Course Overview

Elementary School | 3 | Math - *Last Updated on October 9, 2024*

DESCRIPTION

K-12 Content Area | Mission & Philosophy Statement
• With confidence and perseverance, young people can tackle complex and novel mathematical challenges, becoming skilled problem solvers who take ownership over their learning process. • Young people possess the ability to reason mathematically, make conjectures, solve problems and build understanding through effective dialogue and collaboration. • Learners exhibit critical inquiry through the deliberate asking of questions and the integration of conceptual understanding, reasoning abilities, and procedural fluency. • Strategically selecting materials, technology, and other resources support mathematical learning and aid in achieving mathematical goals.

Course Description
The Third Grade math curriculum is a comprehensive framework designed to equip students with a deep understanding and proficiency in mathematics, segmented into four critical focus areas: numbers and operations, algebraic concepts, geometry and measurement, and data and probability. Each area is carefully structured to build upon students' existing knowledge, while also introducing new concepts and skills that are essential for academic success and real-world problem-solving. Foundational concepts include fractions, decimals, model drawing, expressions, and equations that are embedded within each of the four focus areas in preparation for algebra. Through exploration of the first domain, number and operations, students utilize concrete and pictorial models to create sets and numbers, use numbers to represent quantities to 10,000, count by thousands and ten thousands, compare and order whole numbers to 10,000 and write these numbers in standard, expanded, and word form. The curriculum expands fraction concepts from the previous grade to include fractions of a set, addition/subtraction of like fractions, comparisons using models and number lines, and determining equivalent fractions using models, multiplication, and division. Decimals are introduced as a decimal point in money amounts as students solve real-world problems involving addition/subtraction of money. The curriculum emphasizes whole number computation skills that focus on regrouping in addition/subtraction up to 10,000. Problem-solving strategies are interspersed throughout the units and include place-value strategies, the use of bar models to represent relationships, and multiplication/division algorithms. Explicit instruction to facilitate mastery of multiplication/division facts (e.g. 6, 7, 8, 9) is supplemented by representational modeling. Finally, estimation and mental math strategies are applied to problems involving all four operations. The exploration of algebraic concepts facilitates a deeper understanding of patterns, requiring students to analyze number and counting patterns, identify odd and even numbers, and skip count by 6s, 7s, 8s, and 9s. Models (e.g. concrete, pictorial, symbolic) continue to be utilized to reinforce multiplication/division in addition to subtraction/addition mastery. Ongoing practice with fact families reinforces students' understanding of relationships between numbers. Finally, students write multiplication and division number sentences, using letters as variables. Geometry instruction enhances students' understanding of two-dimensional shapes through ongoing sorting and classifying activities and extends this understanding to include the classification

of these shapes by their sides and angles. Through the composing and decomposing of two-dimensional shapes, students use attributes and properties of shapes to solve problems. Additionally, the curriculum introduces perpendicular/parallel lines, right angles, and circular measurement (360°). Finally, students are introduced to line symmetry and congruent figures. In addressing measurement, the curriculum extends students' application of the Metric and U.S. Customary Systems to include measurement to the nearest quarter-inch, unit conversions, and the selection and use of appropriate tools to measure. Further, the curriculum provides extended practice to calculate time to the nearest minute and elapsed time. Additionally, Fahrenheit thermometers are introduced. Finally, the curriculum builds upon conceptual knowledge of plane figures from previous grades to introduce area and perimeter, utilizing concrete representational and abstract strategies to solve problems.

STANDARDS

Pennsylvania Common Core - Grade 3 - Mathematics

CC.2.1.3.B.1 CC.2.1.3.C.1 CC.2.2.3.A.1 CC.2.2.3.A.2 CC.2.2.3.A.3 CC.2.2.3.A.4

CC.2.3.3.A.1 CC.2.3.3.A.2 CC.2.4.3.A.1 CC.2.4.3.A.2 CC.2.4.3.A.3 CC.2.4.3.A.4

CC.2.4.3.A.5 CC.2.4.3.A.6

COURSE OBJECTIVES

Specific objectives for this course are aligned to the Pennsylvania Core Standards for Mathematics and the Common Core State Standards for Mathematics as outlined in the Scope and Sequence for Grade K Mathematics.

ASSESSMENT TYPES

The following assessment types will be used during the course:

- Curriculum-based Measures
- Formative Assessments
- Performance-based Assessments
- Summative Assessments

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SUGGESTED METHODS OF INSTRUCTION

Below is a list of suggested strategies for high-quality instruction in mathematics:

- Instructional components outlined in the *Framework for Teaching* by Charlotte Danielson
- Concrete Representational Abstract (CRA) approach
- Guided Learning - allows for students to check their learning while working with guidance from instructor
- Independent Practice - students practice skills independently
- Use of manipulative, models, and technology to practice skills
- Communication of reasoning processes

RESOURCES

District Approved Program Resources	District Approved Supplemental Resources	District Approved Technology Resources
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