

## GMS MATH-O

We at Gaithersburg Middle School would like to encourage students to explore mathematics in a global context in order to assist them in their journey to becoming enduring mathematicians and thinkers. Research states that daily at home engagement in math concepts, high expectations, and guardian involvement (including discussing mathematics) help promote lifelong independent thinkers.

This summer, Gaithersburg Middle School students are to complete a minimum of **5** of the tasks on the MATH-O board. We encourage you to challenge yourself by completing a straight row or diagonal, but if you need to jump around you may. When the tasks are complete, **we are asking a parent or guardian to sign off in the box to confirm completion. Please bring your signed MATH-O board and completed evidence (writings, reflections, etc...) within the first week of school. We will have PRIZES for students who turn in completed sheets.**

DUE DATE	First week of school
Student Task	Complete a <b>MINIMUM of 5</b> tasks on the board and record your evidence (to be used in connection with any square.
Guardian Task	Check completion and sign off on EACH completed board space
Guardian Extended Opportunities	Engage in conversation regarding each board space your child completes.

We challenge families to promote a Growth Mindset in Mathematics at home.

Please support us by consistently sending the following key messages:

- 1) Everyone can learn math.
- 2) Mistakes are valuable.
- 3) Questions are really important.
- 4) Math is about creativity and making sense.
- 5) Math is about connections and communicating.
- 6) Math class is about learning.
- 7) Depth is more important than speed.

M	A	T	H	O
<p>Make a mandalas and Take your doodling to new heights. You will need a compass to create this unique symmetrical <a href="#">design</a></p>	<p>Watch: <a href="https://www.youtube.com/watch?v=zihsQC0IUd8">https://www.youtube.com/watch?v=zihsQC0IUd8</a></p> <p>Provide/Explain a real life example of slope and how it can be determined in that real life example.</p>	<p>Watch a video on <i>how our career aspirations can be realized through understanding math</i> at <a href="#">Math at Work</a></p> <p>What video did you watch and how did the business relate to math?</p>	<p>Watch the Ted Talk: <a href="#">Pixar: The math behind the movies - Tony DeRose</a></p>	<p>Grab a partner and play <a href="#">Arithmetic Four</a></p> <p>Make sure to challenge yourself by playing Level 3</p> <p>DO NOT USE A CALCULATOR</p>
<p>Watch the <a href="#">4 Videos Solutions to Linear Solutions</a></p> <p>Then Practice: <a href="#">Solutions to 2 Variables Equations</a></p> <p><a href="#">Complete Solutions to 2-variable equations</a></p>	<p>Create a scatter plot comparing AGE and SHOE SIZE for 25 people. Record your data in a table first. Determine the correlation (positive/Negative/Zero/None).</p> <p>Find the line of best fit for the data?</p>	<p>Watch the Ted Talk: <a href="#">The math and magic of origami</a>. Write a reflection of your thoughts. Complete a <a href="#">reflection sheet</a>.</p>	<p>Watch Video and Practice Adding, Subtracting, Multiplying, Dividing Negative and Positive Fractions</p> <p>Videos: <a href="#">Adding, Subtracting Multiplying, Dividing</a></p> <p>Practice: Adding, Subtracting <a href="#">Multiplying, Dividing</a></p>	<p>Watch the Math Mashup Video: <a href="#">Modeling Relationships Using Functions</a></p> <p>Model your own real life function. Identify the independent and dependent variables. Graph the function on a coordinate plane.</p>
<p>Design a study guide that reviews what a student needs to know about determining equivalent forms of fractions, decimals and percents. Include some practice problems and answer key.</p>	<p>Watch the Introductory video on Math.org to answer the question: "When am I going to use this?" as it describes the importance of Mathematics in many careers.</p> <p>Complete a reflection sheet for one of the 40 careers that use math.</p>	<p>Print and complete the <a href="#">Logic Puzzle</a></p> <p>A Logic Puzzle by Emily Cox and Henry Rathvon in GAMES July 2014</p>	<p>Grab a partner and play <a href="#">Algebra Four</a></p> <p>Make sure to play games that include equations with equations on both sides, distributive property, and two and one step problems.</p>	<p>Find the Error and Resolve:</p> $\frac{1}{2}x + 4x = 13$ $x + 4x = 26$ $5x = 26$ $x = 5.2$
<p>Watch the <a href="#">TedTalk: How Folding Paper Can Get You To the Moon?</a></p> <p>Complete the <a href="#">8 question quiz</a>. Grab a piece of paper. How many times could you fold the paper?</p>	<p>Watch the <a href="#">4 Videos Solving Equations with variables on both sides both</a></p> <p>Then Practice: <a href="#">Equations on Variables with both sides</a> and <a href="#">Equations with Variables on both sides, decimals and Fractions</a></p>	<p>Watch Video and Practice Adding, Subtracting, Multiplying and Dividing Negative Numbers</p> <p>Videos: <a href="#">Multiplying Dividing Adding Subtracting</a></p> <p>Practice: <a href="#">Multiplying and Dividing Adding and Subtracting</a></p> <p><b>Or try a challenge</b></p>	<p>Complete one "Problem of the Week Challenge" from the <a href="#">Mathcounts Problem of the Week Archive</a> Make sure to document your work on the evidence sheet.</p> <p><b>MATHCOUNTS<sup>®</sup></b> FOUNDATION</p>	<p>Watch <a href="#">the 9 Videos on Slope</a></p> <p>Then Practice: <a href="#">Slope from a Graph</a> <a href="#">Slope from Two Points</a> <a href="#">Slope from Equations</a></p>
<p>Exponents are important Take some time to watch the 9 videos on <a href="#">Khan Academy about Laws of Exponents</a>.!</p> <p>Then Practice: <a href="#">Multiply and Divide Powers Powers of Products, Quotients, and Properties of Exponents Challenge</a></p>	<p>Create 3 word problems that use examples of equations with variables on both sides.</p> <p><b>SOLVE THEM.</b></p>	<p>Read and Play "Today's Puzzle" on <a href="#">KenKen</a> website.</p> <p>Complete at least a 5x 5 puzzle. Consider printing other puzzles and teach a friend or parent.</p>	<p>Grab a partner and play <a href="#">rational/irrational</a> number game on math-play.com five times. Record your scores.</p>	<p><a href="#">Watch the 7 videos on Linear Models</a></p> <p>Then Practice: <a href="#">Linear Word Problems Graphs</a> <a href="#">Linear Word Problems</a> <a href="#">Linear Models Word Problems</a></p>