Farmer Fred

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Subjects and Domains

- Math - Operations & Algebraic Thinking - Content
- Math - Numbers & Operations - Fractions - Content
- Math - Geometry - Content

Common Core State Standards

- CCSS.Math.Content.4.NF.A.2
- CCSS.Math.Content.4.NF.B.3c
- CCSS.Math.Content.4.NF.B.3d
- CCSS.Math.Content.4.NF.B.4c
- CCSS.Math.Practice.MP1
- CCSS.Math.Practice.MP3
- CCSS.Math.Practice.MP6
- CCSS.Math.Practice.MP7
- CCSS.Math.Content.4.G.A.2
- CCSS.Math.Content.3.G.A.2
- CCSS.Math.Content.4.OA.A.3

Grades

- 4 - Fourth Grade

Intended End Users

- Teacher
- Professional Learning Community

Media Types

- Document

Summary

This is a multi-week unit that focuses on fractional parts of a whole. Annotated work samples and instructional implications provide support for setting expectations. The instructional supports section provides suggestions for daily plans. Additional sections are dedicated to the inclusion of the UDL principles and how the resources meet the needs of ELLs and students with disabilities.

Attributes of the Formative Assessment Process

- Clarify Intended Learning
- Elicit Evidence
- Interpret Evidence
- Act on Evidence

Specific Connection to the Formative Assessment Process

The formative assessment process is imbedded throughout this unit as misconceptions regarding fractional parts of a whole and application of that concept to solve problems are surfaced and instructional adjustments are made. The included rubrics help to clarify the intended learning, the instructional tasks and supports elicit evidence, and the annotated student work shows various levels of understanding and potential misconceptions in order for the educator to interpret and act on evidence.

Student Engagement to the Formative Assessment Process

Students are engaged in the formative assessment process throughout this unit as they work through an initial assessment, a second assessment, and a final performance task as well as a variety of learning activities surrounding understanding fractional parts of a whole and and applying that understanding to solve problems. These tasks are intended to surface misconceptions, and then support students in resolving these misconceptions and deepening their understanding of ratios. Students work individually, as a whole class, and in small groups. Educators provide

Educational Use

- Activity
- Assessment
- Differentiation
- Hands-On
- Manipulative
- Problem Solving

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actionable feedback to students based on a provided rubric.

Specific Connection to the Common Core State Standards

This resource addresses one of the three critical areas of fourth grade mathematics, 'developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers', through specific CCSS standards for Mathematics. The performance task in this unit assesses students' ability to synthesize fraction, geometry and money skills in order to determine fair value and total worth of fields. This resource incorporates four of the Standards for Mathematical Practice by promoting perseverance, structure, precision and reasoning.

Learning Goals

Students will classify shapes by their geometric properties. Students will connect geometry to number, operations, and measurement. Students will recognize equalities in shape and area.

Success Criteria

Students can classify two-dimensional figures. Students can add and subtract mixed numbers with like denominators. Students can apply fractional concepts in order to solve word problems. Students can combine and partition shapes in order to determine area. Students can construct models with multiple representations of the same value. - add fractions, decimals, and whole numbers.

Context(s) in Which the Resource Could Be Used

This resource could be used by educators to engage fourth grade students in a common core-aligned unit focused on fractional parts of a whole and using fractions and mixed numbers to solve problems. This unit could be used in various settings, including; whole group, small group, or individual. Resources are also provided to differentiate learning for ELLs and/or students with disabilities. Educators could work within a PLC to review this unit and collaboratively plan for implementation to best meet their student needs.

Supporting Evidence

This resource is part of New York City Public Schools Citywide Instructional Expectations program to analyze Common Core aligned instruction. The resource is a collaboration between NYC educators and national experts. It is supported by the results of a Common Core pilot, conducted in New York City Public Schools during the 2010-2011 school year, which showed a shift in curriculum and pedagogy due to the implementation of units supported by rigorous Common Core aligned assessment, as exemplified in this resource.

Principles, Literature, or Research

The NYC Common Core aligned tasks, were designed to support the principles of Universal Design for Learning (UDL), a research-based framework that provides options in representation, action/expression, and engagement for diverse learners. In this resource, educators can pre-teach vocabulary or symbols to connect to students' prior knowledge and present the content in different ways, pre-teach critical prerequisite concepts, and design learning activities with authentic outcomes to engage students.