

Dear Parents,

You made it! Summer vacation is here and your job as homeschool facilitator is over. Brains need rest, so make sure to take time to have fun and disconnect from school. However, each student is expected to engage in fun and consistent math practice throughout the summer to avoid the summer slide. As the last two months of the year were taught in a distance learning model, the math units for the upcoming year have been adjusted to ensure that any concepts from this year are reviewed and solidified.

The pivotal learning goals in math this year centered around place value, addition, and subtraction within 1,000. Students were expected to develop strategies to solve multi-digit addition and subtraction problems and to apply these strategies to solve all types of word problems, including multi-step. Students are also expected to recall from memory addition and subtraction facts within 20. Knowing these from memory is an important skill because it makes solving multi-digit problems easier. In third grade, the foundation that was built in second grade will continue to be mastered. Students will be expected to master addition and subtraction within 1,000 while also learning multiplication and division.

In order to retain these concepts and skills, practice throughout the summer is crucial. Below is a suggested schedule and resources for you to use to continue math practice at home. The goal is to have the girls retain the concepts from this year but also enjoy it. The pace and pressure should be easy and manageable for both you and your daughter.

Summer Work Expectations and Guidelines:

- 1. Addition and subtraction facts to 20 should be practiced consistently!**
2. Each week complete one page from this packet and 1 - 2 open-ended problems from the first page of this packet.
 - The packet includes problems from different areas of the 2nd grade curriculum. It is expected that the students are entering into 3rd grade having mastered these areas.
 - If your child completes the packet in June and doesn't solve any math problems for the rest of the summer, she will lose some very important concepts. This packet should be spread out to provide consistent practice.
 - It includes some questions that are from the next grade level. Do not worry if your child has difficulty or hasn't mastered these extensions.

Recommended Activities, Games, Websites, and Apps

Family Activities:

- Board games are a wonderful way for your child to learn turn-taking, game strategies, money, counting and perseverance. These are widely overlooked but critical to developing a strong mathematician.
 - Good games: Shut the Box, Blokus, Monopoly, Sorry, Mancala, Chess, 24, Muggins
- Measure, cook and bake with your child!

Games:

Acing Math - (Multiple Operations)
60 Math Games using only a deck of cards!

Dice Games:

<https://mailchi.mp/mathforlove/dice-games-for-math-at-home>

Websites:

Table Talk Math: a book and an account on Instagram

Bedtime Math: a resource for parents to do with their child

Youcubed.org: <https://www.youcubed.org/resource/apps-games/>

San Fran's ideas for home (books & activities):

<https://www.sfusd.edu/learning/resources-learning/continuity-learning/families>

Fluency:

<http://calculationnation.nctm.org/Games/>

<https://www.factmonster.com/math/flashcards>

https://www.mathplayground.com/index_multiplication_division.html

Apps for fluency, problem-solving and math fun:

Motion Math

Name that Number - Also known as Target, using addition & subtraction to reach a target number

Kakooma - addition challenges in puzzle format

King of Math - Various types of math problems

Baseball Multiplication - single digit multiplication

Beat the Computer - single digit multiplication

Thinking Blocks – Model and solve word problems (multiple types)

Divisibility – Multiplication and division game

Puzzles, logic, enrichment and problem-solving apps:

Math Munch: <https://mathmunch.org/>

Sumaze: <http://mei.org.uk/sumaze>

Math Doodles: <http://www.carstensstudios.com/mathdoodles/mathdoodles.htm>

Game about squares: <http://gameaboutsquares.com/>

Symmetry Artist: <https://www.mathsisfun.com/geometry/symmetry-artist.html>

Open Response Problems

Pick 1 - 2 problems per week. Solve on a separate sheet of paper.

a. The difference between two numbers is 24. What might the two numbers be? Show as many different solutions as you can.	b. Peter has 34 baseball cards in his collection. How many more cards does he need to collect to have 46 baseball cards? Explain your thinking.
c. Using all of the digits 4, 5, 6, 7, 8, 9, what numbers can you make using addition and/or subtraction?	d. Josie wrote a mystery number and gave this clue, "It is an even number that is greater than 30 and less than 50." What might the mystery number be? If you could ask 3 yes/no questions to help work out the mystery number what would they be?
e. Work with a partner. Turn over 3 numeral cards each and make a 3-digit number. Record and find the sum and difference of your numbers. Repeat.	f. Tom put 12 (or 18, 24, 36...) counters into equal piles. How many counters were in each pile? Show as many different solutions as you can.
g. Turn over three numeral cards to make a 3-digit number. Round the number you make to the nearest 10. Repeat 10 times. Explain your strategy for rounding numbers to the nearest 10.	h. Find 3 objects at home that are shorter than your ruler. Order your objects from shortest to longest. Measure each object using your ruler. Record your findings.
i. Sam has 30 cents in his pocket. What coins might he have? Show as many different solutions as you can. Repeat with different amounts of money.	j. I bought three items at the toy store and spent exactly \$1.00. What might I have bought and how much did each item cost?
k. Write a story problem to match the equation $\underline{\quad} + 250 = 815$.	l. Draw a clock to show one time that is quarter past the hour, one that is half past the hour and one that is quarter to the hour. For each clock write the time it would be one hour earlier and one hour later. Repeat with one $\frac{1}{2}$ hour earlier and later.

Name: _____

Place Value and Base 10 with Extensions into the 1,000s

1. Complete the equations below.

$$67 = \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$$

$$\underline{\quad} \text{ hundreds} + \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones} = 503$$

$$\underline{\quad} \text{ ones} + \underline{\quad} \text{ tens} + \underline{\quad} \text{ hundreds} = 872$$

To make **984**, I could use:

$$\underline{\quad} \text{ hundreds} + \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$$

or $\underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$

2. Write the numbers below in expanded form.

$$\underline{\hspace{10em}} = 209$$

$$\underline{\hspace{10em}} = 818$$

$$\underline{\hspace{10em}} = 1,892 \text{ (challenge!)}$$

3. Write the numbers below in standard form (number form).

$$400 + 20 + 4 = \underline{\hspace{2em}}$$

$$700 + 10 + 5 = \underline{\hspace{2em}}$$

$$3,000 + 500 + 20 + 6 = \underline{\hspace{2em}} \text{ (challenge!)}$$

1. Draw base 10 blocks below to show the number 421.

2. In the number 164:

The 1 digit represents: _____

The 4 digit represents: _____

The 6 digit represents: _____

3. Which number is in the hundreds place in 821: _____

Which number is in the thousands place in 6,019: _____

4. Compare the numbers below by using $>$, $<$, or $=$

a. 612 _____ 621

b. 401 _____ 399

c. $1,029$ _____ $1,031$

5. Adding and subtracting with tens and hundreds:

a. $254 + 10 =$ _____

b. $495 + 10 =$ _____

c. $275 - 10 =$ _____

d. $822 + 100 =$ _____

e. $403 - 10 =$ _____

f. $572 - 100 =$ _____

g. $965 + 100 =$ _____

h. $1,004 - 10 =$ _____

Place Value and Base 10 with Extensions

1. Complete the equations below.

$$\underline{\quad\quad} \text{ ones} + \underline{\quad\quad} \text{ tens} + \underline{\quad\quad} \text{ hundreds} = 682$$

$$2,591 = \underline{\quad\quad} \text{ thousands} + \underline{\quad\quad} \text{ hundreds} + \underline{\quad\quad} \text{ tens} + \underline{\quad\quad} \text{ ones}$$

2. Write the numbers below in expanded form.

$$\underline{\hspace{10em}} = 801$$

$$\underline{\hspace{10em}} = 4,391$$

3. Write the numbers below in standard form (number form).

$$600 + 10 + 3 = \underline{\hspace{2em}}$$

$$1,000 + 300 + 20 + 4 = \underline{\hspace{2em}}$$

4. In the number 285:

The digit 2 represents: $\underline{\hspace{2em}}$ The digit 8 represents: $\underline{\hspace{2em}}$

Which number is in the hundreds place in 582: $\underline{\hspace{2em}}$

Which number is in the thousands place in 3,102: $\underline{\hspace{2em}}$

5. Adding and subtracting with tens and hundreds:

a. $10 + 872 = \underline{\hspace{2em}}$

b. $699 + 10 = \underline{\hspace{2em}}$

c. $216 - 10 = \underline{\hspace{2em}}$

d. $954 + 100 = \underline{\hspace{2em}}$

e. $502 - 10 = \underline{\hspace{2em}}$

f. $1,004 - 10 = \underline{\hspace{2em}}$

Addition and Subtraction

$38 + 31 =$

$246 + 281 =$

$445 + 378 =$

$66 - 18 =$

$685 - 352 =$

$628 - 263 =$

$699 + 358 =$

$523 - 376 =$

$608 - 272 =$

Addition and Subtraction

$571 + 241 =$

$486 + 293 =$

$592 + 288 =$

$73 - 29 =$

$469 - 375 =$

$725 - 277 =$

Addition and Subtraction

$$682 + 195 =$$

$$718 + 176 =$$

$$462 + 265 =$$

$$175 - 89 =$$

$$491 - 369 =$$

$$782 - 175 =$$

Developing Flexibility and Efficiency with Addition & Subtraction

Look at the numbers before solving to choose the most efficient strategy. Hint: It may not be stacking or using expanded form...think about friendly numbers!

$426 + 199 =$

$362 + 198 =$

$503 + 177 =$

$95 + 95 =$

$99 - 67 =$

$101 - 75 =$

$267 - 98 =$

$1,002 - 998 =$

Subtraction Fact Fluency

a. $12 - 6 =$

b. $11 - 3 =$

c. $15 - 7 =$

d. $12 - 4 =$

e. $16 - 9 =$

f. $11 - 6 =$

e. $14 - 7 =$

f. $17 - 8 =$

g. $12 - 9 =$

h. $14 - 6 =$

i. $13 - 5 =$

j. $14 - 5 =$

k. $11 - 8 =$

l. $13 - 8 =$

Solving Story Problems

- a.** Patti had \$391 in her wallet. She went shopping and had \$124 left. How much money did she spend shopping?
- b.** During field day the 1st place winner threw the baseball 125 feet, which was 56 more feet than the 2nd place winner. How far did the 2nd place winner throw the baseball?
- c.** Anna's class had an estimation jar. There were 351 candies in the jar. She gave some candy to her classmates and then there were 175 candies left. How much candy did she give to her classmates?

Solving Story Problems

- a.** Carly had \$189 saved for a new scooter. The scooter cost \$225. How much more money does she need to save?
- b.** Matthew wanted to read 100 minutes for the week. He read 15 minutes on Monday, 26 on Tuesday, 31 on Wednesday, and 14 on Thursday. Did Matthew meet his goal? If not, how much more does he need to read?
- c.** There was a shopping cart full of tennis balls at the start of the lesson. After the students hit 523 balls, there were 128 balls left. How many balls were in the cart at the beginning of the lesson?
- d.** There are 125 kids at summer camp. They had 96 popsicles to give out. Are there enough for every child? If not, how many more would they need?