

Title: Compare the value of the digits in a multi-digit whole number

Lesson Objective: In this lesson you will compare the value of the digits in a whole number by representing the number with models and using your knowledge of place value.

Common Core Standard

5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.

Use the video at:

<http://learnzillion.com/lessons/3251>

Use the questions on the left, pausing the video or stopping the slideshow, to check for understanding and engage students at each section of the lesson.

Warm-Up	Notes
How would the value of 5 change in 124,359 if it shifts two places to the left?	<i>This lesson asks students to evaluate the change in the value of a digit being moved two places over.</i>
Let's Review	Notes
How does the value of a digit change when we move it one place to the left? What do you think might happen if we move it two places to the left?	<i>If students find the warm-up question challenging, they may gain insight from this slide.</i>
A Common Misunderstanding	Notes
How are the values of the first digit 6 and the second digit 6 different in the number 67,628?	<i>This is a specific example of the above point: two digits separated by two places.</i>
Core Lesson	Notes
What do the digits in 448 represent? Show a number sentence that adds up the values of both 4s and 8.	<i>400+40+8, the sum of the values of each digit, equals 448. Consider having students use pictures to help them visualize the magnitude of these numbers.</i>

<p>What do the digits in 212 represent? Show a number sentence that adds up the values of both 2s and 1.</p> <p>What can we multiply the value of the 2 on the right by to get the value of the 2 on the left?</p>	<p><i>200+10+2, the sum of the values of each digit, equals 212. Consider having students use pictures to help them visualize the magnitude of these numbers.</i></p> <p><i>This question will help students understand that the value of a digit n places to the right of the same digit apart is 10^n.</i></p>
<p>What about the difference between the 8 digits in 83,286?</p>	<p><i>Here, there are 3 spaces between identical digits. The students' challenge is to multiply the right 8 by 1,000.</i></p>
<p>Post-Core Lesson</p>	<p>Notes</p>
<p>In the number 4,342, what is the value of each 4? What would we multiply the smaller value by to get the larger one? What does this have to do with the number of places apart they are?</p>	<p><i>Students should not only identify the correct answer, but be able to explain the pattern that led them to that answer.</i></p>
<p>Practice</p>	
<p>Download the practice sheet for this lesson on the lesson plan page.</p>	
<p>Differentiation</p>	
<p>During the lesson and practice, identify students who are struggling. See below for interventions:</p> <p>Students don't understand the concept of powers of ten (4.NBT.1): http://learnzillion.com/lessons/805</p> <p>Students don't know how to identify the value of a digit in a number (4.NBT.1): http://learnzillion.com/lessons/514</p> <p>Students don't know how to use a place value chart (2.NBT.1): http://learnzillion.com/lessons/3850</p>	

