

Dear Parent,



We're excited to have your child in Mathematics at Whitmore Lake Middle School.

This is a very important year in your child's life, and we're pleased to be part of it.

At school, we're building on the skills that your child has already learned and we're introducing new ones. See this side of the brochure for details about what we're doing this year in Mathematics.

At home, your child can practice the skills we're learning at school. See the other side of this brochure for easy things that you can do to encourage that practice.

By working together, we can make sure that your child acquires the skills he or she needs to be successful in school and life.

We look forward to working with you and your child this year. When you have questions, please feel free to contact us at 449-4715.

Sincerely,
The Middle School
Mathematics Teachers

In every grade, we teach Mathematics skills that will help students:

Numbers and Operations

- Develop number concepts and skills, from counting, to paper and pencil calculations.
- Estimate.
- Use calculators and computers when appropriate.
- Solve problems using basic calculations.

Algebra

- Explore and record patterns.
- Represent patterns and relationships using tables, graphs and algebraic symbols.
- Solve problems by representing patterns and relationships using tables, graphs and algebraic symbols.

Measurement

- Use the correct measurement tools and units to accurately measure and describe their world.

Geometry

- Explore and identify one, two and three-dimensional geometric shapes.
- Describe and classify one, two and three-dimensional geometric shapes.
- Construct one, two and three-dimensional geometric shapes.
- Use geometry knowledge to solve problems.

Data and Probability

- Collect, organize data in charts and graphs.
- Interpret data represented in charts, graphs.

In Middle School, we teach Mathematics skills that will help your child:

Numbers and Operations

- Recall basic facts with a focus on multiplication and division.
- Learn concepts and calculations involving fractions.
- Understand the relationships between fractions, decimals, and percents.
- Use fractions, decimals and percents to solve real-world problems.
- Use strategies to estimate the results of computations with rational numbers (fractions, decimals and percents) and judge the reasonableness of these computations.
- Learn concepts and computations involving integers (positive and negative numbers).
- Convert ratio quantities between different systems such as feet per second to miles per hour.



Algebra

- Learn ratios, proportions, and rates.
- Represent ratios in several ways (3 cups to 5 people; 3:5, 3/5).
- Recognize and find equivalent ratios by scaling up or scaling down.
- Solve applied problems involving rates (Ex: If a car is traveling at 55 mph, how far will it travel in 3 1/2 hours?)
- Represent linear functions in tables, graphs, and equations ($y=mx+b$).

- Represent and solve applied problems for directly proportional or linear situations, using tables, graphs, and equations (Ex: distance and time under a constant speed).
- Identify and represent the graphs of linear functions ($y=mx+b$), quadratic functions ($y=ax^2+bx+c$), and other simple functions such as inverse functions ($y=k/x$), cubic functions ($y=ax^3$), roots ($y=\sqrt{x}$) and exponential functions ($y=a^x$, for $a>0$).
- Solve applied problems involving simple quadratic equations by using tables, graphs, and factoring.
- Solve applied problems involving two simultaneous linear equations.
- Solve linear inequalities in one and two variables and graph the solution sets.



Measurement

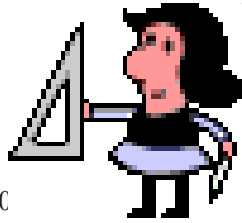
- Measure with both the standard English System and Metric System.
- Convert between measurement units (inches to feet).
- Convert between area measurements (square inches to square feet).
- Find the volume and surface areas of cubes and regular prisms with formulas.
- Measure and identify right angles, obtuse and acute angles.

Geometry

- Find the perimeter and area of geometric figures and the circumference of a circle.
- Find the volume of cubes, rectangular prisms, cylinders, cones, and pyramids.

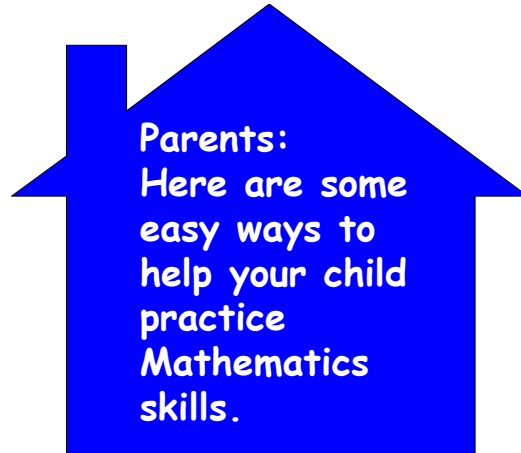
Geometry

- Learn the differences between perimeter, circumference, area and volume.
- Classify triangles, quadrilaterals, and polygons.
- Know that the sum of the interior angles of a triangle is 180 degrees and a quadrilateral is 360 degrees.
- Learn about congruent figures, similar figures and parallel lines.
- Learn the properties of angles created by a transversal of parallel lines (complementary, supplementary, interior, and vertical angles).
- Draw an angle bisector and a perpendicular bisector.
- Draw quadrilaterals with specific dimensions.
- Identify reflections (flip), rotations (turn), and translations (lateral or vertical move).
- Understand the Pythagorean Theorem for right triangles: $a^2+b^2=c^2$.



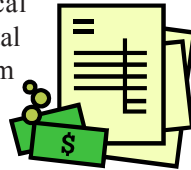
Data and Probability

- Calculate and identify the mean, median and mode.
- Find the range of a data set.
- Interpret data presented in a variety of ways.



Numbers and Operations

- Do comparison shopping. For example, "Are 4 apples for \$1 a better buy than a dozen apples for \$2.75?"
- Have your child select items from a catalogue or a sales ad in the newspaper and calculate the local sales tax to find the total amount for the item purchased.
- Have your child compute the tip on a restaurant bill. Share strategies for computing the tip with your child.



Algebra

- Create math problems to solve, such as "Joe ran 50 yards in 15 seconds. How many feet did he run per second?"
- Create math problems to solve, such as "It takes us 5 hours to get to the cottage if we average 55 miles per hour. How long would it take if we average 60 miles per hour? How about 50 miles per hour?"

Measurement

- Have your child lift household objects and identify the best weight unit in both

standard and metric systems. For example, the weight of a kitchen fork would be measured in ounces or grams and a chair in pounds or kilograms.

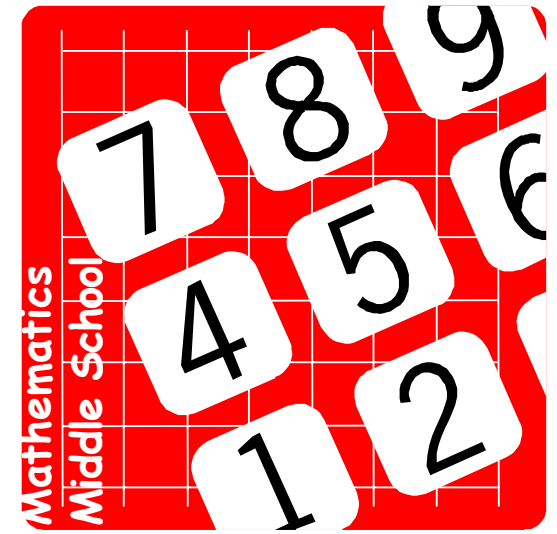
- Ask your child questions on conversions they see on a daily basis. For example, "How many pints are in that gallon of milk?" or "You ride the bus ___ miles to school. How many yards is that bus ride? How many feet is that bus ride?"

Geometry

- Have your child assist with household projects, such as wallpapering, laying carpet, tiles, etc... Measure, compute the area, and calculate the cost together.
- Look for geometric figures in every day objects. (A yield sign is a triangle. A stop sign is an octagon. A can of soup is a cylinder. A box of cereal is a rectangular prism.)

Data and Probability

- Play games that have an element of chance, such as card games and games involving number cubes.
- Look for lists, tables, and graphs containing numerical information in newspapers and magazines.
- Discuss the meaning of data presented in the media and how data might be influenced.



Whitmore Lake Middle School

In Middle School, we're teaching your child important mathematics skills.

What are these skills?

How can you help your child practice them?

W ...exceptional,
personalized education

For more good ideas, ask your child's teacher, or contact:
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