Getting Ready for Grade 5 Math!

In Grade 4, instructional time in math focused on three critical areas:

Critical Area One

- Developing understanding and fluency with multi-digit multiplication and developing understanding of dividing to find quotients involving multi-digit dividends.

Critical Area Two

- Developing an understanding of fraction equivalence, addition, and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers.

Critical Area Three

- Understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

The following summer math activities will enable your child to review math concepts and reinforce skills learned this year. Just a few minutes each day spent "thinking and talking math" will help reinforce the math that has been learned and begin to bridge the foundation for extending to the concepts that will be developed next year. The goal is for your child to have fun thinking and working collaboratively to communicate mathematical ideas. While your child is working, discuss the math concept being reinforced.

We hope that you will enjoy the activities, extend them, create new ones, and **have fun!**

DOs and DON'Ts for Helping at Home	
DO: ● Expect your child to work hard and be good at math. ● Ask "How did you get that?" "Can you show me another way to do that?" "Remember how you did ____, see if you can use that same strategy." ● Encourage your child to stick with a task even if it seems challenging. ● If you see signs of frustration, suggest leaving the problem for a day or two and returning to it with fresh perspective at another point. ● Listen carefully to how your child is thinking about math.	DON'T: ● Try not to tell your child how to figure something out; he or she will learn much more by figuring it out for him or herself. You can always say, "Show me how you figured that out." Then wait and listen and say "Oh, that's nifty. Here's how I might figure it out. How are our strategies the same?"

DO ASK -- DON'T TELL You can ask great questions without telling your child what to do!		
In the beginning.... ● What do you know? ● What do you need to find out? How might you begin? ● What should you do first?	**While working....** ● How can you organize your information? ● Can you make a drawing to explain your thinking? ● What would happen if...? ● What do you need to do next? ● Do you see any patterns? Any relationships? ● Can you predict...? ● Does this remind you of any other problems you've done?	**Reflecting on Solutions**... ● Is your solution reasonable? ● How did you arrive at your answer? ● Can you convince me that your solution makes sense? What did you try that didn't work?
Responding... Your response is as important as your initial question. Continue to discuss problems even after children have their answer. This will give your child a chance to clarify thinking and make more connections.	**You can ask:** ● How do you know that your answer makes sense? ● Do you know another way to solve this? ● Do you think there is more than one answer? How could we find out?	

20 Days of Summer Math Fun in JULY

1. Order the numbers from least to greatest: 0.3, 0.13, 0.19, 0.31	**2.** A lawn water sprinkler rotates 65 degrees and pauses. It then rotates 25 more degrees in the same direction. What is the total degree rotation of the sprinkler? To cover a full 360 degrees, how many more degrees will it move?	**3.** Jacob is making a stew. The stew calls for $\frac{3}{8}$ cup of rice. If he triples the recipe, how much rice will he need? Write an addition or multiplication problem to show your answer.	**4.** Solve the riddle: I have 5 in the tenths place. I have 7 in the thousandths place. I have 4 in the ones place. I have 2 in the hundredths place. What decimal am I? Write your own riddle.	**5.** Skip count by 5's starting at 1. What patterns do you notice? Explain why you think these patterns are happening.
6. Identify, record, and classify angles: acute (less than 90°) obtuse (greater than 90°), right (90°) in everyday things (buildings, bridges, furniture...)	**7.** Write down the names and prices of 5 cars you find in the newspaper or online. Order the prices from least to greatest. Round the prices to the nearest thousand. Which one would you buy? Why?	**8.** 15 friends want to order pizza for dinner. They predict that each person will eat 1/3 of a pizza. How many pizzas should they order? What if there were 9 friends and they each ate 1/3 of a pizza?	**9.** The sum of two mixed numbers is 5. What might the two mixed numbers be? Show as many different solutions as you can. Explain your strategy.	**10.** Write down the numbers you see on 2 license plates. Create 4 math problems with these numbers using all 4 operations (+, -, x, ÷)
11. Write 2 fractions that are equivalent to $\frac{3}{5}$?	**12.** Find all the factors of 48.	**13.** Draw a square, and then draw all lines of symmetry for that square.	**14.** Solve the division problem below. 467 ÷ 9 = _____	**15.** Put the fractions in order from least to greatest. $\frac{3}{8}$, $\frac{9}{10}$, $\frac{1}{2}$, $\frac{1}{3}$
16. List the first 5 multiples of 8.	**17.** In the number 37,832 what is the value of the 8?	**18.** What is the perimeter of a square with sides that measure 4 meters?	**19.** Is 23 a prime number or a composite number. How do you know?	**20.** Play Multiplication War with a family member or friend.

20 Days of Summer Math Fun in AUGUST

1. Are $\frac{3}{8}$ and $\frac{3}{4}$ equivalent fractions? How do you know	**2.** What are the factors that 36 and 24 have in common?	**3.** Draw a design using symmetry. What makes your design symmetrical?	**4.** Visit the website www.mathplayground.com Play the logic games. How did you do?	**5.** If a rectangle has an area of 27 sq. cm. and its width is 3 cm., what is the length?
6. Tom and Ben ordered a pizza for lunch. They each ate 1/3 of the pizza. How much pizza was eaten? How much pizza was left?	**7.** Play Concentration at www.illuminations.nctm.org Choose: fractions, face down. Draw pictures that represent some fractions.	**8.** Make the largest and smallest numbers you can find using the digits: 4, 1, 7, 8, and 2. Find their difference and sum.	**9.** Measure the perimeter of two different sized windows in your home. Find the difference of the perimeters.	**10.** At her job, Mrs. Miller works 7 hours a day, Monday through Friday. How many hours does she work in 2 weeks? a pint? How do you know?
11. Sarah is having a slumber party with her 11 friends and they are telling scary stories. They divide into 3 groups and each group tells a story. Each group member talks for 3 minutes. How many minutes does each group take to tell a story?	**12.** Tony and Laura are designing a soccer uniform. The want to use two colors on the shirt. Their choices are green, orange, yellow, purple, blue, and silver. How many ways can they choose the two colors?	**13.** I earn $5 per hour babysitting and $4 per hour for weeding the garden. Last week I did 7 hours babysitting and 6 hours weeding. How much more money do I need to buy a game that costs $80.00?	**14.** What factors can you use in this equation: ? x 5 = ? to make a product that is an odd number between 30 and 60? Show all possible solutions. Explain your strategy.	**15.** A cake recipe calls for you to use 3⁄4 cup of milk, 1⁄4 cup of oil, and 2/4 cup of water. How much liquid was needed to make the cake? Is this more or less than
16. List some capital letters (H, F...) that have one pair of parallel lines. Are there any that have two pair of parallel lines or three?	**17.** The difference between two mixed numbers is $3\frac{1}{4}$. What might the two mixed numbers be? Show as many different solutions as you can. Explain your strategy.	**18.** A regular pentagon measures $2\frac{1}{8}$ cm on one side. What is the perimeter of the pentagon?	**19.** Write the number below in standard form. 90,000 + 4,000 + 300 + 60 + 2 =	**20.** Use rounding to estimate the product of the problem below. 36 x 54 = _____

Recommended Math Reading List	
Author	**Title**
Burns, Marilyn	The I Hate Mathematics! Book / Brown Paper School Book: Math for Smarty Pants / This Book Is about Time
Juster, Norton	The Phantom Tollbooth
VanCleave, Janice Pratt	Janice VanCleave's Math for Every Kid: Easy Activities That Make Learning Math Fun / Janice VanCleave's Geometry for Every Kid
Schwartz, David M.	G Is for Googol: A Math Alphabet Book
Scieszka, Jon	Math Curse
Pappas, Theoni	Math for Kids and Other People, Too!