Glades Middle School
Summer Math Program

Attention Cougars,

It's time for **SUMMER MATH**!! Research studies have shown that during an extended summer vacation, children can lose an average of 2.6 months of knowledge. This is almost one-third of a typical school year! Keep your math skills sharp! The summer math expectations for Glades Middle School students will be to complete an average of 30 minutes per day, or at least 4 ½ hours per week of summer math on Khan Academy. Our goals for your students are to:

- retain math skills learned during the past school year
- strengthen problem solving and critical thinking skills
- enrich math interest and boost confidence

To begin, please follow these directions:

1. Sign up at KhanAcademy.org (or log in if they already have an account.)
2. Visit khanacademy.org/coaches (or click on the "Coaches" tab in your profile.)
3. In the "add a coach" field, enter the class code:
   BS9MN738: Incoming *6th Graders/current 5th graders*
   XVQFXSHD: Incoming *7th Graders/current 6th graders*
   VFKM68KH: Incoming *8th Graders/current 7th graders*
   ZW7Y3BXY: Incoming Algebra students
   BKBJ8GG9: Incoming Geometry students
4. You're ready to begin! Click on "Home" to start learning/reviewing!

On the first days of school in August, your student's math teacher will be looking for mastery of topics and progress of topics, not just time logged or completion of time. Being that this is typically the first grade of the year, we are interested in time invested, growth, and mastery, **not perfection**.
Please assist your student in setting up their account by July 1st.

We are excited to work with your students next year and hope you have a wonderful summer. Let us know if you have any questions!

Sincerely,

Glades Middle School Mathematics Instructional Team
(754) 323-4600

KHAN ACADEMY PRACTICE LOG

Name: _____

Grade: _____

Date	Name of Skill	Length of Time Practicing (in minutes)
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

Glades Middle School

Students entering the 6th grade

By the end of the 5th grade, your student should be able to…

- Understand place value
- Explain patterns of zeros when multiplying by powers of 10 (ex. 3.2 x 10, 48 x 1000, etc.)
- Read, write and compare decimals to the thousandths place (0.034)
- Use place value to round decimals to any place value.
- Fluently multiply multi-digit whole numbers.
- Find whole number quotients for numbers with up to four digits divided by two digit numbers
- Add, subtract, multiply and divide decimals to the hundredths place
- Add and subtract fractions with unlike denominators
- Multiply fractions and mixed numbers
- Divide unit fractions by whole numbers and whole numbers by unit fractions
- Convert measurement units (ex. 100cm = 1m, 36 inches=3 feet)
- Make a line plot
- Graph points in the first quadrant of a coordinate grid
- Classify shapes based on properties (ex. 4 sided polygon is a quadrilateral)
- Use rules to generate numerical patterns (ex. Rule is “add 3 to number”)
- Write simple expressions and interpret expressions

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Students entering the 7th grade

By the end of the 6th grade, your student should be able to…

- Use ratio language and understand the concept of a ratio
- Calculate and understand concept of unit rate (If a car drives 180 miles with 5 gallons of gas, how many miles can they drive on 1 gallon?)
- Complete tables using equivalent ratios. Solve real world ratio problems
- Divide fractions fluently
- Divide multi-digit numbers fluently (long division)
- Perform all decimal operations (+,-,x,÷)
- Find greatest common factor and least common multiple
- Use positive and negative integers in real world context (temp., bank balances, elevation)
- Find positive and negative numbers on a number line
- Understand absolute value of rational numbers (distance from zero on a number line)
- Graph in all four quadrants of a coordinate grid and find distances between points
- Write and evaluate expressions that include exponents
- Use order of operations
- Use variable to represent numbers and write expressions
- Read write and evaluate expressions where letters stand for numbers
- Write and solve equations (4 + x = 5 or 4y = 20)
- Use variables to represent quantities that change in relation to one another (ex.: When x increases, y increases, etc.)
- Find the area of triangles, quadrilaterals, and other polygons
- Find the volume of rectangular prisms
- Find surface area using nets for 3-D figures
- Use mean, median, mode and range to describe a set of data
- Display data in number lines, box plots, dot plots and histograms

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Students entering the 8th grade Pre-Algebra

By the end of the 7th grade, your student should be able to…

- Compute unit rates
- Recognize and represent proportional relationships
- Use proportions to solve ratio and percent problems (ex. Tax, interest, percent increase/decrease, sales)
- Add, subtract, multiply and divide rational numbers
- Solve real world problems involving four operations of rational numbers
- Add, subtract, factor and expand linear expressions with rational coefficients
- Use variables to represent quantities in a real world or mathematical problem
- Solve problems involving scale drawings computing lengths, areas, etc.
- Draw geometric shapes with given conditions (ex. Draw a triangle with 360-degree angles)
- Describe two dimensional figures that result from slicing 3-D figures
- Know the formulas for area and circumference of a circle and use them to solve problems
- Know the definitions of supplementary, complementary, vertical and adjacent angles and use apply them to find unknown angles in a problem
- Solve problems involving volume, area, and surface area for two and three-dimensional figures
- Generalize populations using a sample
- Use data from population samples to draw inferences about a population
- Use measures of center and variability to draw inference about two populations
- Understand that the probability of an event is a number between 0 and 1 that expresses the likelihood of the event occurring
- Approximate the probability of a chance event by collecting data (performing experiments)
- Draw a probability model and use it to find probabilities of events
- Find probabilities of compound events using organized lists, tables, tree diagrams and simulation
- Should be able to fluently multiply and divide multi digit numbers
- Perform all fraction operations (add, subtract, multiply and divide)

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Students entering Algebra I

By the end of GEM 6/Advanced 7th, your student should be able to…

- Compare and/or order any real numbers.
- Simplify square roots
- Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.
- Simplify/evaluate expressions involving properties/laws of exponents, roots and/or absolute values to solve problems.
- Use estimation to solve problems.
- Add, subtract, and/or multiple polynomial expressions.
- Factor algebraic expressions, including difference of squares and trinomials.
- Simplify/reduce a rational algebraic expression
- Write, solve, and/or apply a linear equation.
- Use and/or identify an algebraic property to justify any step in an equation-solving process.
- Interpret solutions to problems in the context of the problem situation.
- Write and/or solve a system of linear equations using graphing, substitution, and/or elimination.
- Write or solve compound inequalities and/or graph their solution sets on a number line.
- Identify or graph the solution set to a linear inequality on a number line.
- Write and/or solve a system of linear inequalities using graphing.
- Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.
- Determine whether the relation is a function, given a set of points or a graph.
- Identify the domain or range of a relation.
- Create, interpret, and/or use the equation, graph, or table of a linear function.
- Translate from one representation of a linear function to another.
- Identify, describe, and/or use constant rates of change.
- Apply the concept of linear rate of change (slope) to solve problems.
- Write or identify a linear equation when given the graph of a line, two points on the line, or the slope and a point on the line.
- Determine the slope and/or y-intercept represented by the linear equation or graph.
- Draw, identify, find, and/or write an equation for a line of best fit for a scatter plot.
- Calculate and/or interpret the range, quartiles, and interquartile range of data.
- Estimate or calculate to make predictions based on a circle, line, bar graph, measure of central tendency, or other representation.
- Analyze data, make predictions, and/or answer questions based on displayed data.

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Students entering Geometry

By the end of Algebra I, your student should be able to…

- Reason quantitatively and use units to solve problems
- Solve linear equations and inequalities in one variable
- Understand solving equations as a process of reasoning and explain the reasoning
- Create equations that describe numbers or relationships
- Interpret the structure of expressions
- Represent and solve equations graphically
- Summarize, represent, and interpret data on quantitative variables.
- Interpret linear models
- Solve linear systems of equations
- Create equations that describe numbers or relationships
- Interpret the structure of expressions
- Represent and solve equations and inequalities graphically
- Construct & compare linear & exponential models
- Interpret expressions for functions in terms of the situation
- Build a function that models a relationship between two quantities
- Understand the concept of a function and use function notation
- Interpret functions that arise in applications in terms of the context
- Analyze functions using different representations
- Perform arithmetic operations on polynomials
- Understand the relationship between zeros and factors
- Interpret the structure of expressions
- Solve equations and inequalities in one variable
- Create equations that describe numbers or relationships
- Interpret functions that arise in applications in terms of the context
- Represent and solve equations and inequalities graphically
- Build a function that models a relationship between two quantities
- Construct & compare linear, quadratic, & exponential models
- Build new functions from existing functions
- Analyze functions using different representations
- Use properties of rational and irrational numbers
- Summarize, represent, and interpret data on a single count or measurement variable
- Summarize, represent, and interpret data on two categorical and quantitative variables
- Interpret functions that arise in applications in terms of the context