Mathematics - 4th 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

Fourth 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 multi-digit multiplication, division, identifying like fractions, addition, subtraction, and multiplication of fractions, measurement, and classifying two dimensional shapes. 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 use the four operations with whole numbers to solve problems.

3. The student will gain familiarity with factors and multiples.

4. The student will generate and analyze patterns,

5. The student will generalize place value understanding for multi-digit whole numbers.

6. The student will use place value understanding and properties of operations to perform multi-digit arithmetic.

7. The student will extend understanding of fraction equivalence and ordering.

8. The student will build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

9. The student will understand decimal notation for fractions, and compare decimal fractions.

10. The student will solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

11. The student will represent and interpret data.

12. The student will understand concepts of angle and measure angles.

13. The student will draw and identify lines and angles, and classify shapes by properties of their lines and angles.

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