
Anno's Sundial, by Mitsumasa Anno

Sequences and Patterns
Beep Beep, Vroom Vroom!, by Stuart J. Murphy
Dave's Down-to-Earth Rock Shop, by Stuart Murphy
A Pair of Socks, by Stuart J. Murphy
Why Mosquitoes Buzz in People's Ears, by Verna Aardema
The Tiny Seed, by Eric Carle
Cactus Hotel, by Brenda Guiberson

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Ask your librarian for other math books.