

Math 5.2B Clarifying Document

TEKS		
Grade: Fifth Grade Strand: 5.2 Number and Operations. Essential Question(s): - How might you justify your choice of symbol (<, >, =) in a comparison number sentence? - Why is place value important in comparing decimal numbers? - What are some misconceptions you have observed in comparing decimal numbers?		
Grade 4	Grade 5	Grade 6
4.2(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =. 4.2(F) compare and order decimals using concrete and visual models to the hundredths.	5.2(B) compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =.	6.2(D) order a set of rational numbers arising from mathematical and real-world contexts (R)
Cognitive Rigor: What should students be doing ? - Compare decimals to thousandths - Order decimals to thousandths - Represent using the symbols >, <, or = Content: What will the students compare, order, and represent? - Decimal numbers - Comparisons Context: In what context will the students compare, order and represent? - Represent a decimal to the thousandths using models - Describe the value of digits within a number to the thousandths - Flexibly partition decimal numbers in multiple ways - Compare two decimals to the thousandths using language and symbols		Vocabulary Choice Board Compare Order Represent Less than Greater than Equal to Inequality Symbol Tenths Hundredths Thousandths Greatest to least Least to greatest
Content Builder		
As students compare the value of decimals they need to demonstrate their understanding of place value (5.2A). For example, 2.42 is less than 2.7 because the digit 4 in 2.42 means there are four tenths which is a value of 0.40; however, the digit 7 in 2.7 means there are seven tenths which is a value of 0.70. Students should compare two decimal values using correct academic vocabulary and comparison symbols. It is important for students to recognize inverse comparison statements and symbol representation and state both comparisons (e.g., 2.7 is greater than 2.42 and $2.7 > 2.42$). When students are comparing decimals where some are to tenths, some to hundredths, and some to thousandths, don't instruct students to merely add zeros to the end of the decimal. Instead have students explore the understanding of each decimal with models. For example: 0.28 is 28 hundredths and is the equivalent to 0.280 or 280 thousandths. Students will also order decimals from least to greatest or greatest to least. Using number lines allows students to order more efficiently. Place value charts can be used to show how the values of the digits can be used for comparisons. Students should practice reading the symbols aloud so misconceptions on the name of the symbol		

can be clarified. Students should also be able to compare decimal numbers in pairs when given a set of decimals (e.g., Racing distances are as follows: 13.2, 13.52, 12.94, and 13.01. Which of the following correctly compares two of these race scores?).

Instructional Implications

Teachers should avoid:

- Relying on tricks to determine the direction of comparison symbols (e.g., “the alligator eats the bigger number”) without building conceptual understanding of what the symbols represent.
- Providing a single comparison statement. Provide opportunities for students to show how comparison statements are reversible and retain the same truth.
- Ignoring the context of a problem when ordering decimals. Use real-world scenarios (e.g., race times, prices, temperatures) to clarify whether ordering should go from least to greatest or greatest to least based on the context.
- Only teaching how to compare two numbers at a time. Instead, teach students how to write chained comparison statements (e.g., $3,342 < 3,349 < 3,358 < 3,409$) and discuss what each symbol means in the full sequence—not just between pairs.

Instructional Videos & Anchor Charts

Instructional Videos:

- [Compare & Order Decimals Videos](#)
- [Comparing Decimals using Grid Paper](#)
- [Comparing Decimals with PV Chart and Symbols](#)
- [Ordering Decimals](#)

Anchor Charts:

- [Comparing Decimals to the Thousandths](#)
- [Ordering Decimals to the Thousandths](#)

Assessment & Path to Proficiency

EOL Example

Q1 Student Work Sample

Patty and Maggie are racing to see who can pour a glass of milk the fastest. Patty poured her glass of milk in 4.56 seconds and Maggie poured her glass of milk in 4.45 seconds. Who poured the glass of milk the fastest?

$P = 4.56 \text{ sec}$
 $M = 4.45 \text{ sec}$

$4.56 > 4.45$

Maggie poured her glass of milk fastest. Her time was lower than Patty's.

5.2AB CFA

EOL Example

Q2 Student Work Sample

Compare 4.506 to four and fifty-two hundredths and explain your answer using the symbols $>$, $<$, $=$.

4.506
 4.520

$4.506 < 4.52$
 $4.52 > 4.506$

5.2B STEMscopes Evaluate Options

5.2B Path to Proficiency

Path to Proficiency Checklists can be used to help teachers determine specific learning targets for students who have not mastered all components of an essential standard. These checklists can be used for targeted intervention tracking for MTSS and utilized to track student growth throughout the school year. These checklists highlight student behaviors for content mastery of the TEKS.

Tools/Representations/Supports
Tools:

Base Ten Blocks
Thousandths Chips

Representations:

Place Value Chart
Base Ten Grid Paper
Grid Paper
Open Number Line

Other Supports:

Three Reads Checklist
Comparison Sentence Stems