Unit 2 Chapter 02 Divide Whole Numbers

Content Area: **Mathematics**
Course(s): **Math 5**
Time Period: **October**
Length: **2 weeks**
Status: **Published**

Unit Summary

During this unit, students will solve division problems with dividends up to 4 digits and divisors up to 2 digits. They also will model division problems with base-ten blocks and bar models. They will use estimation, partial quotients, and the standard division algorithm to solve problems. Students also learn to interpret the remainder depending on the context of a real-world problem, and in appropriate situations, write it as a fraction.

Standards

MA.5.NF.B	Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
MA.5.NF.B.3	Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MA.5.NBT.B	Perform operations with multi-digit whole numbers and with decimals to hundredths.
MA.5.NBT.B.6	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
PFL.9.1.4.A.2	Identify potential sources of income.
PFL.9.1.4.A.3	Explain how income affects spending and take-home pay.
PFL.9.1.4.B.5	Identify ways to earn and save.
TECH.8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
TECH.8.1.5.A.CS1	Understand and use technology systems
TECH.8.1.5.A.CS2	Select and use applications effectively and productively.

Student Learning Objectives

Students will learn to:

- place the first digit in the quotient by estimating or using place value.
- divide 3 or 4 digit dividends by 1 digit divisors.
- model division with 2-digit divisors using base-ten blocks.
- use partial quotients to divide by 2-digit divisors.
- estimate quotients using compatible numbers.
- divide by 2-digit divisors.
- solve division problems and decide when to write a remainder as a fraction

- adjust the quotient if the estimate is too high or too low
- solve problems by using the strategy *draw a diagram*.

Essential Questions

- How do you solve and check division problems?
- How can you use base-ten blocks to model and understand division of whole numbers?
- How can you use compatible numbers to estimate quotients?
- How can you divide by 2-digit divisors?
- When solving a division problem, when do you write the remainder as a fraction?
- How can you adjust the quotient if your estimate is too high or too low?
- How can the strategy *draw a diagram* help you solve a division problem?

Enduring Understandings

Students will understand that:

- there are multiple ways to estimate a quotient including using basic facts, using compatible numbers, considering place value and recognizing when an estimate is too high or too low.
- division problems can be checked by using multiplication.
- using models and base-ten blocks can help solve challenging division problems (with two digit divisors).
- the partial quotients method of division simply involves finding and subtracting multiples of the divisor until the result is less than the divisor or zero.
- the standard algorithm for division can be used when the divisor is more than one digit.
- sometimes a remainder needs to be interpreted when solving a division problem.
- remainders can be renamed as fractions.
- using the *draw a model* strategy can help organize information to make it easier to understand.

Application

Students will be able to independently use their learning to:

- place the first digit in the quotient by estimating or using place value.
- divide 3 and 4 digit dividends by 1 digit divisors.
- model division with 2-digit divisors using base-ten blocks.
- use partial quotients to divide by 2-digit divisors.
- estimate quotients using compatible numbers.
- divide by 2-digit divisors.
- solve division problems and decide when to write a remainder as a fraction.
- adjust the quotient if the estimate is too high or too low.
- solve problems by using the strategy *draw a diagram*.

Skills

Studens will be skilled at:

- dividing 3- and 4-digit dividends by 1- digit divisors.
- modeling division with 2-digit divisors using base-ten blocks.
- estimating quotients using compatible numbers.
- dividing by 2-digit divisors.
- solving division problems and deciding when to write a remainder a a fraction.
- adjusting the quotient if the estimate is too high or too low.
- solving a problems by using the strategy *draw a diagram*.