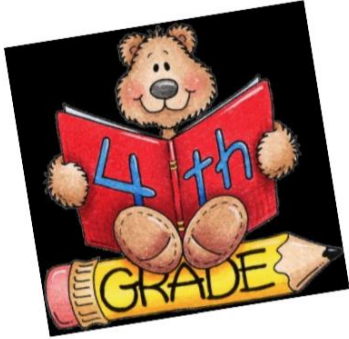


Getting ready for Fourth Grade!



In Grade 3, instructional time in math focused on four critical areas:

Critical Area One

- Developing understanding of multiplication and division and strategies for multiplication and division within 100.

Critical Area Two

- Developing understanding of fractions, especially unit fractions (fractions with numerator 1).

Critical Area Three

- Developing understanding of the structure of rectangular arrays and of area.

Critical Area Four

- Describing and analyzing two-dimensional shapes.

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.

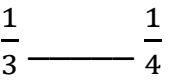
You can ask:

- 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

<p>1. Find 4 numbers larger than 1,000 in a newspaper. Put them in order from least to greatest. What is the difference between the smallest and the largest?</p>	<p>2. Read <u>Pigs Will be Pigs: Fun with Math and Money</u> by Amy Axelrod – or – Get a menu from a restaurant or online and add up what it would cost for your family to eat there.</p>	<p>3. When rounding to the nearest ten, what is the smallest whole number that will round to 50? The largest? How many different whole numbers round to 50?</p>	<p>4. Compare the fractions below. Use the symbols >, =, or < to record your comparisons. Draw a picture to illustrate your answer.</p> $\frac{2}{6} \text{ and } \frac{5}{6}$ $\frac{1}{2} \text{ and } \frac{1}{3}$	<p>5. Draw a 10 cm number line that begins with 0 and ends with 1. Roll a dice. Divide your number line into this number of equal segments. Label the segments. Explain your thinking.</p>
<p>6. Rosa made 56 cupcakes. She put 8 cupcakes into each box and sold the boxes for \$3.00 each. How much money did Rosa receive?</p>	<p>7. Write a story problem for the expression 9×3. (Start looking for the book, <u>Fraction Fun</u> by David Adler, to prepare for next week)</p>	<p>8. I am a number between 20 & 30. When you divide me into 6 equal groups, there is an even number in each group and 2 are left over. What number am I? Write your own division riddle.</p>	<p>9. Arrange the fractions in order, beginning with the least. Explain your answer with a picture.</p> $\frac{1}{5}, \frac{1}{7}, \frac{1}{3}$	<p>10. Use the numbers 3, 5, and 15 to write a multiplication number story. Write a related division story. Write a number sentence for each story.</p>
<p>11. Find a newspaper and cut the articles or pictures out. Organize them by area from least to greatest.</p>	<p>12. Read <u>Fraction Fun</u> by David Adler. Which is larger, $\frac{2}{3}$ or $\frac{3}{4}$? How do you know? Prove it.</p>	<p>13. Roll 2 dice and multiply to find the product. Record the products. Do this 25 times. Create a bar graph with the results. What do you notice?</p>	<p>14. Draw a picture of a quadrilateral. Draw a picture of a rhombus. How are they alike? How are they different?</p>	<p>15. Try a new game at <u>www.funbrain.com</u> Challenge yourself.</p>
<p>16. Play concentration at <u>www.illuminations.nctm.org</u> Choose cards: fractions games: face down. Draw pictures that represent some fractions.</p>	<p>17. A farmer has chickens and cows. What combination of animals could total 24 legs? Is there more than one combination?</p>	<p>18. The product of two numbers is 30. The sum of the two numbers is less than 20. What might the two numbers be? Show all possible solutions and explain your thinking.</p>	<p>19. Write multiplication and division combinations for 6, 7, and 42. Can you write a word problem to go with these equations?</p>	<p>20. Which is larger, $\frac{2}{3}$ or $\frac{3}{4}$? How do you know? Prove it.</p>

20 Days of Summer Math Fun in AUGUST

<p>1. Plan a meal for your family. With an adult, make a list of the ingredients, go shopping, and then follow the recipes. Are there fractions in your recipes?</p>	<p>2. Write a word problem whose answer is 12. Have someone solve the problem. Choose another answer and make up a problem.</p>	<p>3. Read <i>The \$1.00 Word Riddle Book</i> by Marilyn Burns. What is your name worth? What is the most expensive word you can make?</p>	<p>4. Create the largest number possible using the digits:</p> <p style="text-align: center;">2, 5, 9, 7</p> <p>What is the smallest number you can make?</p>	<p>5. What is the rule in this pattern?</p> <p style="text-align: center;">3, 7, 11, 15, 19, 23</p> <p>Make your own number pattern.</p>
<p>6. Write in expanded notation</p> <p style="text-align: center;">6,091</p>	<p>7. Round 867 to the nearest hundred.</p>	<p>8. Circle the number in the tens place.</p> <p style="text-align: center;">7,652</p>	<p>9. Draw an array with 25 x's arranged in 5 columns.</p>	<p>10. Complete the number sentences:</p> <p>$(20 + 8) \div 2 =$</p> <p>$(9 - 6) \times 3 =$</p>
<p>11. Complete the number sentences:</p> <p>$(49 - 19) + 8 =$</p> <p>$(56 - 14) \times 2 =$</p>	<p>12. Sam put 48 cupcakes into boxes. He put 6 in each box. How many boxes did he fill with cupcakes?</p>	<p>13. The pizza palace sold 120 slices of pizza yesterday. Today it sold 94. How many fewer slices did it sell today?</p>	<p>14. Draw a square. Divide the shape by drawing one diagonal. What two shapes do you now have?</p>	<p>15. Have a scavenger hunt for real-world examples of right angles (ex. the corner of a book).</p>
<p>16. When rounding to the nearest hundred, what is the smallest whole number that will round to 500? The largest? How many different whole numbers will round to 500?</p>	<p>17. Draw a visual model (picture) to show which fraction is larger. Use $>$, $<$, $=$ to compare them.</p> <p style="text-align: center;"> $\frac{1}{3}$ $\frac{1}{4}$  </p>	<p>18. Find 4 numbers larger than 1,000 in a newspaper. Put them in order from least to greatest. What is the difference between the smallest and the largest?</p>	<p>19. Choose 1 number: 2, 3, 5, or 6. Double the number you chose. Double the sum. Keep on doubling until you get a sum that is greater than 1,000. How close to 1,000 is the number you reached?</p>	<p>20. There are 6 tables in Mrs. Potter's art classroom. There are 4 students sitting at each table. Each student has a box of 10 colored pencils. How many colored pencils are at each table? How many colored pencils in total?</p>

Recommended Math Reading List

Author	Title
Pinczes, Elinor J.	A Remainder of One
Tang, Greg	The Best of Times: Math Strategies That Multiply
Cushman, Jean	Do You Wanna Bet? Your Chance to Find Out about Probability
Nagda, Ann Whitehead	Tiger Math: Learning to Graph from a Baby Tiger
Anno, Masaichiro	Anno's Mysterious Multiplying Jar
Tang, Greg	The Grapes of Math
Michelson, Richard	Ten Times Better
Adler, David A	Shape Up! / Fun With Triangles and Other Polygons / Fraction Fun
Burns, Marilyn	The Greedy Triangle / Spaghetti and Meatballs for All!: A Mathematical Story
Friedman, Aileen	A Cloak for the Dreamer
Tompert, Ann	Grandfather Tang's Story: A Tale Told with Tangrams
McKissack, Patricia C.	A Million Fish ... More or Less
Schwartz, David M	How Much Is a Million? / On Beyond a Million / An Amazing Math Journey / Millions to Measure
Wells, Robert E	Can You Count to a Googol?
Hutchins, Pat	The Doorbell Rang
Nagda, Ann Whitehead	Polar Bear Math: Learning about Fractions from Klondike and Snow
Clement, Rod	Counting on Frank

Pluckrose, Henry Arthur	Know about: Capacity
Macaulay, David	Pyramid
Birch, David	The King's Chessboard
Demi, Hitz	One Grain of Rice: A Mathematical Folktale