

Unit 8 Chapter 05 Divide Decimals

Content Area: **Mathematics**
Course(s): **Math 5**
Time Period: **March**
Length: **MP - 3**
Status: **Published**

Summary

In Chapter 5 Students will continue extending understanding of the division algorithm to include decimals. They will learn to multiply the dividend and divisor by a power of 10 when the divisor is a decimal and to add extra zeros to the right of a decimal point in the dividend when necessary.

Standards

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| MA.5.NBT.A.2 | Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. |
| MA.5.NBT.B.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. |
| 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 learn to:

- find patterns in quotients when dividing by powers 10.
- model division of decimals by whole numbers.
- estimate decimal quotients.
- divide decimals by whole numbers.
- model division of decimals by decimals.
- place the decimal point in decimal division.
- write zero in the dividend to find a quotient.
- solve multi-step decimal problems using the strategy *work backward*.

Essential Questions

- How can patterns help you place the decimal point in a quotient?
- How can you use a model to divide a decimal by a whole number?
- How can you estimate decimal quotients?

- How can you divide decimals by whole numbers?
- How can you use a model to divide by a decimal?
- How can you place the decimal point in the quotient?
- When do you write a zero in the dividend to find a quotient?
- How do you use the strategy *work backward* to solve multi-step decimal problems?

Enduring Understandings

Students will understand that:

- patterns of powers of 10 can help place the decimal point in a quotient.
- concrete models, drawings, and strategies related to place value help us understand dividing decimals.
- familiar strategies for estimating quotients (compatible numbers, basic facts) can be used when dividing decimals.
- it is important to learn how to calculate amounts with decimals because our money system is based in decimals.
- when dividing decimals by decimals, you can multiply the divisor by a power of 10 to change it to a whole number before dividing as long as the multiply the dividend by the same power of ten.
- you can write a zero in the dividend when there aren't enough digits in the dividend to complete division.
- the strategy *working backward* can be used if the total but you do not know one of the parts.

Application

Students will be able to independently use their learning to:

- find patterns in quotients when dividing by powers 10.
- model division of decimals by whole numbers.
- estimate decimal quotients.
- divide decimals by whole numbers.
- model division by decimals.
- place the decimal point in decimal division.
- write zero in the dividend to find a quotient.
- solve multi-step decimal problems using the strategy work backward.

Skills

Students will be skilled at:

- finding patterns in quotients when dividing by powers 10.
- modeling division of decimals by whole numbers.
- estimate decimal quotients.
- dividing decimals by whole numbers.
- modeling division by decimals.
- placing the decimal point in decimal division.
- writing zero in the dividend to find a quotient.

- solving multistep decimal problems using the strategy work backward.