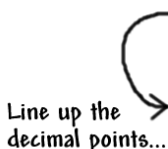
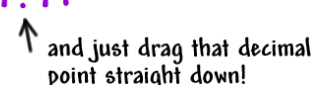


## 6<sup>th</sup> Grade Unit 4: Decimal Operations


### Prerequisite Skills:

- Place value
- Addition, subtraction, multiplication & division of whole numbers
- Unit rate
- Determining the percent of a quantity
- Determining the total amount from a percentage
- Determining a percentage from a fraction

**UNIT OVERVIEW:** In this unit students will **add, subtract, multiply** and **divide decimals**. Students must be able to complete these operations fluently. Students will have to apply their knowledge of computation with decimals to fluently solve real world word problems with decimals. Students will extend their knowledge of **equivalent ratios/rates** and **unit rate** from Unit 2, and complete more complex application problems. Students will have to apply their knowledge of **percentages** to real world situations including, but not limited to, determining the best deal, finding a quicker pace, determine sale prices from a percent discount and determine a total amount number amount from a **percentage**.

<b>Learning Target 1: I can add and subtract decimals.</b>		6.NS.3
<input checked="" type="checkbox"/> A) Correctly identify and line up place values to create an addition/subtraction equation	<b>Example</b> $3.21 + 4.5$	
<input checked="" type="checkbox"/> B) Correctly add or subtract the given decimals	<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 20px;">             Line up the decimal points...   </div> <div style="text-align: center; margin-right: 20px;"> <math display="block">\begin{array}{r} 3.21 \\ + 4.5 \\ \hline 7.71 \end{array}</math> </div> <div style="border: 1px solid black; padding: 5px; text-align: center; color: red; font-weight: bold;">             Add as usual!           </div> </div> <p style="text-align: center; margin-top: 10px;">  </p>	

<b>Learning Target 2: I can multiply decimals.</b>		6.NS.3
<input checked="" type="checkbox"/> A) Accurately multiply the digits in the given equation	<b>Example</b> $3.77 \times 2.8 = ?$	
<input checked="" type="checkbox"/> B) Loop the decimal the correct number of times in the product	<div style="text-align: center;"> <math display="block">\begin{array}{r} 3.77 \text{ (2 decimal places)} \\ \times 2.8 \text{ (1 decimal place)} \\ \hline 3016 \\ +754 \\ \hline 10.556 \text{ (3 decimal places)} \end{array}</math> </div>	

<b>Learning Target 3: I can divide a decimal by a whole number.</b>		6.NS.3
<input checked="" type="checkbox"/> A) Divide the given number precisely	<b>Example</b>	
<input checked="" type="checkbox"/> B) Correctly place the decimal in the quotient	<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 20px;"> <math display="block">\begin{array}{r} .4 \\ 5 \overline{) 2.35} \\ \underline{-20} \\ 35 \\ \underline{-35} \\ 0 \end{array}</math> </div> <div style="font-size: 2em; margin: 0 10px;">→</div> <div style="text-align: center;"> <math display="block">\begin{array}{r} .47 \\ 5 \overline{) 2.35} \\ \underline{-20} \\ 35 \\ \underline{-35} \\ 0 \end{array}</math>  </div> </div>	

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<b>Learning Target 4: I can divide a whole number by a decimal.</b>		6.NS.3
	<b>Example</b>	
<input checked="" type="checkbox"/> A) Move the decimal point the proper number of times to correctly create the equation	$26 \div 2.5 =$ $\begin{array}{r} 10.4 \\ 2.5 \overline{)260.0} \\ \underline{-25} \phantom{0} \\ 10 \phantom{0} \\ \underline{-10} \phantom{0} \\ 0 \phantom{0} \\ \underline{-0} \\ 0 \phantom{0} \\ \underline{-0} \\ 0 \phantom{0} \end{array}$	
<input checked="" type="checkbox"/> B) Accurately divide the given numbers		

<b>Learning Target 5: I can divide a decimal by a decimal.</b>		6.NS.3
	<b>Example</b>	
<input checked="" type="checkbox"/> A) Move the decimal point the proper number of times to correctly create the equation	$\begin{array}{r} 5 \overline{)6.85} \\ \underline{-5} \phantom{0} \\ 18 \phantom{0} \\ \underline{-15} \phantom{0} \\ 3 \phantom{0} \end{array}$	
<input checked="" type="checkbox"/> B) Accurately divide the given numbers	$\begin{array}{r} 1. \phantom{0} \\ 5 \overline{)68.5} \\ \underline{-5} \phantom{0} \\ 1 \phantom{0} \end{array}$	
<input checked="" type="checkbox"/> C) Correctly place the decimal in the quotient, if necessary	$\begin{array}{r} 13. \phantom{0} \\ 5 \overline{)68.5} \\ \underline{-5} \phantom{0} \\ 18 \phantom{0} \\ \underline{-15} \phantom{0} \\ 3 \phantom{0} \end{array}$	

<b>Learning Target 6: I can identify the appropriate operation to solve a real world problem with decimals.</b>		MP.1, MP.7
	<b>Example</b>	
<input checked="" type="checkbox"/> A) Use math vocabulary and/or real life applications to select the correct operation and create an accurate number sentence; especially involving subtraction and division where the order matters	<p style="text-align: center;">Recognizing key words...</p> <p style="text-align: center;">Sum, difference, product, quotient and real life application of those words</p> <p style="text-align: center;">Identifying what the first number should be when subtracting or dividing</p>	

<b>Learning Target 7: I can solve real world unit rate problems involving decimals.</b>		6.RP.3a
	<b>Example</b>	
<input checked="" type="checkbox"/> A) Determine a unit rate using division or a proportion	<p>10 ounces cost \$2.50, what is the cost per ounce?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <math display="block">\begin{array}{r} 0.25 \\ 10 \overline{)2.50} \\ \underline{-2} \phantom{0} \\ 0 \phantom{0} \\ \underline{-0} \\ 0 \phantom{0} \end{array}</math> <p>\$0.25/ounce</p> </div> <div style="text-align: center;"> <math display="block">\begin{array}{r} 10 = 1 \\ 2.5 \times \\ \hline 10x = 2.5 \\ 10 \quad 10 \\ \hline x = \\$0.25/\text{ounce} \end{array}</math> </div> </div>	
<input checked="" type="checkbox"/> B) Answer real world application problems involving unit rate.	<p>Examples:</p> <p>Price per item; Miles per hour; Miles per gallon; Minutes per mile</p>	

## 6<sup>th</sup> Grade Unit 4: Decimal Operations

<b>Learning Target 8: I can solve real world percent problems.</b>		6.RP.3a
	<b>Example</b>	
<input checked="" type="checkbox"/> A) Apply their knowledge of finding the... <ul style="list-style-type: none"> <li>➤ Percent of a number</li> <li>➤ Total percent from a given fraction</li> <li>➤ Missing part from a given total and percentage</li> </ul> And utilize this information to answer a real world word problem	Using a given discount to find the % discount Determining a percentage completed Determining an original price Percent discount, sale price Adding tax Adding a tip	

Vocabulary			
Place value	Percentage	Tax	Discount
Decimal point	Operation	Mark up	Tip
Ratio	Rate	Unit Rate	Equivalent Rate

Department Assessments	
<b>Mastery Quizzes</b> <ul style="list-style-type: none"> <li>▪ <b>Mastery Quiz #1:</b> <ul style="list-style-type: none"> <li>✓ I can add and subtract decimals</li> <li>✓ I can multiply decimals</li> </ul> </li> <li>▪ <b>Mastery Quiz #2:</b> <ul style="list-style-type: none"> <li>✓ I can divide a decimal by a whole number.</li> <li>✓ I can divide a whole number by a decimal.</li> <li>✓ I can divide a decimal by a decimal.</li> </ul> </li> <li>▪ <b>Mastery Quiz #3:</b> <ul style="list-style-type: none"> <li>✓ I can identify the correct operation to solve a word problem with decimals.</li> <li>✓ I can solve real world unit rate problems with decimals.</li> <li>✓ I can solve real world percent problems.</li> </ul> </li> </ul>	<b>Dates</b> <ul style="list-style-type: none"> <li>▪</li> <li>▪</li> <li>▪</li> </ul>
<b>Unit Test</b> <ul style="list-style-type: none"> <li>▪ Part A: Department Wide: Multiple Choice</li> </ul>	<b>Dates</b> <ul style="list-style-type: none"> <li>▪</li> </ul>
<b>Performance Task</b> <ul style="list-style-type: none"> <li>▪ Part B: Teacher Created: Extended Response</li> </ul>	<b>Dates</b> <ul style="list-style-type: none"> <li>▪</li> </ul>

Products	
<b>Culminating Project</b>	
<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>

Any adjusted dates or changes in this unit's outline will be noted on our online gradebook. Please contact the teacher if you do not have your log in information.  
 Please feel free to contact the teacher with any further questions or concerns!