

 <b>PRINCETON</b> <small>INDEPENDENT SCHOOL DISTRICT</small>		<b>Campus:</b> Harper/Smith/Lacy/Godwin/Lowe	
<b>Author(s):</b> Garlington, Stovall, Eaton, Warren, Venters, Elsbury		<b>Date Created / Revised:</b> July 30, 2020	
<b>Six Weeks Period:</b> 1 <sup>st</sup>		<b>Grade Level &amp; Course:</b> 5 <sup>th</sup> grade math	
<b>Timeline:</b> 5 days		<b>Unit Title:</b> Compare and Order Decimals	<b>Week</b> 5
<b>Stated Objectives: TEK # and SE</b>	<p style="text-align: center;"><b>Problem Solving/Processing Standard</b></p> <p>5.1A apply mathematics to problems arising in everyday life, society, and the workplace</p> <p>5.1B use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution</p> <p>5.1C select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems</p> <p>5.1D communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate</p> <p>5.1E create and use representations to organize, record, and communicate mathematical ideas;</p> <p>5.1F analyze mathematical relationships to connect and communicate mathematical ideas</p> <p>5.1G display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication</p> <p style="text-align: center;"><b>Skills</b></p> <p>5.4A identify prime and composite numbers</p> <p style="text-align: center;"><b>Review</b></p> <p>5.3B multiply with fluency a three-digit number by a two-digit number using the standard algorithm;</p> <p style="text-align: center;"><b>Concepts</b></p> <p>5.2B compare and order two decimals to thousandths and represent comparisons using the symbols <a href="http://www.teksresourcesystem.net/module/standards/Tools/Browse?StandardId=118094">http://www.teksresourcesystem.net/module/standards/Tools/Browse?StandardId=118094</a></p>		
<b>See Instructional Focus Document (IFD) for TEK Specificity</b>			
<b>Key Understandings</b>	<p>Compare, Order TWO DECIMALS TO THOUSANDTHS Including, but not limited to:</p> <ul style="list-style-type: none"> <li>● Decimals (less than and greater than one to the tenths, hundredths, and thousandths)</li> <li>● Place value – the value of a digit as determined by its location in a number such as ones, tens, hundreds, one thousands, ten thousands, etc.</li> <li>● Compare numbers – to consider the value of two numbers to determine which number is greater or less or if the numbers are equal in value</li> <li>● Order numbers – to arrange a set of numbers based on their numerical value</li> </ul> <p>Represent COMPARISONS OF TWO DECIMALS TO THOUSANDTHS USING THE SYMBOLS <math>&gt;</math>, <math>&lt;</math>, or <math>=</math> Including, but not limited to:</p>		

	<p>Decimals (less than and greater than one to the tenths, hundredths, and thousandths)</p> <p>Comparative language and symbols</p>
<p><b>Misconceptions</b></p>	<ul style="list-style-type: none"> <li>Some students may think placing zeros at the end of a decimal number always affects the value of the number rather than being used as a place-holder (e.g., In 0.400, the zeros do not affect the value, but in 0.04, the zero in the tenths place does affect the value.).</li> <li>Some students may think you can only round certain numbers to a specific place value rather than being able to round to any given place value (e.g., The decimal number 34.25 can be rounded to the nearest tenths place, ones place, tens place, hundreds place, etc.).</li> <li>Some students may use the digit in the tenths place to determine how many boxes to shade in on a hundredths grid (e.g., shading in 8 of the 100 boxes for 0.8) rather than determining the value of the number written as hundredths (e.g., shading in 80 of the 100 boxes of 0.80).</li> <li>Some students may order decimals incorrectly by trying to relate whole number understandings to decimal understandings (e.g., 0.29 is greater than 0.6 because 29 is greater than 6) rather than using decimal place value understandings (e.g. 0.29 is less than 0.60).</li> <li>Some students may order decimals based on the number of digits in the number rather than determining its value (e.g. 0.123 is greater than 0.45 because 0.123 has three digits and 0.45 only has two digits.).</li> </ul> <p><b>Underdeveloped Concepts:</b></p> <ul style="list-style-type: none"> <li>Some students may record a literal translation of the symbols (e.g., record 0.53 as “zero point fifty-three or “point five tenths and three hundredths”).</li> <li>Some students may not know how to correctly read comparison symbols (ex: &lt; is read “less than”, &gt; is read “greater than”).</li> <li>Some students may not relate multiple representations to the same decimal amount (base-10 blocks, decimal grids, money, place value chart, etc.).</li> </ul>
<p><b>Key Vocabulary</b></p>	<ul style="list-style-type: none"> <li><b>Compare numbers</b> – to consider the value of two numbers to determine which number is greater or less or if the numbers are equal in value</li> <li><b>Compatible numbers</b> – a method for estimating a group of numbers by slightly adjusting some or all of the numbers to allow for easy mental computation</li> <li><b>Compensation</b> – a method for adjusting an estimate to draw closer to an exact calculation</li> <li><b>Counting (natural) numbers</b> – the set of positive numbers that begins at one and increases by increments of one each time {1, 2, 3, ..., n}</li> <li><b>Decimal number</b> – a number in the base-10 place value system used to represent a quantity that may include part of a whole and is recorded with a decimal point separating the whole from the part</li> <li><b>Digit</b> – any numeral from 0 – 9</li> <li><b>Estimation</b> – reasoning to determine an approximate value</li> <li><b>Expanded form</b> – the representation of a number as a sum of place values (e.g., 985,156,789.782 as 900,000,000 + 80,000,000 + 5,000,000 + 100,000 + 50,000 + 6,000 + 700 + 80 + 9 + 0.7 + 0.08 + 0.002 or as 900,000,000 + 80,000,000 + 5,000,000 + 100,000 + 50,000 + 6,000 + 700 + 80 + 9 + <math>\frac{7}{10}</math> + <math>\frac{8}{100}</math> + <math>\frac{2}{1000}</math> )</li> <li><b>Expanded notation</b> – the representation of a number as a sum of place values where each term is shown as a digit(s) times its place value (e.g., 985,156,789.782 as 9(100,000,000) + 8(10,000,000) + 5(1,000,000) + 1(100,000) + 5(10,000) + 6(1,000) + 7(100) + 8(10) + 9 + 7(0.1) + 8(0.01) + 2 (0.001) or as 9(100,000,000) + 8(10,000,000) + 5(1,000,000) + 1(100,000) + 5(10,000) + 6(1,000) + 7(100) + 8(10) + 9 + 7 (<math>\frac{1}{10}</math>) + 8(<math>\frac{1}{100}</math>) + 2 (<math>\frac{1}{1000}</math>))</li> </ul>

- **Expression** – a mathematical phrase, with no equal sign or comparison symbol, that may contain a number(s), an unknown(s), and/or an operator(s)
- **Fluency** – efficient application of procedures with accuracy
- **Front-end method** – a method for estimating a number in which the first digit of a number is retained and all remaining digits are changed to zero
- **Grouping symbols** – symbols to show a group of terms and/or expressions within a mathematical expression
- **Numeral** – a symbol used to name a number
- **Order numbers** – to arrange a set of numbers based on their numerical value
- **Order of operations** – the rules of which calculations are performed first when simplifying an expression
- **Place value** – the value of a digit as determined by its location in a number, such as ones, tens, hundreds, one thousands, ten thousands, etc.
- **Positive rational numbers** – the set of numbers that can be expressed as a fraction  $\frac{a}{b}$ , where  $a$  and  $b$  are counting (natural) numbers
- **Rounding** – a method for estimating a number by increasing or retaining a specific place value digit according to specific rules and changing all trailing digits to zero
- **Standard form** – the representation of a number using digits (e.g., 985,156,789.782)
- **Trailing zeros** – a sequence of zeros in the decimal part of a number that follow the last non-zero digit, and whether recorded or deleted, does not change the value of the number
- **Whole numbers** – the set of counting (natural) numbers and zero  $\{0, 1, 2, 3, \dots, n\}$
- **Word form** – the representation of a number using written words (e.g., 985,156,789.782 as nine hundred eighty-five million, one hundred fifty-six thousand, seven hundred eighty-nine and seven hundred eighty-two thousandths)

**Related Vocabulary:**

- |                              |                    |
|------------------------------|--------------------|
| ● About                      | ● Equal to (=)     |
| ● Approximately              | ● Equivalent       |
| ● Ascending                  | ● Estimate         |
| ● Base-10 place value system | ● Hundredths       |
| ● Brackets                   | ● Greater than (>) |
| ● Descending                 | ● Less than (<)    |
| ● Difference                 | ● Magnitude        |

<b>Suggested Day 5E Model</b>	<b>Instructional Procedures</b> (Engage, Explore, Explain, Extend/Elaborate, Evaluate)	<b>Materials, Resources, Notes</b>
<b>Day 1- Engage/ Explore/ Explain</b>	Warm-Up (2 problem solving problems) Skills divisible by 2, 5 or 10 Review 2 digit X 1 digit with grids Concept comparing decimals Read the problem, build the problem, sketch the problem, compare and order decimals	<b>From Sharon Wells Curriculum</b> ● Skills 13 ● Review 13 ● Concept Activity 1
<b>Day 2 – Explain</b>	Warm-Up (2 problem solving problems) Skills divisible by 3, 6, or 9 Review 2 digit X 1 digit Concept compare and ordering decimals	<b>From Sharon Wells Curriculum</b> ● Skills 14 ● Review 14 ● Activity 2
<b>Day 3 - Extend</b>	Warm-Up (2 problem solving problems)	<b>From Sharon Wells Curriculum</b>

	<p>Skills factoring  Review 3 digit X 1 digit with grid  Concept compare and order decimals practice</p>	<ul style="list-style-type: none"> <li>● <b>Skills 15</b></li> <li>● <b>Review 15</b></li> <li>● <b>Concept Activity 3</b></li> </ul>
<p><b>Day 4</b>  <b>-Extend</b></p>	<p>Warm-Up (2 problem solving problems)  Skills factoring practice  Review 3 digit X 1 digit  Concept practice comparing and ordering decimals and</p>	<p style="text-align: center;"><b>From Sharon Wells Curriculum</b></p> <ul style="list-style-type: none"> <li>● <b>Skills 16</b></li> <li>● <b>Review 16</b></li> <li>● <b>Concept activity 4</b></li> </ul>
<p><b>Day 5 –</b>  <b>Evaluate</b></p>	<p>Go over Week 4 Test Taking Skills as a class.  Students will complete Week4 Assessment.</p>	<p style="text-align: center;"><b>From Sharon Wells Curriculum</b></p> <ul style="list-style-type: none"> <li>● <b>Week 4 Test Taking Skills</b></li> <li>● <b>Week 4 assessment</b></li> </ul>

**Accommodations for Special Populations**

Accommodations for instruction will be provided as stated on each student's (IEP) Individual Education Plan for special education, 504, at risk, and ESL/Bilingual.