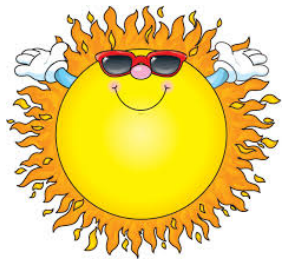
Hudson Summer Math Learning Packet

Students Entering Grade 5



The daily activities in this summer math packet will review math concepts and skills of the grade that has just been completed during the 2022-2023 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, please ask your student to explain how they figured out the answer.

The math activities in this math packet address the 2017 Massachusetts Curriculum Framework for Mathematics which incorporates the Common Core Standards within these three critical areas in grade 4:

(1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends
(2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers
(3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

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 fifth 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
- ❑ Coins
- ❑ Regular deck of playing cards
- ❑ Dice

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 fifth 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 played Multiplication Compare with my Mom. I multiplied 24 by 36 and got 864. She multiplied 16 by 22 and got 352. Since 864 > 352, I got all 4 cards.

I ended up having more cards than my Mom so I won the game.

Check out the Games for Young Minds website! Many game ideas, with suggestions of questions to ask your child while they play.
https://www.gamesforyoungminds.com/

Games To Play:

(You will need a regular deck of cards)

1. **Multiplication Compare**

Remove all the face cards from a deck of cards. The ace will equal 1. Deal out the cards equally between 2 or 3 players. Each player turns over 4 cards and multiplies a 2-digit number by a two-digit number. Use the symbols <, >, or = to compare the products. The person with the highest product wins all the cards.

Close to 1000

Deal 8 cards to each player. Use any 6 cards to make two 3-digit numbers. Try to make the sum close to or exactly 1000. For ex. You combine 148 and 853 to make 1001. Your score is 1 because the difference between 1001 and 1000 is 1. The lowest score after five rounds wins!

Other games to play: Monopoly, Othello, Battleship, Connect Four, Mastermind, Mancala, Legos, K'Nex, Simon, Yahtzee

Cool Math Books to Read:

- ❑ **Counting on Frank** by Rod Clement
- ❑ **A Grain of Rice** by Helena Clare Pittman
- ❑ **Sideways Arithmetic from Wayside School** by Louis Sachar
- ❑ **Divide and Ride** by Stuart Murphy
- ❑ **Lemonade for Sale** by Stuart Murphy
- ❑ **Fraction Fun** by David Adler
- ❑ **Gator Pie** by Louise Matthews
- ❑ **How Many Jellybeans?** By Andrea Menotti
- ❑ **Animals by the Numbers** by Steven Jenkins
- ❑ **How Much is a Million?** by David Schwartz
- ❑ **If you Made a Million** by David Schwartz
- ❑ **A Million to Measure** by David Schwartz
- ❑ **Great Estimations** by Bruce Goldstone
- ❑ **If the World Were a Village** by David J. Smith

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. Visit the website www.multiplication.com . Choose some activities to have fun practicing multiplication. Record choices.
2. Solve the riddle: I have 5 in the tenths place I have 7 in the thousandths place I have 4 in the ones place I have 2 in the hundredths place. What decimal am I? Write your own riddle.
3. Go to **http://www.gregtangmath.com/** And choose some worksheets to complete.
4. With a partner take turns scooping coins from a cup. Write the total in dollars and cents using decimal notation. Compare totals using <, >, or =. Take ten turns.
5. Skip count by 5's **starting at 1**. What patterns do you notice? Explain why you think these patterns are happening.

Week 2

1. Play the ***Product Game*** at www.**illuminations.nctm.org**. Record the strategy that you used.
2. Identify, record and classify angles: acute (less than 90°) obtuse (greater than 90°), right (90°) in everyday things (buildings, bridges, furniture…)
3. Write down the names and prices of 5 cars you find online or in a magazine advertisement. Order the prices from least to greatest. Round the prices to the nearest thousand.
4. 15 friends want to order pizza for dinner. They predict that each person will eat 1/3 of a pizza. How many pizzas should they order? What if there were 9 friends?
5. Go to the website www.setgame.com. Play and enter to win a prize!

Week 3

1. The sum of two mixed numbers is 5. What might the two mixed numbers be? Show as many different solutions as you can. Explain your strategy.
2. Play ***Multiplication Compare*** (see directions).
3. Play a strategy game, such as Connect Four, Battleship, etc. What strategy did you use? Would you use it again?
4. Make a paper airplane and fly it. Measure how far it goes. Try a few times. Record distances in your journal. Is it more accurate to use kilometers, meters or centimeters to measure?
5. PLAY BASEBALL at **www.funbrain.com**. Challenge yourself

Week 4

1. Find the area of your bedroom floor. What room in your house could have about twice the area of your bedroom or about half the area of your room? Check.
2. Write down the numbers you see on 2 license plates. Create 4 math problems with these numbers using all 4 operations (+, -, x, ÷)
3. Read ***A Grain of Rice*** by Helena Pittman. Calculate how many grains of rice she will receive on day 18. How many will she have altogether?
4. Julicia and Herman ordered a pizza for lunch. They each ate 1/3 of the pizza. How much pizza was eaten? How much pizza was left?
5. Play a game, such as those listed as "other games to play." What strategy did you use? Would you use that strategy again?

Week 5

1. Have a scavenger hunt for real-world examples of parallel lines (ex. railroad tracks)
2. A regular pentagon measures $2\frac{1}{8}$cm on one side. What is the perimeter of the pentagon?
3. Visit the game room at www.aplusmath.com Record what you played.
4. Visit the website www.mathplayground.com and play the logic games. How did you do?
5. Draw a design using symmetry. What makes your design symmetrical?

Week 6

1. Measure 10 objects to the nearest $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{1}{8}$ inch. Put the data on a line plot. How many objects measured 1⁄4 inch? 1⁄2 inch? Add the lengths of the objects together end to end. What is the total length?
2. The difference between two mixed numbers is $\frac{13}{4}$. What might the two mixed numbers be? Show as many different solutions as you can. Explain your strategy.
3. **Play Close to 1000** (see directions)
4. I earn $5 per hour babysitting and $4 per hour for weeding the garden. Last week I did 7 hours babysitting and 6 hours weeding. How much more money do I need to buy a game that costs $80.00?
5. Play ***Concentration*** at **illuminations.nctm.org** Choose: ***fractions, face down.*** Draw pictures that represent some fractions.

Week 7

1. Vowels are worth $50 each, consonants are worth $40. Can you make a word worth exactly $200? $600?
2. Play ***Fraction Game*** at **http://illuminations.nctm.org** How many moves did it take to get all the red markers to the right side? Can you beat your score?
3. Measure the perimeter of two different sized windows in your home. Find the difference of the perimeters.
4. A cake recipe calls for you to use 3⁄4 cup of milk, 1⁄4 cup of oil, and 2/4 cup of water. How much liquid was needed to make the cake? Is this more or less than a pint? How do you know?
5. Write a word problem whose answer is 154. Have someone solve the problem.

Week 8

1. List some capital letters (H, F…) that have one pair of parallel lines. Are there any that have three parallel lines, or two pairs of parallel lines?
2. Make the largest and smallest numbers you can find using the digits 4, 1, 7, 8, and 2. Find their difference and sum.
3. Try a new activity at **www.coolmath4kids.com**. Challenge yourself. What did you choose to do?
4. What factors can you use in this equation, __x 5 = __, to make a product that is an odd number between 30 and 60? Show all possible solutions. Explain your strategy.
5. Use 5 playing cards to make the largest 5-digit number possible. Represent the number in numeral, word and expanded forms. Repeat with 5 more cards.

Week 9

1. A lawn water sprinkler rotates 65 degrees and pauses. It then rotates 25 more degrees. What is the total degree rotation of the sprinkler? To cover a full 360 degrees, how many more degrees will it move?
2. Play the game ***Close to 1000.*** (see directions)
3. Go grocery shopping with your parent or guardian. See if you can estimate how much the total cost will be. How close were you?
4. Using paper, create a geometry dictionary of all the shapes, definitions and any geometry term you remember.
5. Measure, in ounces, how much water you drink today. Record your answer.

YOU DID IT! Please bring your journal to your fifth 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 **Hudson Public Library** if you do not have a computer at home

- http://pbskids.org/cyberchase/math-games/
- http://illuminations.nctm.org/ActivitySearch.aspx
- http://www.gregtangmath.com/
- https://mathsnacks.com/gate.html
- http://bedtimemath.org
- http://www.figurethis.org./index.html
- Refraction (How to use is here)
- Count on
- https://stmath.com - **Play games and learn math at the same time. We will provide you with login information if you so request it. There are no directions - play and enjoy!**

Websites

- Poly-Up
- Numbrix
- Brain Bashers
- Kakuros
- SolveMe Who Am I?
- Ken Ken Puzzles
- Solve Me Mobiles
- Math Snacks
- Frosty Fractions

APPS for 3 - 5

- Everyday Mathematics, Beat the Computer, Multiplication
- Everyday Mathematics, Divisibility Dash
- Everyday Mathematics, Equivalent Fractions
- Juicy Math – Multiplication and Division
- Pizza Fractions: Basic Conversions
- Pizza Fractions: Comparing Simple Fractions
- Times Tables
- Tony's Fraction's Pizza Shop
- Pearl Diver 3 - 8
- Game Over Gopher

APPS for all Grades

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

Read more about doing / talking math with your children on these websites

- Talking Math with Your Kids

*"This website is dedicated to helping parents support their children's mathematical development. We know we need to read with our children every day, but what should we do for math? **Answer**: Talk about math with them as we and they encounter numbers and shapes in our everyday lives."*

- Parents' Beliefs about Math Change Their Children's Achievement

"As well as the messages we give students about their potential, brain research is now showing that messages students pick up from their parents about math and their parents' relationships with math can also change students' math learning and achievement."

Create Your Own Summer July 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!

Date	Website (Give name)	Activity	Content Focus	Book (Give name)	Minutes worked	Parents Initials
7/5/23	Education.com	Whole Number Practice	Fluency with all operations	----	15 min	ECG

Create Your Own Summer August 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!

Date	Website (Give name)	Activity	Content Focus	Book (Give name)	Minutes worked	Parents Initials
8/5/23	ST Math.com	JiJi Geometry	Shapes	----	15 min	ECG