



Topic G

Division of Fractions and Decimal Fractions

5.OA.1, 5.NBT.7, 5.NF.7

Focus Standard:	5.OA.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
	5.NBT.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
	5.NF.7	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. (Students capable of multiplying fractions can generally develop strategies to divide fractions by reasoning about the relationship between multiplication and division. However, division of a fraction by a fraction is not a requirement at this grade level.)
		a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.</i> b. Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</i> c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$-cup servings are in 2 cups of raisins?</i>
Instructional Days:	7	
Coherence -Links from:	G4–M5	Fraction Equivalence, Ordering, and Operations
	G5–M2	Multi-Digit Whole Number and Decimal Fraction Operations
-Links to:	G6–M2	Arithmetic Operations Including Division of Fractions
	G6–M4	Expressions and Equations

Topic G begins the work of division with fractions—both fractions and decimal fractions. Students use tape diagrams and number lines to reason about the division of a whole number by a unit fraction and a unit fraction by a whole number (**5.NF.7**). Using the same thinking developed in Module 2 to divide whole numbers, students reason about how many *fourths* are in 5 when considering cases such as $5 \div \frac{1}{4}$. They also reason about the size of the unit when $\frac{1}{4}$ is partitioned into 5 equal parts: $\frac{1}{4} \div 5$. Using this thinking as a backdrop, students are introduced to decimal fraction divisors and use equivalent fraction and place value thinking to reason about the size of quotients, calculate quotients, and sensibly place the decimal in quotients (**5.NBT.7**).

A Teaching Sequence Toward Mastery of Division of Fractions and Decimal Fractions

- Objective 1: Divide a whole number by a unit fraction.**
(Lesson 25)
- Objective 2: Divide a unit fraction by a whole number.**
(Lesson 26)
- Objective 3: Solve problems involving fraction division.**
(Lesson 27)
- Objective 4: Write equations and word problems corresponding to tape and number line diagrams.**
(Lesson 28)
- Objective 5: Connect division by a unit fraction to division by 1 tenth and 1 hundredth.**
(Lesson 29)
- Objective 6: Divide decimal dividends by non-unit decimal divisors.**
(Lessons 30–31)