



Dear Parents,

The Pleasant Valley School District uses the Everyday Mathematics Program to support the attainment of its math standards and benchmarks at the K-6 level. In Everyday Math, unlike other math programs, students are introduced to concepts at various times and in specific units, but they are not necessarily expected to master those skills during the initial presentation. Rather, the curriculum has been developed to “spiral” and allow student understanding to emerge after several exposures to the content.

To help parents gauge appropriate grade level progress, Everyday Mathematics has organized its content into six strands and specific grade level goals within each of those strands. The six strands remain constant throughout the students’ K-6 math experience while the grade level goals change from one year to the next, building upon the skills from the previous year. The six strand areas include:

- **Number and Numeration Strand** (understanding of the meanings, use, and representation of numbers and numerical relations)
- **Operations and Computation Strand** (understanding of basic mathematical operations, estimation, and the ability to compute accurately)
- **Data and Chance Strand** (understanding of the basic concepts of probability and the ability to represent, analyze and interpret data)
- **Measurement and Reference Frames Strand** (understanding of the system and process of measurement including tools, units, formulas and specific reference frames)
- **Geometry Strand** (understanding of the characteristics of two and three dimensional shapes and the application of that understanding to “geometry” in one’s environment)
- **Patterns, Functions and Algebra Strand** (understanding of patterns and the ability to use algebraic notation to represent mathematical models/situations)

The grade level goals for each strand are listed below. While grade level goals are measured and assessed throughout the year, their attainment is, ultimately, an **end of the year expectation**. Assessment information, progress reports and parent-teacher conversations will help you gauge your child’s progress toward the attainment of those goals or their need for additional practice/support. Please use the goals below to guide your understanding of your child’s grade level mathematical experience and direct any more specific questions to your child’s teacher.

Fourth Grade Everyday Math **Grade-Level Goals**

Number and Numeration

***Understand the meanings, uses, and representations of numbers.**

- Goal 1:** Read and write whole numbers up to 1,000,000,000 and decimals through thousandths; identify places in such numbers and the values of the digits in those places; translate between whole numbers and decimals represented in words and in base-10 notation.
- Goal 2:** Read, write, and model fractions; solve problems involving fractional parts of a region or a collection; describe and explain strategies used; given a fractional part of a region or a collection, identify the unit whole.
- Goal 3:** Find multiples of whole numbers less than 10; find whole-number factors of numbers.

***Understand equivalent names for numbers.**

- Goal 4:** Use numerical expressions involving one or more of the basic four arithmetic operations and grouping symbols to give equivalent names for whole numbers.
- Goal 5:** Use numerical expressions to find and represent equivalent names for fractions and decimals; use and explain a multiplication rule to find equivalent fractions; rename fourths, fifths, tenths, and hundredths as decimals and percents.

***Understand common numerical relations.**

- Goal 6:** Compare and order whole numbers up to 1,000,000,000 and decimals through thousandths; compare and order integers between -100 and 0; use area models, benchmark fractions, and analyses of numerators and denominators to compare and order fractions.

Operations and Computation

*Compute accurately.

Goal 1: Demonstrate automaticity with basic addition and subtraction facts and fact extensions.

Goal 2: Use manipulatives, mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the addition and subtraction of whole numbers and decimals through hundredths; describe the strategies used and explain how they work.

Goal 3: Demonstrate automaticity with multiplication facts through 10×10 and proficiency with related division facts; use basic facts to compute fact extensions such as 30×60 .

Goal 4: Use mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the multiplication of multidigit whole numbers by 1-digit whole numbers; describe the strategies used and explain how they work.

Goal 5: Use manipulatives, mental arithmetic, and calculators to solve problems involving the addition and subtraction of fractions with like and unlike denominators; describe the strategies used.

*Make reasonable estimates.

Goal 6: Make reasonable estimates for whole number and decimal addition and subtraction problems and whole number multiplication and division problems; explain how the estimates were obtained.

*Understand meanings of operations.

Goal 7: Use repeated addition, skip counting, arrays, area, and scaling to model multiplication and division.

Data and Chance

*Select and create appropriate graphical representations of collected or given data.

Goal 1: Collect and organize data or use given data to create charts, tables, bar graphs, line plots, and line graphs.

*Analyze and interpret data.

Goal 2: Use the maximum, minimum, range, median, mode, and graphs to ask and answer questions, draw conclusions, and make predictions.

*Understand and apply basic concepts of probability.

Goal 3: Describe events using *certain*, *very likely*, *likely*, *unlikely*, *very unlikely*, *impossible*, and other basic probability terms; use *more likely*, *equally likely*, *same chance*, *50-50*, *less likely* and other basic probability terms to compare events; explain the choice of language.

Goal 4: Predict the outcomes of experiments and test the predictions using manipulatives; summarize the results and use them to predict future events; express the probability of an event as a fraction.

Measurement and Reference Frames

*Understand the systems and processes of measurement; use appropriate techniques, tools, units, and formulas in making measurements.

Goal 1: Estimate length with and without tools; measure length to the nearest $\frac{1}{4}$ inch and $\frac{1}{2}$ centimeter; estimate the size of angles without tools.

Goal 2: Describe and use strategies to measure the perimeter and area of polygons, to estimate the area of irregular shapes, and to find the volume of rectangular prisms.

Goal 3: Describe relationships among U.S. customary units of length and among metric units of length.

*Use and understand reference frames.

Goal 4: Use ordered pairs of numbers to name, locate, and plot points in the first quadrant of a coordinate grid.

Geometry

***Investigate characteristics and properties of 2- and 3-dimensional geometric shapes.**

- Goal 1:** Identify, draw, and describe points, intersecting and parallel line segments and lines, rays, and right, acute, and obtuse angles.
- Goal 2:** Describe, compare, and classify plane and solid figures, including polygons, circles, spheres, cylinders, rectangular prisms, cones, cubes, and pyramids, using appropriate geometric terms including *vertex*, *base*, *face*, *edge*, and *congruent*.

***Apply transformations and symmetry in geometric situations.**

- Goal 3:** Identify, describe, and sketch examples of reflections; identify and describe examples of translations and rotations.

Patterns, Functions, and Algebra

***Understand patterns and functions.**

- Goal 1:** Extend, describe, and create numeric patterns; describe rules for patterns and use them to solve problems; use words and symbols to describe and write rules for functions that involve the four basic arithmetic operations and use those rules to solve problems.

***Use algebraic notation to represent and analyze situations and structures.**

- Goal 2:** Use conventional notation to write expressions and number sentences using the four basic arithmetic operations; determine whether number sentences are true or false; solve open sentences and explain the solutions; write expressions and number sentences to model number stories.
- Goal 3:** Evaluate numeric expressions containing grouping symbols; insert grouping symbols to make number sentences true.
- Goal 4:** Apply the Distributive Property of Multiplication over Addition to the partial-products multiplication algorithm.