

GRADE 4 MATHEMATICS

The goal of the Montgomery County Public Schools pre-K-12 mathematics program is for all students to achieve mathematical proficiency through mastery of mathematical skills, concepts, and processes. The end result is the ability to think and reason mathematically and use mathematics to solve problems in authentic contexts.

The mathematics curriculum at each grade level is organized into units of instruction. The following statements provide an overview of what students should know and be able to do by the end of each unit in Grade 4. Throughout all units, students will apply concepts and skills to solve problems, communicate and reason mathematically, and make mathematical connections.

Unit 1

- Recognize and apply place value patterns in numbers through millions.
- Organize, display, and analyze data using line plots, line graphs, and circle graphs.
- Determine and distinguish among mean, median, mode, and range.
- Classify angles as acute, obtuse, or right.
- Identify and describe the sides, angles, edges, vertices, and faces of solid figures.
- Draw circles, triangles, and quadrilaterals, given their dimensions.
- Identify, draw, and describe points, lines, line segments, and rays.

Unit 2

- Demonstrate mastery of basic multiplication and division fact families.
- Identify and apply multiples and factors of numbers.
- Solve for the unknown or variable in an equation.
- Generalize a pattern by stating a rule.
- Write and simplify numeric expressions using number properties.

Unit 3

- Compare and order fractions and mixed numbers.
- Compare decimals to the hundredths using numerals, pictures, and objects.
- Describe the relationship between fractions and decimals.
- Add and subtract fractional numbers with like denominators using models and pictures.
- Add and subtract decimals using models and pictures.
- Multiply fractions and whole numbers using models and pictures.
- Solve problems involving estimation with fractions and decimals.
- List all possible outcomes for a simple probability situation.
- Express the probability of an event with equally likely outcomes as a fraction.

Unit 4

- Multiply any whole number by a 2- or 3-digit factor.
- Divide any whole number by 1-digit divisor.
- Estimate products to determine the reasonableness of answers.
- Estimate and determine elapsed time.

Unit 5

- Identify translations, reflections, and rotations of figures.
- Select appropriate attributes and use standard units to solve measurement problems.

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- Solve problems involving area, perimeter, volume, and elapsed time.
- Develop and use formulas to solve problems involving perimeter and area of rectangles.
- Identify situations that are represented by negative numbers.