

Summer Math & Literacy Practice Getting Ready for Grade 4

Dear Parents,

Congratulations on the completion of a wonderful school year with your child. Your partnership with your child's teacher is among the biggest factors in their success. As we look ahead to the summer break, we want to continue that partnership and ensure all students will find time to enjoy some pleasurable reading writing, and math activities during the break.

Research has shown that over the summer months students often regress in their academic skills by one month or more. Each year, considerable instructional time is spent reviewing skills and knowledge lost over the summer months. The summer learning effect has been observed in schools around the world and can contribute to a widening gap in achievement over time. This data reinforces the importance of reading and practicing Math and Literacy skills over the summer holiday. For this reason, we have created calendars with fun Math and Literacy activities for your child to complete over the summer months.

These summer activities will enable your child to review concepts and reinforce skills learned during the past school year. The work they do over the summer will be turned in to your child's teacher and reviewed in class during Group Share and Evaluation time at the start of the school year.

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

1. Developing understanding of multiplication and division and strategies for multiplication and division within 100
2. Developing understanding of fractions, especially unit fractions (fractions with numerator 1)
3. Developing understanding of the structure of rectangular arrays and of area
4. Describing and analyzing two-dimensional shapes.

In Grade 3, instructional time in Literacy focused on:

1. Developing strategies to support independent reading comprehension, fluency, and accuracy
2. Engaging in the writing process using the 6+1 traits
3. Strengthening and widening vocabulary and word knowledge

Just a few minutes each day spent thinking and talking math and practicing literacy skills will help reinforce the learning that has happened over the past year and will build the foundation for the skills and concepts that will be developed during the upcoming school year. This summer learning packet consists of 2 calendar pages, one for July and one for August. Literature and websites are also recommended to explore mathematics and literacy in new ways. While your child is working on math problems, discuss the math concept being targeted. Your child should aim to complete at least 15 math days each month as well as weekly literacy prompts. Additionally, students should be reading independently or with a parent at least 30 minutes a day!

***Please have your child highlight which math problems they did on the attached calendar pages and be prepared to turn in a notebook showing their calendar math and literacy work upon return to school on September 2, 2019.**

Parent Tips for Supporting Your Child with Summer Work

In order for your child to benefit from summer work, they should space the practice work out over the summer, opting to do a little bit each week rather than all of it at once at the beginning of summer or right before returning to school in August.

Tips for Helping Your Child with Literacy:

- Help your child choose books that they can read without much help. While they are reading, help them do the following:
 - Encourage your child to use decoding strategies to help identify unknown words.
 - Re-read familiar books to help build fluency.
 - Encourage your student to read with accuracy, speed, and expression.
 - Talk about what is happening in the text and help connect the reading to your child's life or other books that they've read.
 - Echo read a text to help with fluency and comprehension.
- While they are writing, help them to:
 - Practice sounding out words they want to say phonetically.
 - Enrich their writing with details and strong vocabulary.
 - Review their writing and make appropriate changes.

Tips for Helping Your Child with Math:

- 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.
- Highlight the math in everyday activities, such as cooking, shopping, and playing sports.
- Play math games like Yahtzee and Monopoly. Playing with blocks and completing jigsaw puzzles are great ways to help reinforce spatial skills and look for patterns.
- 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.
- Let them figure it out themselves by asking questions without telling them what to do. Here are some great conversation prompts as your child works through their summer math.

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?

Special Thanks to Project Aero and Ms. Erma Anderson for the Summer Math Calendars!

JULY MATH PRACTICE

JULY MATH PRACTICE							
	Monday	Tuesday	Wednesday	Thursday	Friday		
	1) Challenge yourself to a new game at www.funbrain.com	2) Read <i>Pigs Will be Pigs: Fun with Math and Money</i> 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.	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?	4) Compare the fractions below. Use the symbols >, =, or < to record your comparisons. Draw a picture to illustrate your answer. $\frac{2}{6}$ and $\frac{5}{6}$ $\frac{1}{2}$ and $\frac{1}{3}$	5) Draw a 10-centimeter number line that begins with 0 and ends with 1. Roll a die. Divide your number line into this number of equal segments. Label the segments. Explain your thinking.	6	
Literacy Prompt week of July 1: How do you survive a rainy day at the beach? Explain and provide examples of what you could do.							
7	8) 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?	9) Write a story problem for the expression 9×3 . <i>(Start looking for the book, <u>Fraction Fun</u> by David Adler, to prepare for next week)</i>	10) 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.	11) Arrange the fractions in order, beginning with the least. Explain your answer with a picture. $\frac{1}{5}$, $\frac{1}{7}$, $\frac{1}{3}$	12) 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.	13	
Literacy Prompt week of July 8: 10 places that I'd like to go are.... Explain why you would like to go to those places.							
14	15) Find a newspaper and cut the articles or pictures out. Organize them by area from least to greatest.	16) Read <i>Fraction Fun</i> by David Adler. Which is larger, $\frac{2}{3}$ or $\frac{3}{4}$? How do you know? Prove it.	17) 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?	18) Draw a picture of a quadrilateral. Draw a picture of a rhombus. How are they alike? How are they different?	19) 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?	20	
Literacy Prompt week of July 15: Describe the setting in the book that you are currently reading. How is it affecting the characters and the plot?							
21	22) Play concentration at https://illuminations.nctm.org/Search.aspx?view=search&type=ac&kw=concentration&gr=3-5 Choose cards: fractions games: face down. Draw pictures that represent some fractions.	23) Select ten items from a grocery flyer or an online ad and find the total cost of the items. Calculate how much change you would receive from a one-hundred-dollar bill.	24) 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.	25) Write multiplication and division combinations for 6, 7, and 42. Can you write a word problem to go with these equations?	26) Masha had 120 stamps. First, she gave her sister half of the stamps and then she used three to mail letters. How many stamps does Masha have left?	27	
Literacy Prompt week of July 22: Do you think schools should give homework? Why or why not? Provide at least three reasons with evidence to support your idea.							
28	29) Which is larger, $\frac{2}{3}$ or $\frac{3}{4}$? How do you know? Prove it. Underline the odd numbers. What is the value (sum) of the odd numbers?	30) 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?	31) A farmer has chickens and cows. What combination of animals could total 24 legs? Is there more than one combination?	Fun Websites to explore: https://www.funbrain.com/ https://www.nctm.org/illuminations/ http://playkidsgames.com/ http://figurethis.nctm.org/ https://www.coolmath4kids.com/			

AUGUST MATH PRACTICE

	Monday	Tuesday	Wednesday	Thursday	Friday	
				1) Read The \$1.00 Word Riddle Book by Marilyn Burns. What is your name worth? What is the most expensive word you can make?	2) 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?	3

Literacy Prompt week of July 29: Choose a character from the book you are reading. Would you like to be that character's friend? Why or why not? Provide examples and explanations.

4	5) 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?	6) Have a scavenger hunt for real-world examples of right angles (ex. the corner of a book).	7) Gather 3 store receipts. Find the total amount that was spent.	8) Create the largest number possible using the digits: 2, 5, 9, 7. What is the smallest number you can make?	9) What is the rule in this pattern? 3, 7, 11, 15, 19, 23 Make your own number pattern.	10
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Literacy Prompt week of August 5: Write 8 things you know about (pick one): a favorite animal, a favorite singer, a favorite sport, or a favorite hobby.

11	12) Write in expanded notation: 6,091	13) Round 867 to the nearest hundred.	14) Circle the number in the tens place. 7,652	15) Sam put 48 cupcakes into boxes. He put 6 in each box. How many boxes did he fill with cupcakes?	16) The pizza palace sold 120 slices of pizza yesterday. Today it sold 94. How many fewer slices did it sell today?	17
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Literacy Prompt week of August 12: What is the last book you read that you really enjoyed? Why did you enjoy it so much? Would you recommend it to a friend? Why/Why not? Explain with details.

18	19) Complete the number sentences: $(49 - 19) + 8 =$ $(56 - 14) \times 2 =$	20) Draw an array with 25 x's arranged in 5 columns.	21) Complete the number sentences: $(20 + 8) \div 2 =$ $(9 - 6) \times 3 =$	22) Draw a square. Divide the shape by drawing one diagonal. What two shapes do you now have?	23) Draw a visual model (picture) to show which fraction is larger. Use >, <, = to compare them. $\frac{1}{3}$ $\frac{1}{4}$	24
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Literacy Prompt week of August 19: Describe your perfect summer day. What would you do? Where would you go? Did you have a perfect day this summer? Why/Why not?

25	26) 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?	27) Write a word problem whose answer is 12. Have someone solve the problem. Choose another answer and make up a problem.	28) 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?	29) There are 24 students in the class. $\frac{1}{4}$ of them are lined up. Use a model to show how many students are lined up?	30) Read a book about math. (There is great list attached to this calendar.)	31
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Literacy Prompt week of August 27: Write a letter to your new teacher this year. What do you love to learn about? What are you excited about this coming year?



SUMMER MATH HOMEWORK SELF-ASSESSMENT RUBRIC				
	Exemplary	Proficient	Beginning	Needs Improvement
Completion	I completed more than 35 math calendar problems this summer.	I completed 30-35 math calendar problems this summer.	I completed fewer than 30 math calendar problems this summer.	I did not complete any math calendar problems this summer.
Pacing	I spent time working on calendar math problems weekly.	I usually worked on calendar math problems weekly.	I did not space out my calendar math problems weekly over the summer.	I did not complete any math calendar problems this summer.
Quality & Neatness of Work	I kept a notebook; I labelled each problem clearly; I showed my work neatly; I clearly identified my answers.	I kept a notebook; I usually labelled each problem; I sometimes showed my work; I sometimes identified my answers.	I did not keep a notebook; my work was done on scratch paper; I did not always show my work; I did not clearly identify my answers.	I did not complete any math calendar problems this summer.
Accuracy	My answers to summer math problems were more than 90% accurate.	My answers to summer math problems were 80-89% accurate.	My answers to summer math problems were 70-79% accurate.	My answers to summer math problems were less than 70% accurate.

SUMMER LITERACY HOMEWORK SELF-ASSESSMENT RUBRIC				
	Exemplary	Proficient	Beginning	Needs Improvement
Completion	I responded to more than 7 reading prompts this summer.	I responded to 5-7 reading prompts this summer.	I responded to fewer than 5 reading prompts this summer.	I did not respond to any reading prompts this summer.
Pacing	I spent time working on my reading prompts this summer.	I usually worked on calendar reading prompts monthly.	I did not space out my calendar reading prompts weekly over the summer.	I did not respond to any reading prompts this summer.
Quality & Neatness of Work	I kept a notebook; my handwriting is very neat; if I included a picture, it is carefully and neatly done and entirely matches the text.	I kept a notebook; my handwriting is legible; if I included a picture, it is nicely done and matches my text.	I did not keep a notebook; my work was done on scratch paper; my handwriting is barely legible; if I included a picture, it is a bit rushed and does not entirely match the text	I did not respond to any reading prompts this summer.
Ideas and Content	I was able to respond to all of the reading prompts; I provided great details to support my opinion; my thoughts were narrow and to the topic.	I was able to respond to most of the reading prompts; I included some details to support my opinion; my thoughts were a bit generic.	I was not sure how to respond to most of the reading prompts; I didn't have many details to my answer; my thoughts were repetitive.	I did not respond to any reading prompts this summer.

Suggested Reading List - Grade 4 Math

Please note: This is a suggested list to read aloud or have your child read independently. Parents may wish to preview content to ensure appropriateness for their children.

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**

Suggested Reading List - Grade 4 Literacy

Please note: This is a suggested list to read aloud or have your child read independently. Parents may wish to preview content to ensure appropriateness for their children. **All of the following titles are available in the AISC Library. Call numbers are included below.**

Armstrong, William; **Souder**; MF Arm (Newbery)
Aronson, Billy; **Romeo and Juliet (Wishbone)**; MF Ar
Atwater, Richard; **Mr. Popper's Penguins**; MF Atw
Babbitt, Natalie; **Tuck Everlasting**; MF Bab
Barrie, J.M.; **Peter Pan**; MF Bar
Baum, L. Frank; **The Wizard of Oz**; MF Bau
Blume, Judy; **Tales of a Fourth Grade Nothing**; MF Blu
Blume, Judy; **Superfudge**; MF Blu
Bond, Michael; **A Bear Called Paddington**; MF Bon
Burch, Robert; **Ida Early Comes Over the Mountain**; MF Bur
Byars, Betsy; **Summer of the Swans**; MF Bya (Newbery)
Calhoun, Mary; **Depend on Katie John**; MF Cal
Cleary, Beverly; **Dear Mr. Henshaw**; MF Cle (Newbery)
Cleary, Beverly; **Ramona the Pest**; MF Cle
Coatsworth, Elizabeth; **The Cat Who Went to Heaven**; MF Coa (Newbery)
Dahl, Roald; **James and the Giant Peach**; MF Dah
Dahl, Roald; **B. F. G.**; MF Dah
Delton, Judy; **Kitty in High School**; MF Del
Drury, Roger; **Champion of Merrimack County**; MF Dru
Farley, Walter; **Black Stallion**; MF Far
Fleischman, Sid; **The Whipping Boy**; MF Fle (Newbery)
Fritz, Jean; **Homesick, My Own Story**; MF Fri
Gardiner, John; **Stone Fox**; MF Gar
Gilson, Jamie; **It Goes Eeeeeeeeeeeee!**; MF Gil
Goble, Paul; **Girl Who Loved Wild Horses**; E Gob (Caldecott)
Henry, Marguerite; **Misty of Chincoteague**; MF Hen
Howe, Deborah; **Bunnica**; MF How

Konigsburg, E.L.; **From the Mixed-Up Files of Mrs. Basil E. Frankweiler**; MF Kon (Newbery)
Lawson, Robert; **They Were Strong and Good**; MF Law (Newbery)
Lawson, Robert; **Ben and Me**; MF Law
L'Engle, Madeleine; **A Wrinkle in Time**; MF LEN (Newbery)
Lenski, Lois; **Strawberry Girl**; MF Len (Newbery)
Lewis, C.S.; **The Lion, the Witch, and the Wardrobe**; MF Lew
Lindgren, Astrid; **Pippi Longstocking**; MF Lin
Lobel, Arnold; **Fables**; E Lob (Caldecott)
Lowry, Lois; **Number the Stars**; MF Low (Newbery)
MacDonald, Betty; **Mrs. Piggle Wiggle's Magic**; MF Mac
Naylor, Phyllis; **Shiloh**; MF Nay (Newbery)
North, Sterling; **Rascal**; M 928 North
O'Brien, Robert; **Mrs. Frisby and the Rats of Nimh**; MF O'Br (Newbery)
O'Dell, Scott; **Island of the Blue Dolphins**; MF O'De
Patterson, Katherine; **Great Gilly Hopkins**; MF Pat
Paulsen, Gary; **Hatchet**; MF Pau
Rawls, Wilson; **Where the Red Fern Grows**; MF Raw, M
Rockwell, Thomas; **How to Eat Fried Worms**; MF Roc
Rounds, Glen; **Mr. Yowder and the Lion Roar Capsules**; MF Rou
Ruckman, Ivy; **Night of the Twisters**; MF Ruc
Rylant, Cynthia; **Missing May**; MF Ryl (Newbery)
Selden, George; **Cricket in Times Square**; MF Sel
Sobol, Donald; **Encyclopedia Brown (Series)**; MF Sob
Sperry, Armstrong; **Call It Courage**; MF Spe (Newbery)
Spinelli, Jerry; **Maniac Magee**; MF Spi (Newbery)
Stolz, Mary; **Explorer of Barkham Street**; MF Sto
Warner, Gertrude; **The Boxcar Children**; MF War
White, E.B.; **Charlotte's Web**; MF Whi
Wilder, Laura Ingalls; **Little House on the Prairie**; MF Wil
Williams, Margery; **Velveteen Rabbit**; E Wil