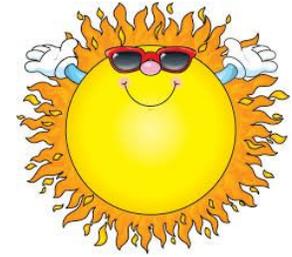


# Summer Math Learning Packet

Students Entering Grade 2



The daily activities in this summer math packet will review math concepts and skills of the grade that has just been completed during the 2016 - 2017 school 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 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 math activities in this math packet address the new Massachusetts Curriculum Framework for Mathematics which incorporates the Common Core Standards within these four critical areas in grade 1:

- (1) Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20**
- (2) Developing understanding of whole number relationships and place value, including grouping in tens and ones**
- (3) Developing understanding of linear measurement and measuring lengths as iterating length units**
- (4) Reasoning about attributes of, and composing and decomposing geometric shapes**

The packet consists of a week by week ‘menu of math’, as well as directions for math games to be played at home. Literature, worksheets, APPs 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.

## **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 second grade teacher with his/her journal.

Student’s Name: \_\_\_\_\_

Parent/Guardian’s Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### **Math Tools You'll Need:**

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

### **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 first grade teacher.

### ***Each journal entry should:***

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

Here is an example of a “great” journal entry:

July 5th:

Today I collected 25 cents. It was easy to count 25 pennies. I know that 5 pennies is the same as 1 nickel so every time I counted five pennies I changed to a nickel, so I needed 5 nickels.

$$5 + 5 + 5 + 5 + 5 = 25 \text{ cents}$$

### **Cool Math Books to Read:**

***Alexander, Who Used to Rich Last Sunday*** by Judith Viorst.

***100 Days of School*** by Trudy Harris.

***The Button Box*** by Margarette S. Reid

***The Doorbell Rang*** by Pat Hutchins

### **Games To Play:**

(You will need a deck of cards)

#### **1. 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 of 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.

#### **2. Tens Go Fish**

Remove the face cards from a deck of cards. Deal 5 cards to each player. Each player looks for cards that make 10, and they draw new cards from the deck to replace them. Players take turns asking each other for a card that will make 10 with a card from their hand. A player's turn is over when no more pairs can be made. The game is over when there are no more cards. Both players record their combinations of 10.

#### **3. Close to 20**

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, Memory, jigsaw puzzles, Parcheesi, Fish, Crazy Eights, Connect Four, Legos, K'Nex.

### **Worksheets to Practice Math:**

<http://www.gregtangmath.com/>

**Directions:** Each week has five activities for you to complete. You may complete the activities in any order. Choose one activity to do each day, and then write about that activity in your math journal.

Week 1

1. Take up to 20 pennies. Put some in each hand. Show 1 hand and have an adult figure out how many are hiding. Switch.
2. Read *100 Days of School* by Trudy Harris. Find 5 different ways to reach 100. Record each way.
3. Play **Tens Go Fish** (see directions). Add up all the pairs. Who has more? How many more?
4. Go on a Shape Hunt around your home. Look for items shaped like a square, rectangle, and a triangle. Draw and label the items.
5. Sort the laundry into categories (owner, color or item type). Make a bar graph and compare the categories. How many more? Less?

Week 2

1. Play **Double Compare** (see directions)
2. Roll two dice and practice addition and subtraction by adding or subtracting the two numbers.
3. Are the equations  $3 + 4 + 2 = 4 + 5$  and  $5 + 3 = 8 + 1$  "true" or "false"? Explain.
4. Here is a list of numbers: 1, 5, 10, 50, 100. Add the numbers 49, 7, 22, 98, and 3 to the list so all numbers will be listed in order from least to greatest.
5. Read ***Alexander, Who Used to Rich Last Sunday*** by Judith Viorst. Keep track of how you spend \$1.00

Week 3

1. Jump rope and count by tens to 100. Try counting backwards.
2. Read ***The Button Box*** by Margarette Reid. Find a collection at home and sort it. Compare how many in each category.
3. Play a strategy game like **Mancala** or **Connect Four**. Would you use the same strategy the next time you play? Why?
4. Tell the time that you go to bed to the closest hour or half hour. Draw a picture of the clock's hands for that hour.
5. Blow a marble, a bottle cap and a pencil across a table. Measure using inches or cm how far they go. Which goes the farthest? By how much?

Week 4

1. Today's number is 18 Make 18 three ways, by: (1) Adding two numbers; (2) Subtracting two numbers; and (3) Adding three numbers
2. Try a worksheet from this website: <http://gregtangmath.com/>
3. If you save two cents every day in the month of July, how much money will you have saved at the end of the month?
4. Read ***98, 99...Ready or Not, Here I Come!*** By Teddy Slater. Play hide and go seek counting backwards from different numbers to 100.
5. Play **Close to 20** (see directions). How does this help you practice your addition?

Week 5



1. How many squares are in this picture?
2. Hold an ice cube in your hand. Count by 2's until it melts. Did you count to more or less than 100!
3. Using a ruler, find 3 things longer than 12 inches and 3 things shorter than 12 inches.
4. Ask 5 people their phone numbers. Add the digits of each phone number together. Who's phone number has the highest value?

5. Visit the website [www.funbrain.com](http://www.funbrain.com) and do some math. Record what you did.

#### Week 6

1. Read ***Super Sand Castle Saturday*** by Stuart Murphy. Make a sand castle and describe the 3-D shapes.
2. Write down the time you eat dinner to the nearest half hour for each day this week. Ex. 6:30 or 5:00.
3. Go to the park and draw the shapes you see. Do you see more rectangles or more triangles?
4. Read ***The Doorbell Rang*** by Pat Hutchins. Make cookies with your family! Can you share them equally? How many are left over?
5. Play a strategy game like Tic, Tac, Toe, **Checkers** or **Connect Four**. Would you use the same strategy the next time you play?

#### Week 7

1. In one blow, how many bubbles can you make? What are the most bubbles you can blow at one time? How many blows will it take to get to 100?
2. How many different ways can you cut a sandwich into fourths? Try it with real or paper sandwiches.
3. Write a story problem to go with  $6 + 8$ . Now write a subtraction problem for  $14 - 6$ .
4. Play **Tens Go Fish** (See directions). Add up all the pairs. Who has more? How many more?
5. Ask 10 people their favorite kind of pizza. Record your data in a chart or graph. Compare the results by looking at how many more like one type of pizza.

#### Week 8

1. How much do I have if I have 1 quarter, 2 dimes and 1 nickel? Can you show that value with other coins?
2. Visit the website [www.aplusmath.com](http://www.aplusmath.com) and play Hidden Picture in the Game Room.
3. Use these numbers in a story problem: 18, 9, 9. Ask an adult to solve your story problem.
4. Go to the library and read about books about money.
5. Play **Close to 20** (see directions)

#### Week 9

1. Play one of the recommended games.
2. Gather a handful of coins with a value less than \$2.00. Calculate the total.
3. 50 is the answer. What could the question possibly be? Challenge yourself to think of more questions.
4. How many pennies long is your hand? How many nickels? How many dimes? How many quarters? Can you figure out how much each coin amount is worth?
5. Walk around your house and look for shapes. What shapes do you see? Record your answers.

**YOU DID IT! Please bring your journal to your second grade teacher on the first day of school.**

## Educational and Fun APPS and Websites to Practice Math

Please take some time to do these activities and record your choices on the “Create Your Own Summer Math Calendar!” sheet provided.

### Websites

Here are websites that you can access at the **Cambridge Public Library** if you do not have a computer at home

<http://www.funbrain.com/>

<http://www.aplusmath.com/>

<http://pbskids.org/cyberchase/math-games/>

<http://illuminations.nctm.org/ActivitySearch.aspx>

<http://www.gregtangmath.com/>

<http://www.coolmath4kids.com/>

<http://bedtimemath.org>

<http://www.playkidsgames.com./>

<http://www.coolmath.com./>

<http://www.figurethis.org./index.html>

<http://resources.oswego.org/games/mathmagician/cathymath.html>

### APPS to Practice Math!

Try handing your smartphone or iPad to your child while you are driving or watching TV and let them practice their math on a free or inexpensive app.

#### APPS for K-2

Adventure Basic School Math  
Amazing Coins  
Count Money  
Everyday Mathematics, Addition Top it  
Fast Facts Subtraction  
Juicy Math  
Math Bingo  
Okta’s Rescue  
Operation Math  
Coin Math  
Super 7  
Native Numbers PK-K

#### APPS for all Grades

Fast Math  
Fast Math Challenge HD  
Fraction App by Tap to Learn  
Kakooma  
Math Matrix HD  
Quick Math Game  
PopMath  
iEstimation  
Pick-a-Path  
Sumdog  
Conundra Math  
Cloud Math

## Create Your Own Summer Math Calendar! Grade \_\_\_\_\_

If the activities suggested don't seem to "fit your child" or you have your own websites/literature/math practice you would like to do you can create your own math calendar. Feel free to substitute your own activities that better suit your needs or learning style. All we ask is that you document your created activities below. Remember: the goal is to complete 15 activities each month. You can certainly use this sheet to record more!

| #  | <u>Date Completed</u> | <u>Description of Math Activity</u> |
|----|-----------------------|-------------------------------------|
| 1  |                       |                                     |
| 2  |                       |                                     |
| 3  |                       |                                     |
| 4  |                       |                                     |
| 5  |                       |                                     |
| 6  |                       |                                     |
| 7  |                       |                                     |
| 8  |                       |                                     |
| 9  |                       |                                     |
| 10 |                       |                                     |
| 11 |                       |                                     |
| 12 |                       |                                     |
| 13 |                       |                                     |
| 14 |                       |                                     |
| 15 |                       |                                     |