

Unit 3 - "Parts of a Whole" Fractions and Decimals

Overview

Students will extend their previous understanding of decimals and multiplications and division to multiply and divide decimals using the standard algorithm. In grade 5 students multiplied a fraction by a whole number. They will now extend this concept to multiply and divide fractions and mixed numbers. While working with fractions and decimals students will estimate solutions to problems to be able to evaluate the accuracy of their final answers. Number lines, equivalent fractions, and benchmarks will allow students to draw conclusions for accurate estimates.

21st Century Capacities: Analyzing, Synthesizing

Stage 1 - Desired Results

| ESTABLISHED GOALS/ STANDARDS | Transfer: | |
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| MP3 Construct a viable argument and critique the reasoning of others. MP6 Attend to precision MP7 Look for and make use of structure CC.6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions. CC.6.NS.2 Fluently divide multi-digit numbers using the standard algorithm. CC.6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. CC.6.NS.4 Find the greatest common | <i>Students will be able to independently use their learning in new situations to...</i> | |
| | <ol style="list-style-type: none"> 1. Apply mathematical knowledge to analyze and model relationships to solve problems (Analyzing) 2. Communicate and justify mathematical thinking 3. Can fluently move between representations of numbers (Synthesizing) | |
| | Meaning: | |
| | UNDERSTANDINGS: <i>Students will understand that:</i> <ol style="list-style-type: none"> 1. Effective problem solvers work to understand the problem and think about reasonable answers before trying to solve it. 2. Mathematicians create dependable arguments by calculating efficiently and accurately. 3. Mathematicians flexibly use different tools, strategies, and operations to build conceptual knowledge or solve problems. | ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i> <ol style="list-style-type: none"> A. How do I monitor my accuracy? B. How does estimation help me? C. Is there a different approach to solve this problem? D. How does the size of one number affect the product or quotient? E. How can I communicate this? |

Grade 6 Math Curriculum

| | | | Acquisition: | |
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| | | | <i>Students will know...</i> | <i>Students will be skilled at...</i> |
| <p>factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.</p> <p>CC.6.NS.4 Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.</p> <p>CC.6.NS.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane</p> | | | <ol style="list-style-type: none"> 1. Sums and differences 2. When and why a fraction should be renamed 3. When to use LCM and GCF in solving problems 4. How to use estimation in order to check solutions 5. The relationship between models and algorithms 6. Vocabulary: quotient, product, sum, difference, numerator, denominator, factor, multiple, reciprocal, equivalent, | <ol style="list-style-type: none"> 1. Using all four operations with fractions and mixed numbers 2. Naming place value to the thousandths 3. Subtracting mixed numbers with regrouping 4. Using all four operations with decimals 5. Using the long division algorithm (with double digit divisor) 6. Using the multiplication algorithm (3 by 2 max) 7. How to make estimates sensibly 8. Finding the LCM of a set of numbers 9. Finding the GCF of a set of numbers 10. Using LCM and GCF to solve real life problems 11. Ordering rational numbers 12. Rounding numbers to a given benchmark/place value 13. Justifying an answer |