



Summer Math Learning Packet

Students entering Grade 8

Purpose

It is important for all students to review math concepts and processes during the summer. Intentional practice of math skills will help students reach **mastery** of required material and increase their ability to use facts and operations easily and accurately (**fluency**). There will also be skill areas or knowledge the students need to strengthen (**reinforce**) or even build upon further through enrichment opportunities. Time spent working on mastery, reinforcement, and **enrichment** will greatly benefit all students.

What parents/guardians can do to support the student

- ✓ Make a practice plan and help your child set goals.
- ✓ Recognize your child's strengths .
- ✓ Help your child to identify the areas of mathematics he/she would like to focus on over the summer.
- ✓ Check in with your child periodically.
- ✓ Create a system with your child to monitor and track progress.

Student Accountability

I spent at least 10 minutes a day, 4 to 5 times a week, practicing math. I completed at least 250 - 300 minutes of math practice over the course of the summer. I recorded my minutes on the tracking sheet. I returned the recording sheet to my 8th grade math teacher. I also showed my teacher my journal where I kept track of my mathematical thinking.

Student Signature

Date

Websites to Explore:

The Math Forum-The Math Forum includes a wonderful Student Center which allows students to choose resources and grade level material they find challenging or interesting. A help area called Ask Dr. Math, an Internet Math Hunt, and Math Tips & Tricks, which includes "BeatCalc", are just a few of the wonderful resources.

<http://mathforum.org/index.html>

Cool Math For Kids- This website provides a variety of games that explore probability and "race the clock" which allows you to practice basic computation skills. There are also several IQ games and brain thinkers that foster your ability to think logically.

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

The Quiz- This website provides math activities listed by concept and skills for all grade levels.

<http://www.thatquiz.org/>

Math Playground- An action-packed site for middle school students to practice math skills, play a logic game and have some fun.

<http://mathplayground.com/>

Math Illuminations, National Council of Mathematics-Choose a grade range to access activities and games.

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

Figure this- This site is designed to challenge middle school students with real world challenges.

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

Kids.Gov- This website is the official kids' portal for the U.S. government. It is divided into educational subject like arts, math, and history.

<http://www.kids.gov/>

Great Math Books to Read:

A Gebra Named Al by Windy Isdell

Math Curse by Jon Scieszka

Chasing Vermeer by BlueBalliett

Sir Cumference & the Dragon of Pi by Cindy Neuschwander

Sir Cumference & the First Roundtable by Cindy Neuschwander

Sir Cumference & the Great Knight of Angleland by Cindy Neuschwander

Sir Cumference & the Sword in the Cone by Cindy Neuschwander

Number Devil: A Mathematical Adventure by Hans Magnus Enzensberger

Counting on Frank by Rod Clement

Guinness Book of Records by Time Inc

Mathematicians are People Too by Luetta Reimer & Wilbert Reimer

These resources are intended for you to choose the websites and books that are most interesting to you. Keep in mind that it will be beneficial for you to:

- Solve problems involving addition, subtraction, multiplication and division of fractions.
- Solve problems involving addition, subtraction, multiplication, and division of decimals.
- Convert fractions, decimals, and percents to find equivalent fractions.
- Solve a variety of problems to strengthen your mathematical skills and knowledge.

July 2010 Entering Eighth Grade Mathematics Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1) Make a paper airplane and fly it several times. Find the mean, median, and mode of the distance your plane can fly.	2) Calculate the cost of a road trip your family will take this summer. Using gas mileage of your car and cost of gas, would it be cheaper to drive or fly? Costs?	3)
4)	5) What is the prime factorization of 64?	6) Twice a number (n) minus nine is ninety-five. Find the number (n).	7) Try a new activity at http://www.coolmath4kids.com/ Challenge yourself. What did you choose to do?	8) Track gas prices this summer. Choose a station near your house. Record the price of gas throughout the summer and graph it. Do you notice a trend?	9) Solve: $45 \div (-9) =$ $(-105) \div (-15) =$	10)
11)	12) Look up a math topic and read about the history. Who discovered it? How was it used? Ex. pi, gallons, metric...	13) Make a list of all the prime numbers between 50 and 75.	14) Examine the environment around you (at the beach, museum, your house...) and identify lines of symmetry, tessellations, types of angles... Record your findings.	15) Visit the website http://nlvm.usu.edu/en/nav/vlibrary.html . Challenge yourself with fun activities! List them.	16) How many two-digit multiples of four are there such that the number is still a two-digit multiple of four when its digits are reversed?	17)
18)	19) Find a true fact containing a number having more than 8 digits. Include the name of the source you used. Can you find more? Any surprises?	20) Try "Beatcalc" at http://mathforum.org/index.html	21) Using a grocery store receipt, figure what percentage of the bill was spent on vegetables, meat, drinks, junk food ...	22) Which is a better price? Why? a. 15oz. for \$1.79 b. 12 oz. for \$1.49	23) How many whole numbers from 1 to 100 are divisible by 3 different prime numbers? (Note: $12 = 2 \times 2 \times 3$ but is only divisible by 2 different prime #s.)	24)
25)	26) The pages of a book are numbered consecutively from 1 to 275. How many times is the digit 8 used in numbering the pages?	27) Add: $2 + (-3) =$ $(-2) + (-3) =$ $(-2) + 3 =$	28) Challenge yourself to a math game or logic puzzle at http://mathplayground.com/	29) 33.3% is the answer. What could the question possibly be? Challenge yourself to think of more questions.	30) Read a book from the suggested "Great Math Books to Read" What new vocabulary did you use?	31)

August 2010 Entering Eighth Grade Mathematics Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday						
1)	2) May 1 st Jay's mom gives him 1 cent. Each day, she pays double the amount she paid the day before. How much money did Mike earn in total by May 15?	3) Read <u>Guinness Book of Records</u> by Time Inc. What record surprised you the most? Why?	4) If 1000 gumballs cost \$20, how much would ten gumballs cost?	5) Choose a favorite professional athlete and research his/her annual salary. How much does s/he earn in a month? A day?	6) Choose an activity at Math Illuminations http://illuminations.nctm.org/activitysearch.aspx Record what you did.	7)						
8)	9) Using a receipt, find the mean, median, and mode of the prices of the items on the receipt from a store (grocery, clothing ...)	10) Solve: $3w + 2 = 20$ Can you write a real world problem that this equation represents?	11) Order the following from least to greatest: $3/7, 43\%, 0.4, 0.04$	12) Read a book from the suggested " Great Math Books to Read " What new math did you discover?	13) Play a strategy game. Ex. Monopoly, Parcheesi, Mancala, Connect Four ... What strategy did you use?	14)						
15)	16) Look up a famous math person and read about him/her. What did s/he discovered? How was it used? Ex. Fibonacci, Pythagoras ...	17) Play Sudoku from the newspaper How did logic help you to solve the puzzle?	18) Visit the website Figure this and look for a real life math challenge. http://www.figurethis.org/index.html	19) How many triangles are there in which the three vertices are all chosen from among the array of dots? <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">.</td> <td style="text-align: center;">.</td> <td style="text-align: center;">.</td> </tr> <tr> <td style="text-align: center;">.</td> <td style="text-align: center;">.</td> <td style="text-align: center;">.</td> </tr> </table>	20) Jan was reading a Harry Potter book for the 7th time. It took her 80 minutes to read the first 40 pages. How many minutes did it take her to read the entire 759 page book?	21)
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22)	23) Try a fraction lesson at The Quiz http://www.thatquiz.org/	24) Calculate: $7 \times 8 =$ $(-7) \times 8 =$ $(-7) \times (-8) =$	25) Find the area of a circle if the diameter is 20 feet.	26) The number 210 is divisible by how many prime numbers?	27) Dan's salary is \$70 less than Sam's, whose weekly salary is \$50 more than Jen's. If Jen earns \$280 per week, how much money does Dan earn per week?	28)						
29)	30) Mike has fifty coins in his pocket that add up to one dollar. How many coins of each denomination are in Mike's pocket?	31) YOU DID IT! Please bring your journal to your eighth grade teacher on the first day of school!										

