

Summer Math Learning Packet

Students Entering Grade 1

Discover mathematics all around you this summer!!! Just as with reading, regular practice over the summer with problem solving, computation, and math facts will maintain and strengthen the mathematical gains you made over the school year.

Attached to this letter, you will find creative mathematics activities to explore at home. The goal is for you to have fun thinking and working collaboratively to communicate mathematical ideas. While you are working, ask how the solution was found and why a particular strategy was chosen.

The Summer Math Learning Packet consists of 2 calendar pages, one for July and one for August, as well as directions for math games to be played at home. Literature and websites are also recommended to explore mathematics in new ways. We encourage you to complete at least 15 math days each month. Keep track of your math in a journal.

Fun math books to read	Fun websites to explore
<u>Shape, Shape, Shapes</u> by Tana Hoban <u>Pattern Fish</u> by Trudy Harris <u>Ten Black Dots</u> by Donald Crews <u>Inch by Inch</u> by Leo Lionni <u>The Button Box</u> by Margarett S. Reid	www.funbrain.com www.aplusmath.com www.pbskids.org www.illuminations.nctm.org www.setgame.com

Student Accountability

The intention is that your child spends at least 10 minutes a day, 4 to 5 times a week, practicing math. Your child should aim to complete at least 200 minutes of math practice over the course of the summer. When your child has completed the math requirements, please sign and return this paper to the first grade teacher with his/her journal.

Parent's signature

Date

Kindergarten Learning Goals

*In kindergarten, your child focused primarily on two important areas. The first is learning numbers and what numbers represent. The second is addition and subtraction. Students also learn to identify and work with shapes. Activities in these areas include:

- Counting how many objects are in a group and comparing the quantities of two groups of objects
- Comparing two numbers to identify which is greater or less than the other
- Understanding addition as putting together and subtraction as taking away from
- Adding and subtracting very small numbers quickly and accurately
- Breaking up numbers less than or equal to 10 in more than one way (for example, $9=6+3$, $9=5+4$)
- For any number from 1 to 9, finding the missing quantity that is needed to reach 10
- Representing and solving addition and subtraction word problems using objects or by drawing pictures

Looking Ahead to First Grade

*In grade one, students will work with whole numbers and place value— including grouping numbers into tens and ones as they learn to add and subtract up through 20. Students also use charts, tables, and diagrams to solve problems. Activities in these areas include:

- Quickly and accurately adding numbers together that total up to 10 or less and subtracting from numbers up through 10
- Understanding the rules of addition and subtraction (for example, $5+2=2+5$)
- Solving word problems that involve adding or subtracting numbers up through 20
- Understanding what the different digits mean in two-digit numbers (place value)
- Comparing two-digit numbers using the symbols $>$ (more than), $=$ (equal to), and $<$ (less than)
- Understanding the meaning of the equal sign ($=$) and determining if statements involving addition and subtraction are true or false (for example, which of the following statements are true? $3+3=6$, $4+1=5+2$)
- Measuring the lengths of objects using a shorter object as a unit of length
- Putting objects in order from longest to shortest or shortest to longest
- Dividing circles and rectangles into halves and quarters

*Adapted from *Parent Roadmaps* by Council for Great City Schools

Grade 1

Summer Math Ideas

DIRECTIONS: Do your best to complete as many of these summer math activities as you can! Record your work in your math journal every day. In September, share your Math Journal with your third grade teacher.

Each journal entry should

- Have the date of the entry
- Have a clear and complete answer
- Be neat and organized

Math Tools You'll Need:

- Notebook for math journal
- Pencil
- Chalk
- Regular deck of playing cards
- Coins
- Dice

Here is an example of a "Great" journal entry:

July 5th

Today I counted all the toes in my family. Here is a picture of the toes.

(Draw a picture) There are 30 toes. $5 + 5 + 5 + 5 + 5 + 5 = 30$

Games To Play (You will need a deck of cards)

Compare

Remove the face cards from a deck of cards. Remember an Ace is the same as 1. Pass out all cards in the deck among all the players. Each player flips over two cards at the same time and finds the sum. The one with the larger sum takes the cards. If the sums are the same, turn over 2 more cards. The player with the largest sum keeps all four cards.

Double Compare

Same as above, but turn over two cards each time and find the sum. The one with the larger sum takes the cards.

Close to 10

Remove the face cards from a deck of cards. Deal 3 cards to each player. Which two cards brings you closest to 10? Which player is closest to 10? Example: You turn over the cards 5, 4, 3 and your opponent turns over an Ace, 8, and 3. You can make 9 (5 and 4) and your opponent can make 9 (Ace and 8) or 11 (8 and 3). It's a tie since you are both 1 away from 10

Other games to play: Checkers, Othello, Memory, Set, jigsaw puzzles, Parcheesi, Crazy Eights, Connect Four, Legos, etc.

July 2016 Entering First Grade Mathematics Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 Play Compare (see directions) How did you decide which number is greater?	2
3 Describe 3 different ways to make 10 cents.	4	5 Use sidewalk chalk to write all the numbers (in order) that you can. (Use paper and pencil if you do not have chalk).	6 Toss ten pennies. How many heads? How many tails? Try again! Did you get the same result?	7 Read <i>Inch by Inch</i> by Leon Leoni. What parts of your body can you use to measure things in your house and outside	8 Hop on your right foot and count how many hops you can do it Hop on your left foot, What foot could you do more hops on? Compare.	9
10 Ask your family which food they would like at a cookout. Which food did people want the most? Which food did people want the least?	11	12 Count backwards how long it will take you to put on your shoes. For example 20 seconds. 20, 19, 18...	13 Grab a handful of objects. (Pennies, beads, marbles...) Guess how many there are. Count your objects, Were you close to your estimate	14 Keep track of the weather for one week. How many sunny days? Rainy days? How many more rainy days than sunny days?	15 Count the people that live in your house with you. How many toes do they have altogether? How many fingers??	16
17 Write your name on a piece of paper, How many letters are there in your name? How many letters are there in the names of all your family?	18	19 Walk around the house. How many steps does it take you to get around your house. Then try giant steps, Which used more steps?	20 How many jumping jacks can you do in one minute? Is it more or less than 20? How do you know?	21 Make a pattern. Challenge someone to continue it. Can you make a different pattern using the same things?	22 Make a picture using 2 circles, 3 triangles, and some rectangles. Explain how you made it to someone!	23
24 Explore one of the recommended websites, What math did you learn?	25	26 Count backwards starting at 10... 15... 20... 25...	27 Make numbers or shapes out of play dough.	28 Take a handful of coins; count the number of pennies, nickels, dimes and quarters. How many of each do you have?	29 Try a game like basketball, bowling, or mini golf. Help keep score. Who had the most points? Is that person the winner?	30

August 2016 Entering First Grade Mathematics Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	1	2	3	4	5	6
	Look at some of your toys. Try to sort them into groups. Explain to someone how you sorted them.	Make a 3-D shape using mini-marshmallows and toothpicks. How many corners does your shape have? How many edges?	How long is your room? Measure with blocks or toys. Measure with your feet. Which was more? Which is less?	Draw and label a picture of your family from tallest to shortest.	Count the number of steps it takes to get from your front door to the refrigerator. Represent this number.	
7	8	9	10	11	12	13
	Find 10 coins in your house. What do they add up to? Is it more or less than 25 cents?	Name five different places you see numbers outside. (on street signs, stores, license plates...) Draw a picture of the places.	Read <i>Pattern Fish</i> by Trudy Harris. Draw, build, or sing your own pattern.	Draw what you are doing at 2 different times today when the minute hand of the clock is on "12".	Do a yes/no survey asking the people in your house, "Do you like the rain?" Circle which side has the most answers.	
14	15	16	17	18	19	20
	Play <u>Double Compare</u> (see directions) What number facts are easy for you?	Roll two number cubes or dice and add the two numbers together. How many times did you have to roll to get a 12? Try again.	Play a strategy game <u>Connect 4</u> or <u>Checkers</u> Did your strategy work? Will you try a different strategy the next time you play?	Estimate how many spoonfuls it will take to finish your cereal. Count each spoonful as you eat. How close were you to your estimate?	Go around your house and count the windows and doors. Are there more windows or doors? Draw the one with more.	
21	22	23	24	25	26	27
	Pick a number from 1-12. Find that number around your house! Look at the clocks, phones, books, magazines, etc... Pick another number.	Read <i>Ten Black Dots</i> by Donald Crews. Name different objects that come in groups of 1, 2, 3,... Make your own book.	Tell an adult in your home something you did yesterday. Tell them something you will do tomorrow.	Play <u>Close to 10</u> (see directions). How does this help you to practice your facts?	Practice "counting" on from numbers other than 1. Example: Start at 4, 5, 6... Start at 17, ... Start at 32, ...	
28	29	30	31			
	Build something with 20 blocks or Legos. Describe your structure and the shapes you used.	Play with bubbles. How many can you blow in one minute?	YOU DID IT! Please bring your journal to your first grade teacher on the first day of school.			