New Mexico Instructional S
5th Grade Numbers and Operations in B
Guide

The purpose of this tool is to help educators understand each of the grade level standards and how those standards connect to the students' overall preparation for college and career readiness.

The NMIS is a teacher-influenced tool, designed to provide instructional planning support at the programmatic level for districts and instructional level for teachers. Its foundation stems from the vision and mission of the PED and came into existence to assure that students in NM will be engaged in a culturally and linguistically responsive educational system that meets the social, emotional, and academic needs of ALL students. This is also rooted in the belief that all students must have access to on-grade-level standards, focusing on acceleration. The purpose of this tool is to help educators understand each of the grade level standards and how those standards connect to the students' overall preparation for college and career readiness.

Standards are defined as the most critical prerequisite skills and knowledge. This document is color-coded to reflect both anchor and priority standards. Though previous emphasis was placed on priority standards to address lost learning due to COVID-19, New Mexico teachers should note that moving forward, while priority standards allow for acceleration of learning, all standards should be addressed in instruction throughout the school year.

In this guide you will find:

- A breakdown of each of the grade level standards within the cluster, including:
  - Standards of Mathematical Practice
  - Common Misconceptions
  - Identification of Priority Standards, as identified by NMPED.
  - Level of Rigor Identification
- Sample aligned assessment items
- Suggested Student Discourse Guide
- A multilayered system of supports (MLSS) and culturally and linguistically responsive instruction (CLR) guide

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Key		
	Priority Standard	Priority standards, as identified by NMPED, are denoted with red highlighting. Priority standards are the most critical prerequisite skills and knowledge a student needs. This does not mean that these are only standards required to be taught, just these are the standards that will allow for the acceleration the students of New Mexico need during this time.
	*Conceptual Understanding*	Conceptual Understanding standards help students build a deep understanding of the **how** and **why** of mathematics.
	*Application*	Application standards help students identify the appropriate concepts and skills to tackle **novel real-world problems.**
	*Procedural Skill and Fluency*	Procedural standards help students develop **efficiency** and **accuracy** in computations.

Standards Breakdown

- Understand the place value system
  - 5.NBT.A.1
  - 5.NBT.A.2
  - 5.NBT.A.3
  - 5.NBT.A.4
- Perform operations with multi-digit whole numbers and with decimals to hundredths
  - 5.NBT.B.5
  - 5.NBT.B.6
  - 5.NBT.B.7

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Grade	*CCSS Domain*	*CCSS Cluster*
5	Numbers and Operations in B Ten	Understand the place value system

Cluster Standard: 5.NBT.A.1

Standard	**Standards for Mathematical Practice**
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 1/10 of what it represents in the place to its left.	• **SMP 2:** Reason abstractly and quantitatively. • **SMP 7:** Look for and make use of structure.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• Students extend their understanding of the base-ten system to the relationship between adjacent places, how numbers compare, and how numbers round for decimals to thousandths. This standard calls for students to reason about the magnitude of numbers. Students should work with the idea that the tens place is ten times as much as the ones place, and the ones place is 1⁄10th the size of the tens place. Based on the base-10 system, digits to the left are 10 times as great as digits to the right; likewise, digits to the right are 1⁄10th of digits to the left.	• Explain 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 1⁄10 of what it represents in the place to its left.
DOK	**Blooms**
1	Understand

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Grade	*CCSS Domain*	*CCSS Cluster*
5	Numbers and Operations in B Ten	Understand the place value system

Cluster Standard: 5.NBT.A.2

Standard	**Standards for Mathematical Practice**
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.	• **SMP 7:** Look for and make use of structure.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• Multiplying by a power of 10 shifts the digits of a whole number or decimal that many places to the left. Patterns in the number of 0s in products of a whole number and a power of 10 and the location of the decimal point in products of decimals with powers of 10 can be explained in terms of place value. Because students have developed their understanding of and computations with decimals in terms of multiples rather than powers, connecting the terminology of multiples with that of powers affords connections between understanding of multiplication and exponentiation. (Progressions for the CCSSM, Number and Operation in Base Ten, CCSS Writing Team, April 2011, page 16) This standard includes multiplying by multiples of 10 and powers of 10, including 102 which is 10 x 10=100, and 103 which is 10 x 10 x 10=1,000. Students should have experiences working with connecting the pattern of the number of zeros in the product when you multiply by powers of 10.	• Represent powers of 10 using whole number exponents. • Translate between powers of 10 written as 10 raised to a whole number exponent, the expanded form, and standard notation. • Explain the patterns in the number of zeros of the product when multiplying a number by powers of 10. • Explain the relationship of the placement of the decimal point when a decimal is multiplied or divided by a power of 10.

Students should reason that the exponent above the 10 indicates how many places the decimal point is moving (not just that the decimal point is moving but that you are multiplying or making the number 10 times greater three times) when you multiply by a power of 10. Since we are multiplying by a power of 10 the decimal point moves to the right.	
DOK	**Blooms**
1	Understand, Apply

Grade	*CCSS Domain*	*CCSS Cluster*
5	Numbers and Operations in B Ten	Understand the place value system

Cluster Standard: 5.NBT.A.3

Standard	**Standards for Mathematical Practice**
Read, write, and compare decimals to thousandths • 5.NBT.A.3a: Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). • 5.NBT.A.3a: Compare two decimals to the thousandths based on the meanings of the digits in each place, using >,=,< symbols to record results of comparisons.	• **SMP 5:** Use appropriate tools strategically.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• This standard reference expanded the form of decimals with fractions included and compared decimals builds on work from fourth grade. This standard refers to rounding. Students should go	• Read and write decimal to thousandths using base-ten numerals, number names, and expanded form. • Use >, =, and < symbols to record the results of

beyond simply applying an algorithm or procedure for rounding. The expectation is that students have a deep understanding of place value and number sense and can explain and reason about the answers they get when they round. Students should have numerous experiences using a number line to support their work with rounding. Students should use benchmark numbers to support this work. Benchmarks are convenient numbers for comparing and rounding numbers. 0., 0.5, 1, 1.5 are examples of benchmark numbers.	comparisons between decimals. ● Compare two decimals to the thousandths, based on the place value of each digit. ● Use knowledge of base ten and place value to round decimals to any place.
DOK	**Blooms**
1	Understand, Analyze

Grade	*CCSS Domain*	*CCSS Cluster*
5	Numbers and Operations in B Ten	Understand the place value system

Cluster Standard: 5.NBT.A.4

Standard	**Standards for Mathematical Practice**
Use place value understanding to round decimals to any place.	● **SMP 7:** Look for and make use of structure.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
● Students have a deep understanding of place value and number sense by explaining and giving reasons about the answers they get when they round. Students should have numerous experiences using a number line to support their work with rounding. When rounding a decimal to a given place, students may identify the two	● Explain why the value of digits depends on its place. ● Round decimals to any place.

possible answers, and use their understanding of place value to compare the given number to the possible answers.	

Common Misconceptions

• Students may try to extend a shallow understanding of whole number place value to decimal place. • Students may think the more digits after a decimal point the greater the number.	• Students can confuse the language describing the relationship between place values for whole numbers and decimal numbers. • Students memorize a rule of "adding zeros" to make the powers of 10 and then misapply this "rule".

Grade	*CCSS Domain*	*CCSS Cluster*
5	Numbers and Operations in B Ten	Perform operations with multi-digit whole numbers a with decimals to hundredths

Cluster Standard: 5.NBT.B.5

Standard	**Standards for Mathematical Practice**
Fluently multiply multi-digit whole numbers using the standard algorithm.	• **SMP 7:** Look for and make use of structure.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• In fifth grade, students fluently compute products of whole numbers using the standard algorithm. Underlying this algorithm are the properties of operations and the base-ten system. Division strategies in fifth grade involve breaking the dividend apart into like base-ten units and applying the distributive property to find the quotient place by place, starting from the highest place. (Division can also be viewed as finding an	• Multiply multi-digit whole numbers using the standard algorithm.

unknown factor: the dividend is the product, the divisor is the known factor, and the quotient is the unknown factor.) Students continue their fourth-grade work on division, extending it to computation of whole number quotients with dividends of up to four digits and two-digit divisors. Estimation becomes relevant when extending to two-digit divisors. Even if students round appropriately, the resulting estimate may need to be adjusted.	
DOK	**Blooms**
1	Apply

Grade	*CCSS Domain*	*CCSS Cluster*
5	Numbers and Operations in B Ten	Perform operations with multi-digit whole numbers a with decimals to hundredths

Cluster Standard: 5.NBT.B.6

Standard	**Standards for Mathematical Practice**
Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	• **SMP 1:** Make sense of problems and persevere in solving them.
Clarification Statement	**Students Who Demonstrate Understanding Can...**

• This standard references various strategies for division. Division problems can include remainders. Even though this standard leads more towards computation, the connection to story contexts is critical. Make sure students are exposed to problems where the divisor is the number of groups and where the divisor is the size of the groups. In fourth grade, students' experiences with division were limited to dividing by one-digit divisors. This standard extends students' prior experiences with strategies, illustrations, and explanations. When the two-digit divisor is a "familiar" number, a student might decompose the dividend using place value.	• Explain calculations using equations or models that represent understanding of division. • Find whole number quotients of whole numbers with four-digit dividends and two-digit divisors. • Use multiple strategies to solve division problems.
DOK	**Blooms**
1	Understand, Apply

Grade	*CCSS Domain*	*CCSS Cluster*
5	Numbers and Operations in B Ten	Perform operations with multi-digit whole numbers a with decimals to hundredths

Cluster Standard: 5.NBT.B.7

Standard	Standards for Mathematical Practice
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	• **SMP 3:** Construct viable arguments and critique the reasoning of others.

explain the reasoning used.	
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• In fourth grade, students' experiences with division were limited to dividing by one-digit divisors. This standard extends students' prior experiences with strategies, illustrations, and explanations. When the two-digit divisor is a "familiar" number, a student might decompose the dividend using place value.	• Justify reasoning with written explanation. • Explain how place value affects how to use the four operations. • Use the four operations with decimals to the hundredths. • Use models or drawings.
DOK	**Blooms**
1	Apply, Analyze

Common Misconceptions

• Students who only memorize steps for algorithms without understanding will confuse the "steps" in the addition algorithm with the "steps" in the multiplication algorithm.	• Students might compute the sum or difference of decimals by lining up the right-hand digits as they would the whole number.

Student Discourse Guide

- Purposeful, rich classroom discourse offers students the opportunity to express their ideas, th critique the reasoning of others in a variety of ways (writing, drawing, verbal). Purposeful imple classroom discourse allows students to activate funds of knowledge and to refine their mathematical understanding. When students have frequent opportunities for discourse they find various path and reveal knowledge or misunderstandings to educators. The process also allows educators to see students' culture, lived experiences and evolving math identities.
- Discourse that focuses on tasks that promote reasoning and problem solving is a primary mec developing conceptual understanding and meaningful learning (Hiebert, Carpenter, Fennema, Fuson, Human, Murray, Olivier, Wearne, Michaels, O'Connor, and

Resnick, 2008)	
Domain: Numbers and Operations in Base Te	Strand: Perform operations with multi-digit whole numbers and with decimals to hundredths

Suggested Student Discourse Questions

- What strategies work best for you when using p products to solve division problems?
- Thinking about the context of this division probl what does the remainder mean?
- How do you decide which operation to use to s problem?
- How can you explain your thinking in written form?

ASSESSMENT GUIDE

- Understand the place value system
- Perform operations with multi-digit whole numbers and with decimals to hundredths

Grade	*CCSS Domain*	*CCSS Strand*
5	Numbers and Operations in B Ten	Understand the place value system

Sample Task #1 (Constructed Response)

This shows one way to represent the number π.

3.14159 . . .

a. How does the value of the 1 to the right of the digit 4 compare to the 1 to the left of the digit 4?

Sample Task #2 (Multiple Choice)

Which comparisons are true? Select the two correct answers.

A. 0.040 = 0.04
B. 0.095 = 0.950
C. 0.85 < 0.825
D. 1.11 < 0.999
E. 2.09 > 2.089

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Grade	*CCSS Domain*	*CCSS Strand*
5	Numbers and Operations in B Ten	Perform operations with multi-digit whole number and with decimals to hundredths

Sample Task #1 (Constructed Response)

An office space in New York City measures 48 feet by 56 feet. If it sells for $565 per square foot, what is the total cost of the office space?

Sample Task #2 (Multiple Choice)

Maria has 207 beads to make necklaces.
She wants to put 9 beads on each necklace.
What is the greatest number of necklaces Maria can make?

A. 20
B. 23
C. 30
D. 33

MLSS AND CLR GUIDE

- Understand the place value system
- Perform operations with multi-digit whole numbers and with decimals to hundredths

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CCSS Domain	*CCSS Cluster*
Numbers and Operations in Bas	Understand the place value system

Culturally and Linguistically Responsive Instruction

Relevance to Families and Communities	During a unit focused on understanding the place value system, consider options for learning from your families and communities the cultural and linguistic ways this mathematics exists outside of school to create stronger home to school connections for students, for example, learning about the different ways decimals are used in the home and community can a be a great way to connect schools tasks with home tasks.	
Cross-Curricular Connections	STEM: Using given or collected data, round numbers to a given whole number or decimal place to solve real-world problems. Science: Provide students opportunities to take precise measurements. Have students round these measurements to the nearest tenth, hundredth, or thousandths.	
Validate/Affirm/Build /Bridge	• *How can you design your mathematics classroom to intentionally and purposefully legitimize the home culture and languages of students and reverse the negative stereotypes regarding the mathematical abilities of students of marginalized cultures and languages?* • *How can you create connections between the cultural and linguistic behaviors of your students' home culture and language, the culture and language of school mathematics to support students in creating mathematical identities as capable mathematicians that can use mathematics within*	• Building Procedural Fluency from Conceptual Understanding: Instruction should build from conceptual understanding to allow students opportunities to make meaning of mathematics before focusing on procedures. When new learning begins with procedures it privileges those with strong prior familiarity with school mathematics procedures for solving problems and does not allow learning to build for more methods for solving tasks that occur outside of school mathematics. For example, when studying understanding the place value system the types of mathematical tasks are critical because building conceptual understanding for place value is essential to fifth grade mathematics. For example, when multiplying 32 x 1000, students should understand that the product represents 32 groups of 1000, or "thirty-two thousands," which is written as 32,000. When teachers focus on the procedure of "adding zeros," students miss the opportunity to build the conceptual understanding which is critical for working with decimals.

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	school and society?	

Planning for Multilayered System of Supports

Vertical Alignment

Previous Learning	*Current Learning*	*Future Learning*
• **4.NBT.A.1** Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division. • **4.NF.C.5** Express a fraction with denominator 10 as an equivalent fraction with denominator 100 and use this technique to add two fractions with respective denominators 10 and 100. * For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100. • **4.NF.C.6** Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. • **4.NF.C.7** Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	• **5.NBT.B.5** Fluently multiply multi-digit whole numbers using the standard algorithm. • **5.NBT.B.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. • **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.	• **6.NS.B.3** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. • **6.NS.B.3** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. • **6.EE.A.1** Write and evaluate numerical expressions involving whole-number exponents.

Suggested Instructional Strategies

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Pre-Teach		
Level of Intensity	***Essential Question***	***Examples***
Targeted	*What pre-teaching will prepare students to productively struggle with the mathematics for this cluster within your HQIM?*	For example, some learners may benefit from targeted pre-teaching that rehearses prior learning when studying understanding the place value system because students are extending prior knowledge of place value from previous years to include place value patterns, reading, writing, and comparing decimal numbers, and rounding decimals.
Intensive	*What critical understandings will prepare students to access the mathematics for this cluster?*	4.NBT.A.2: This standard provides a foundation for work with understanding the place value system because reading and writing whole numbers in expanded notation reinforces understanding of the value of each digit in a number and how those values relate to one another. If students have unfinished learning within this standard, based on assessment data, consider ways to provide intensive pre-teaching support prior to the start of the unit to ensure students are ready to access grade level instruction and assignments.

Universal Support Framework		
A student should know/understand...	A student should be able to do...	***Potential Scaffolds***

• A digit in one place represents $\frac{1}{10}$ times less than the place to its left.
• Why multiplying by a power of 10 shifts the digits of a whole number or decimal that many places to the left.
• The equivalence of decimal numbers and fractions.
• The equivalence of two decimal numbers.
	• Use patterns in the number of zeros and the placement of the decimal point when multiplying and dividing by powers of 10.
	• Use whole number exponents to denote powers of 10.
	• Use base-ten numerals, number names, and expanded form to read and write decimals to thousandths place.
		• Build on students' experience with the following skills:
		  ○ Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. (4.NBT.1)
		  ○ Multiplying whole numbers by powers of ten (3.NBT.3)
		  ○ Relating decimals to fractions (for example, 3 tenths can be expressed as 3/10 or 0.3.) (4.NF.5, 4.NF.6)
		  ○ Understanding that decimals are fractional parts of a whole.
		• Cognitive Strategies
		  ○ Repeatedly model the strategies
		  ○ Monitor the students' use of the strategies

	• Use place value understanding and number line models to round decimal numbers to a given place.	○ Provide feedback to students ○ Teach self-questioning and self-monitoring strategies ○ Introduce multiple means of representation for mathematical ideas • Encourage students to use alternative tools to better access the grade level content. Examples include: ○ Number Lines ○ Place Value Charts ○ Base ten blocks

Re-Teach		
Level of Intensity	***Essential Question***	***Examples***
Targeted	What formative assessment data (e.g., tasks, exit tickets, observations) will help identify content needing to be revisited during a unit?	For example, students may benefit from re-engaging with content during a unit on understanding the place value system by clarifying mathematical ideas and/or concepts through a short mini lesson because students may benefit from additional modeling. Provide a variety of experiences and activities in which students model and write base-ten numerals on a place value chart. Modeling reading the decimal numbers correctly will support the meaning of number place value.
Intensive	What assessment data will help identify content needing to be revisited for intensive interventions?	For example, some students may benefit from intensive extra time during and after a unit understanding the place value system by <addressing conceptual understanding because students require both concrete experiences and written activities to build their comprehension of decimals.

Extension	
Essential Question	***Examples***
What type of extension will offer additional challenges to 'broaden' your student's knowledge of the mathematics developed within your HQIM?	For example, some learners may benefit from an extension such as the application of and development of abstract thinking skills when studying understanding the place value system because it leads the students to more

	generalized thinking about place patterns. Use question stems to help students make connections, for example, "What do you notice about…?" "Why do you think that works?" "Will that always be true when you…?" "Can you find an example of when that is not true?"

CCSS Domain	*CCSS Cluster*
Numbers and Operations in Bas	Perform operations with multi-digit whole numbers and with decimals to hundredths

Culturally and Linguistically Responsive Instruction

Relevance to Families and Communities	During a unit focused on operations with multi-digit whole numbers and with decimals to hundredths, consider options for learning from your families and communities the cultural and linguistic ways this mathematics exists outside of school to create stronger home to school connections for students, for example, learning about money and how it breaks down into decimals when paying for something. Making a grocery list and adding up the total amount a person needs to pay and subtract that from a specific amount that will be paid to see what the change (difference) will be. Understanding that we use dollars in the form of whole numbers and cents in the form of decimal numbers.	
Cross-Curricular Connections	STEM: Using given or collected data, round numbers to a given whole number or decimal place to solve real-world problems.	
Validate/Affirm/Build/ Bridge	• *How can you design your mathematics classroom to intentionally and purposefully legitimize the home culture and languages of students and reverse the negative stereotypes regarding the mathematical abilities of students of marginalized cultures and languages?* • *How can you create connections between the cultural and linguistic behaviors of your students' home culture and language, the*	• Using and Connecting Mathematical Representations: The standard for mathematical practice, use appropriate tools strategically, provides a strong foundation to validate and bridge for students. Mathematical representations are mathematical tools. The linguistic and cultural experiences of students provide different and varied types of representations for solving mathematical problems. By explicitly encouraging students to use multiple mathematical representations students can draw on their "mathematical, social, and cultural competence". By valuing these representations and discussing them we can connect student representations to the representations of school mathematics and build a bridge for students to position them as competent and capable mathematicians. For example, when studying to perform operations with multi-digit whole numbers

	culture and language of school mathematics to support students in creating mathematical identities as capable mathematicians that can use mathematics within school and society?	and with decimals to hundredths the use of mathematical representations within the classroom is critical because students' affirmation and validations of home language and culture is used by allowing them to use different representations for effective algorithm form. They can use models, strategies, place value, problem contexts, area models, number lines, and partial products to solve whole number problems and make the connection to decimal numbers.

Planning for Multilayered System of Supports

Vertical Alignment

Previous Learning	*Current Learning*	*Future Learning*
• Connect to using place value understanding and properties of operations to perform multi-digit arithmetic. **(4.NBT.4,5,6)**	• Connect to understanding the place value concept that the number to the left is 10 times larger and the number to the right is 10 times smaller, will use exponents to express powers of 10 and can understand the patterns of zeros and decimal placement related to powers of 10. **(5.NBT.1,2)** • Connect to applying and extend their previous understandings of multiplication and division to multiply and divide fractions. **(5.NF.1,3,4,6,7)** • Connect to converting customary and metric measurement units within a given measurement system. **(5.MD.1)**	• Connect to fluently adding, subtracting, multiplying, and dividing decimals using the standard algorithm. **(6.NS.2,3)** • Connect to recognizing 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 1/10 of what it represents in the place to its left. **(5.NBT.A.1)** • Connect to read, write, and compare decimals to thousandths. **(5.NBT.A.3)**

Suggested Instructional Strategies

Pre-Teach

Level of Intensity	*Essential Question*	*Examples*

Targeted	*What pre-teaching will prepare students to productively struggle with the mathematics for this cluster within your HQIM?*	For example, some learners may benefit from targeted pre-teaching that rehearses prior learning when studying operations with multi-digit whole numbers and with decimals to hundredths because in previous grade levels, students began with modeling and exploring the meaning of whole and two-digit number multiplication. At this point, students need to continue multiplying and dividing multi-digit numbers to make the connections between whole numbers and decimal numbers.
Intensive	*What critical understandings will prepare students to access the mathematics for this cluster?*	3.OA.B.5: This standard provides a foundation for work with performing operations with multi-digit whole numbers and with decimals to hundredths because students start applying the property of operations as strategies to multiply and divide by using the commutative property of multiplication, associative property of multiplication, and distributive property.. If students have unfinished learning within this standard, based on assessment data, consider ways to provide intensive pre-teaching support prior to the start of the unit to ensure students are ready to access grade level instruction and assignments.

Universal Support Framework

A student should know/understand...	A student should be able to do...	***Potential Scaffolds***

• The connection between previous models for multiplication, such as area models, and the US standard algorithm.
• The connection between previous work with one-digit divisors to dividing by multiples of 10.
• The connection between the meaning of all four operations with whole numbers to addition,
	• Multiply multi-digit whole numbers using multiple strategies including the US standard algorithm.
	• Divide a number up to four-digits by a two-digit number using a variety of models and strategies.
	• Solve addition, subtraction, multiplication, and division problems involving decimals.
		• Build on students' experience with the following skills:
		  ○ Multiplying one-digit by four digit whole numbers using various strategies (4.NBT.5)
		  ○ Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.(4.NBT.5)
		  ○ Moving from place value/partial product multiplication models into the standard algorithm
		  ○ Use place value strategies (equations, rectangular arrays, area models) to understand the relationship between multiplication and division (4.NBT.6)
		• Cognitive Strategies
		  ○ Repeatedly model the strategies

subtraction, multiplication, and division of decimals.		○ Monitor the students' use of the strategies ○ Provide feedback to students ○ Teach self-questioning and self-monitoring strategies ○ Introduce multiple means of representation for mathematical ideas ● Encourage students to use alternative tools to better access the grade level content. Examples include: ○ Area models and/or open arrays ○ Partial product equations
Re-Teach		
Level of Intensity	***Essential Question***	***Examples***
Targeted	What formative assessment data (e.g., tasks, exit tickets, observations) will help identify content needing to be revisited during a unit?	For example, students may benefit from re-engaging with content during a unit on performing operations with multi-digit whole numbers and with decimals to hundredths by revisiting student thinking through a short mini-lesson because it is important to ensure students are comprehending the relationship between multiplication and division with decimal numbers. In the same way, students will be encouraged to explain their thinking about a specific problem.
Intensive	What assessment data will help identify content needing to be revisited for intensive interventions?	For example, some students may benefit from intensive extra time during and after a unit performing operations with multi-digit whole numbers and with decimals to hundredths by confronting student misconceptions because students need to understand the importance of place value, regrouping, and remainders when solving operations.
Extension		
Essential Question		***Examples***

What type of extension will offer additional challenges to 'broaden' your student's knowledge of the mathematics developed within your HQIM?	For example, some learners may benefit from an extension such as the opportunity to understand concepts more quickly and explore them in greater depth than other students when studying performing operations with multi-digit whole numbers and with decimals to hundredths because students could continue with the division algorithm which is exposed in sixth grade.