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Curriculum Units by Fellows of the National Initiative
2023 Volume III: Transitions in the Conception of Number: From Whole Numbers to Rational Numbers to Algebra

Money, Money, Money: Decimal Fractions in $ and ¢

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A "decimal fraction" can be easily converted into a decimal using the base-10 number system. For example, 95/100 is equivalent to 0.95, and its expanded notation is: $(9 \times 10^{-1}) + (5 \times 10^{-2})$. Because of their unique features, decimal fractions can help students bridge their understanding of whole numbers' place value in relationship to those of decimals, fractions, and percentages, and have the potential to better cement the arithmetic-to-algebra transition from concrete to more abstract thinking. The curriculum unit titled *Money, Money, Money: Decimal Fractions in $ and ¢* is designed to promote two main learning objectives:

- familiarize students with the history of U.S. coins;
- guide students to use coins like quarters, dimes, nickels, and pennies to develop greater understanding of place values;

The unit is developed for 5th Grade U.S. History, and addresses the Math Common Core Standards 5.NBT.A.1 (place value), 5.NBT.A.3 (decimals), and 5.NF.A (fractions). It is suitable for grades 3rd to 5th .

Keywords:decimal fractions, place value, number lines, U.S. Mint, U.S. coins, dollars, cents, quarters, dimes, nickels, pennies, financial literacy.

(Developed for Mathematics and Social Studies, grade 5; recommended for Mathematics, grades 3-5)