



Topic E

Money Amounts as Decimal Numbers

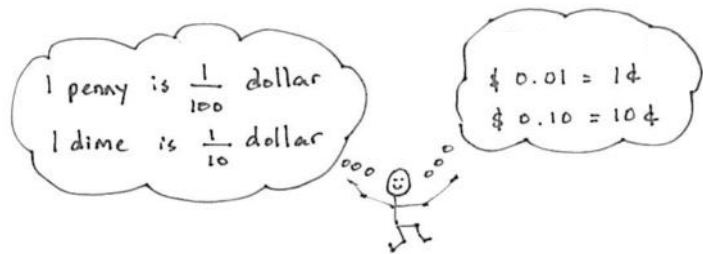
4.MD.2, 4.NF.5, 4.NF.6

Focus Standard:	4.MD.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
Instructional Days:	2	
Coherence -Links from:	G2–M7	Problem Solving with Length, Money, and Data
	G3–M5	Fractions as Numbers on the Number Line
-Links to:	G5–M2	Multi-Digit Whole Number and Decimal Fraction Operations

In Topic E, students work with money amounts as decimal numbers, applying what they have come to understand about decimals.

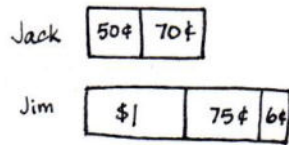
Students recognize 1 penny as $\frac{1}{100}$ dollar, 1 dime as $\frac{1}{10}$ dollar, and 1 quarter as $\frac{25}{100}$ dollar in Lesson 15. They apply their understanding of tenths and hundredths to express money amounts in both fraction and decimal forms. Students use this understanding to decompose varying configurations and forms of dollars, quarters, dimes, and pennies and express each as a decimal fraction and decimal number. They then expand this skill to include money amounts greater than a dollar in decimal form.

In Lesson 16, students continue their work with money and apply their understanding that only like units can be added. They solve word problems involving money using all four operations (**4.MD.2**). Addition and subtraction word problems are computed using dollars and cents in unit form. Multiplication and division word problems are computed using cents in unit form. All answers are converted from unit form into decimal form, using the dollar symbol as the unit.



$$\begin{aligned}
 &2 \text{ dollars, } 1 \text{ quarter, } 3 \text{ dimes, } 7 \text{ pennies} \\
 &= 2 \text{ dollars } 62 \text{ cents} \\
 &= 2 \frac{62}{100} \text{ dollars} \\
 &= 2.62 \text{ dollars} \\
 &= \$2.62
 \end{aligned}$$

Jack has 2 quarters and 7 dimes. Jim has 1 dollar, 3 quarters, and 6 pennies. How much money do they have together? Write your answer as a decimal.



They have \$3.01 together.

Solution A

$$\begin{aligned}
 &1 \text{ dollar } 20 \text{ cents} + 1 \text{ dollar } 81 \text{ cents} \\
 &= 2 \text{ dollars } \overset{100}{\underset{1}{101}} \text{ cents} \\
 &= 3 \text{ dollars } 1 \text{ cent} \\
 &= \$3.01
 \end{aligned}$$

Solution B

$$\begin{aligned}
 &1 \text{ dollar } 20 \text{ cents} + 1 \text{ dollar } \overset{80}{\underset{1}{81}} \text{ cents} \\
 &= 3 \text{ dollars } 1 \text{ cent} \\
 &= \$3.01
 \end{aligned}$$

A Teaching Sequence Toward Mastery of Money Amounts as Decimal Numbers

- Objective 1:** Express money amounts given in various forms as decimal numbers. (Lesson 15)
- Objective 2:** Solve word problems involving money. (Lesson 16)