

Elementary Mathematics

The staff members of Ladue Schools are proud of the elementary mathematics program. The district's goals include:

- *building understanding of mathematical concepts using situations applicable to the students' lives*
- *developing computational fluency*
- *encouraging a variety of problem-solving techniques*
- *communicating mathematical ideas*
- *fostering a genuine enjoyment of mathematics.*

Rich opportunities, utilizing a variety of materials, are provided for students to learn mathematical concepts and procedures.

In K-4, explorations in *Investigations in Number, Data, and Space* provide students with experiences to help them understand the fundamental ideas underlying numeric, arithmetic, data, measurement, geometric, and algebraic thinking. Significant mathematics learning takes place as students:

- *spend time exploring problems in depth.*
- *often find more than one solution to problems and develop strategies and approaches based on their knowledge and understanding of mathematical relationships.*
- *choose from a variety of concrete materials and appropriate technology as a part of their everyday mathematical work.*
- *express their mathematical thinking through drawing, writing, and talking.*
- *work in a variety of groupings – as a whole class, individually, in pairs, and in small groups.*
- *move around the classroom as they explore the mathematics in their environment and talk with their peers.*

Students move through a developmental continuum starting with concrete models to build conceptual understanding, making connections to draw pictorial representations, and writing symbolic equations. Mathematical concepts, computation skills, and problem solving are also reinforced through activities from Scott Foresman-Addison Wesley *Mathematics* and other teacher selected materials. Evan Moor *Daily Math Practice* sets provide additional opportunities for students to review, maintain, and extend mathematical skills.

In grade 5, the *Comprehensive School Mathematics Program* (CSMP) stresses thinking skills and emphasizes the development of the standard number systems and their operations. The strands also contain strong lessons in probability, statistics, and geometry. The inclusion of the three non-verbal languages of CSMP allows students to become involved naturally with the content of mathematics. The language of strings deals with the fundamental notion of sets; the language of arrows graphically models the relationship between objects or numbers; and the language of the minicomputer (a simple abacus) models the numeration system and is used as a computational device. Used to represent all decimal numbers (positive and negative), the minicomputer encourages creative thinking about the nature and properties of numbers. A spiral approach allows for the continued development of these concepts at increasing levels of sophistication. Activities are flexible enough to facilitate whole-class, small group, and individualized instruction. Concepts and skills are reinforced through real life simulations, manipulatives, calculators, and the computer. Worksheets on four levels of difficulty are an integral part of each content strand. In addition to CSMP, teachers also use a variety of materials, which contain a heavy emphasis on computation skills and problem solving, including Evan Moor *Daily Practice* sets.

Our balanced elementary math program provides a wide range of learning experiences children require for maximum growth in concepts, facts, skills, and problem solving. Students confidently engage in cognitively demanding mathematical tasks, which allow for a variety of different approaches, thereby helping them to become flexible and resourceful problem solvers with efficient and accurate strategies. Students are actively engaged and realize the value of mathematics in their world.