Mathematics -5th Grade

Rationale

The need to understand and be able to use mathematics in everyday life and in the workplace has never been greater and will continue to increase. The underpinnings of everyday life are increasingly mathematical and technological. Just as the level of mathematics needed for intelligent citizenship has increased, so too has the level of mathematical thinking and problem solving needed in the workplace. Those who understand and can do mathematics will have significantly enhanced the opportunities and options for shaping their futures. Mathematical competence opens doors to productive futures.

Course Description

Fifth Grade mathematics is designed to develop an understanding of numbers and provide the student with the skills and tools necessary to be active problem-solvers in everyday life. Topics covered include developing fluency with addition and subtraction of fractions, developing understanding of multiplication and division of fractions, understanding decimals in place value, volume, measurement, expressions and patterns, and graphing. The student will gain an understanding of these topics by performing hands-on activities. The focus will be on active learning practices using problem solving and application. The student will move through concrete models to pictorial representation, to abstract representation of mathematical concepts.

Course Objectives

1. The student will make sense of problems and persevere, reason abstractly and quantitatively, model with mathematics, use tools strategically, attend to precision, make use of structure, look for and make use of repeated reasoning, construct viable arguments, and critique the reasoning of others when solving problems.

2. The student will write and interpret numerical expressions.

3. The student will analyze patterns and relationships.

4. The student will understand the place value system.

5. The student will perform operations with multi-digit whole numbers and with decimals to hundredths.

6. The student will use equivalent fractions as a strategy to add and subtract fractions.

7. The student will apply and extend previous understanding of multiplication and division to fractions.

8. The student will convert like measurement units within a given measurement system.

9. The student will represent and interpret data.

10. The student will understand concepts of volume and relate volume to multiplication and to addition.

11. The student will graph points on the coordinate plane to solve real-world and mathematical problems.

12. The student will classify two-dimensional figures into categories based on their properties.

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