

Questions

Questions for your child's teacher:

- ◆ What would be the best way to contact a teacher for immediate questions, concerns, or clarification of class/subject expectations?
- ◆ How often do you have parent conferences?
- ◆ What do you do to motivate students to work up to their potential?
- ◆ How do you connect your teaching to the real world?
- ◆ What is the most effective way to communicate with you regarding my child's academic progress?

Activities for Home

What can I do to help my child from home?

- ◆ Play board games that involve counting and make change.
- ◆ When shopping encourage your child to round off items to the next dollar.
- ◆ Supply paper, pencil and calculator to complete math homework.
- ◆ Make multiplication and division fact cards.
- ◆ Use bottles measuring cups, pitchers, containers to measure liquids.
- ◆ Before flipping a coin twenty times guess the number of times the coin will land on heads or tails.
- ◆ Use a scale to measure items around the house.

A Message from the CMSD

~School Parent Organization~

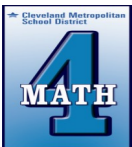
Dear Families,

This information was created by CMSD families for CMSD families. It is intended to provide parents with an academic framework to support CMSD in meeting our mutual goal of preparing students to compete in a global workforce.

NOTES:

★ Cleveland Metropolitan
School District

MATH



What should my fourth grader learn about Math?

Number, Number Sense and Operations

- ◆ Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals.
- ◆ Recognize and generate equivalent representations for whole numbers, fractions and decimals.
- ◆ Represent commonly used fractions and mixed numbers using words and physical models.
- ◆ Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them.
- ◆ Recognize and classify numbers as prime or composite and list factors.
- ◆ Count money and make change using both coins and paper bills.
- ◆ Model and use commutative and associative properties for addition and multiplication.
- ◆ Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication.
- ◆ Demonstrate fluency in multiplication facts with factors through 10 and corresponding divisions.
- ◆ Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness.
- ◆ Analyze and solve multi-step problems involving addition, subtraction, multiplication and division of whole numbers.
- ◆ Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers.
- ◆ Add and subtract commonly used fractions with like denominators and decimals, using models and paper and pencil.

Measurement

- ◆ Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature, using:
 - objects of uniform size;
 - U.S. customary units; e.g., mile, square inch, cubic inch, second, degree Fahrenheit, and other units as appropriate;
 - metric units; e.g., millimeter, kilometer, square centimeter, kilogram, cubic centimeter, degree Celsius, and other units as appropriate.
- ◆ Know that the number of units is inversely related to the size of the unit for any item being measured.
- ◆ Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.
- ◆ Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature.
- ◆ Tell time to the nearest minute.

Geometry and Spatial Sense

- ◆ Provide rationale for groupings and comparisons of two dimensional figures and three-dimensional objects.
- ◆ Describe and identify points, lines and planes in the environment.
- ◆ Describe and identify intersecting, parallel and perpendicular lines or segments in the environment.
- ◆ Identify and draw right, obtuse, acute and straight angles.
- ◆ Use attributes to describe, classify and sketch plane figures and build solid objects.
- ◆ Develop definitions of classes of shapes.
- ◆ Find and name locations in coordinate systems.
- ◆ Identify and describe line and rotational symmetry in two-dimensional shapes and designs.

- ◆ Describe, identify and model reflections, rotations and translations, using physical materials.
- ◆ Describe a motion or series of transformations that show two shapes are congruent.

Patterns, Functions and Algebra

- ◆ Analyze and extend patterns, and describe the rule in words.
- ◆ Use patterns to make predictions, identify relationships, and solve problems.
- ◆ Write and solve open sentences and explain strategies.
- ◆ Represent an unknown quantity as a variable using a symbol, including letters.
- ◆ Use variables to create and solve equations representing problem situations.
- ◆ Construct and use a table of values to solve problems associated with mathematical relationships.
- ◆ Describe how a change in one variable affects the value of a related variable.

Data Analysis and Probability

- ◆ Gather and organize data from surveys and classroom experiments, including data collected over a period of time.
- ◆ Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions.
- ◆ Construct charts, tables and graphs to represent data, including picture graphs, bar graphs, line graphs, line plots and Venn diagrams.
- ◆ Read, interpret and construct graphs in which icons represent more than a single unit or intervals greater than one; e.g., each \square = 10 bicycles or the intervals on an axis are multiples of 10.
- ◆ Describe data using mode, median and range.
- ◆ Conduct a simple probability experiment and draw conclusions about the likelihood of possible outcomes.
- ◆ Identify and represent possible outcomes, such as arrangements of a set of up to four members and possible combinations from several sets, each containing 2 or 3 members.

- ◆ Use the set of possible outcomes to describe and predict events.

Mathematical Processes

- ◆ Use and give reasoning for using a given problem solving strategy.
- ◆ Use and organized (step by step) process. Use the strategy to solve problems with (more than one) multiple step problem.
- ◆ Understand and solve the problem by giving an answer that uses the vocabulary involved in the question.
- ◆ Use what you have been taught in math, specifically problem solving strategies in other subjects (i.e. Science, Social Studies, or Art).
- ◆ Connect concepts with hands-on activities.
- ◆ Understand that there are relationships among different topics within mathematics.
- ◆ Use good reasoning to determine and explain the solution to the problem.
- ◆ Recognize common mistakes and acknowledge known assumptions and use hands on example to support or refute (disagree) with.
- ◆ The student should be familiar with different ways to represent problem situations: 1. Draw a picture, table, equations, act it out. 2. Know the difference between the choices and use the correct one to help them solve the problem.
- ◆ Students should read, think about, discuss, and write using mathematical vocabulary every day to get a deeper knowledge of its ideas and concepts in the real world.
- ◆ Use and practice mathematical vocabulary to increase knowledge.