

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

Mathematics is designed to provide a classroom environment where the beginning learner develops number sense in everyday life by applying mathematical processes, reasoning, and problem-solving strategies. The topics covered are multiplication and division within 100, unit fractions and relative size of common fractions, and geometry with a focus on area and describing 2-D shapes. The student will move through concrete models to pictorial representation, to abstract representation of mathematical concepts with an emphasis on problem solving and reasoning. The student will be taught using methods that encourage hands-on activities and performance tasks that will develop understanding and application.

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 represent and solve problems involving multiplication and division.
3. The student will understand properties of multiplication and the relationship between multiplication and division.
4. The student will multiply and divide within 100.
5. The student will solve problems involving the four operations, and identify and explain patterns in arithmetic.
6. The student will use place value understanding and properties of operations to perform multi-digit arithmetic.
7. The student will develop understanding of fractions as numbers.
8. The student will solve problems involving measurement and estimation of time intervals, liquid volumes, and masses of objects.
9. The student will represent and interpret data.
10. The student will understand concepts of area and relate area to multiplication and addition.
11. The student will recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
12. The student will reason with shapes and their attributes.

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