

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 (**only provided for clusters with Conceptual Understanding standards**)
- A [multilayered system of supports \(MLSS\) and culturally and linguistically responsive instruction \(CLR\) guide](#)

Key		
	<i>Priority Standard</i>	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.
	<i>Conceptual Understanding</i>	Conceptual Understanding standards help students build a deep understanding of the how and why of mathematics.
	<i>Application</i>	Application standards help students identify the appropriate concepts and skills to tackle novel real-world problems .
	<i>Procedural Skill and Fluency</i>	Procedural standards help students develop efficiency and accuracy in computations.

Standards Breakdown

- Work with numbers 11-19 to gain foundations for place value.
 - [K.NBT.A.1](#)

Grade	CCSS Domain	CCSS Cluster
K	Number and Operations in Base Ten	Work with numbers 11 to 19 to gain foundations for place value.
 Cluster Standard: K.NBT.A.1		
Standard		Standards for Mathematical Practice
<p>Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p>		<ul style="list-style-type: none"> ● SMP 2: Reason abstractly and quantitatively. ● SMP 4: Model with mathematics. ● SMP 7: Look for and make use of structure.
Clarification Statement		Students Who Demonstrate Understanding Can...
<ul style="list-style-type: none"> ● Math drawings are simple drawings that make essential mathematical features and relationships salient while suppressing details that are not relevant to the mathematical ideas. ● The numerals 11, 12, 13, ..., 19 need special attention for children to understand them. The first nine numerals 1, 2, 3, ..., 9, and 0 are essentially arbitrary marks. These same marks are used again to represent larger numbers. Children need to learn the differences in the ways these marks are used. For example, initially, a numeral such as 16 looks like "one, six," not "1 ten and 6 ones." Layered place value cards can help children see the 0 "hiding" under the ones place and that the 1 in the tens place really is 10 (ten ones). 		<ul style="list-style-type: none"> ● Describe a representation as ten ones and some additional ones, such as describing a bundle of 10 popsicle sticks and 4 additional popsicle sticks as 10 ones and 4 ones. ● Connect equivalent representations for the numbers 11 to 19, such as knowing that the number 14 means to count out and bundle 10 popsicle sticks and then to grab 4 additional popsicle sticks and that a pictorial representation of a full tens frame and a second tens frame with four additional dots can be represented symbolically using the numeral "14". ● Write equations based on concrete and pictorial models that show how a teen number is composed of 10 ones and some additional ones, such as $14 = 10 + 4$.
DOK		Blooms
2		Apply and Analyze

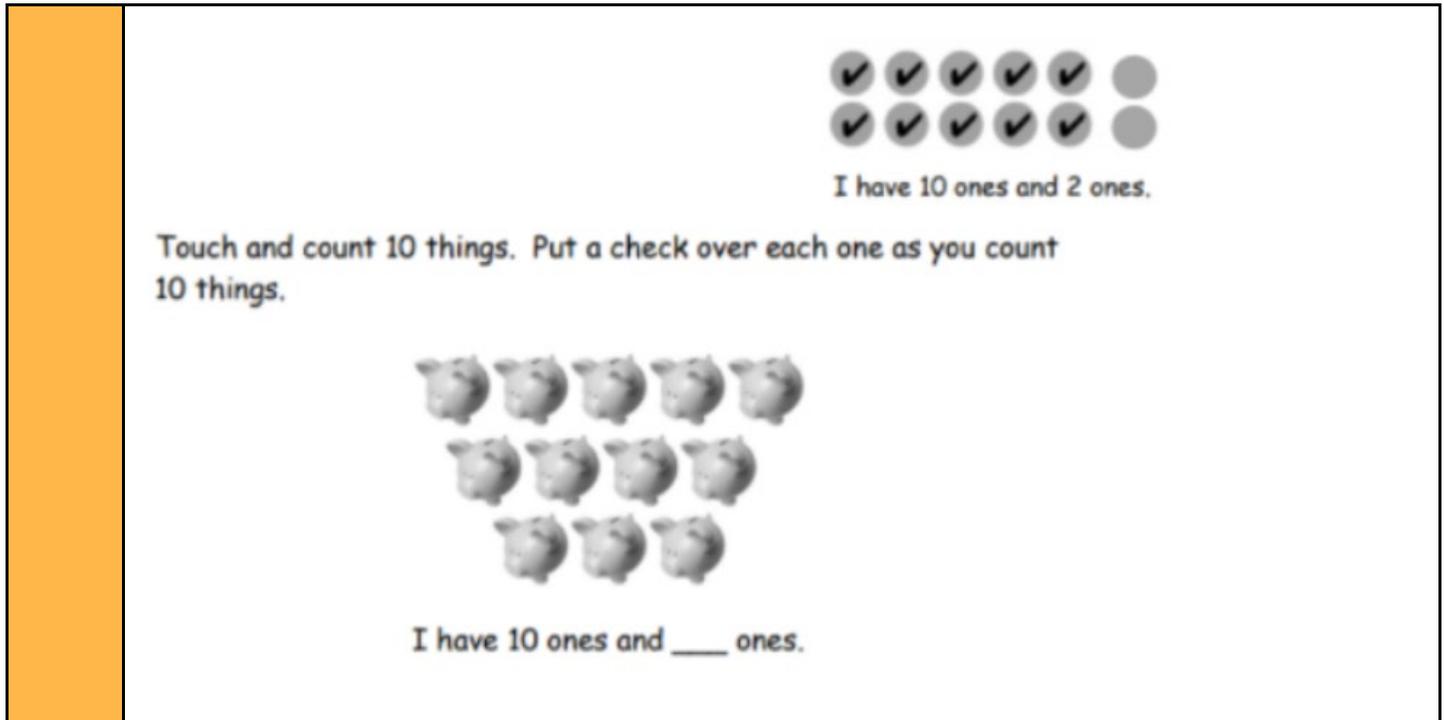
Common Misconceptions

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| <ul style="list-style-type: none"> • Being confused by the names for the teen numbers. • Connecting representations to number names. | <ul style="list-style-type: none"> • Struggling with the concept of unitizing (seeing ten ones as one ten). |
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ASSESSMENT GUIDE

- Work with numbers 11-19 to gain foundations for place value.

<i>Grade</i>	<i>CCSS Domain</i>	<i>CCSS Strand</i>
K	Number and Operations in Base Ten	Work with numbers 11-19 to gain foundations for place value.
	Sample Task #1 (Constructed Response)	
	<p>Draw pictures to match the words. I have 10 small circles and 2 small circles:</p> <div style="border: 1px solid black; height: 150px; width: 500px; margin: 20px auto;"></div>	
Sample Task #2		




 I have 10 ones and 2 ones.

Touch and count 10 things. Put a check over each one as you count 10 things.



I have 10 ones and ____ ones.

MLSS AND CLR GUIDE

- Work with numbers 11-19 to gain foundations for place value.

<i>CCSS Domain</i>	<i>CCSS Cluster</i>
Number and Operations in Base Ten	Work with numbers 11-19 to gain foundations for place value.

Culturally and Linguistically Responsive Instruction

<p>Relevance to Families and Communities</p>	<p>During a unit focused on working with numbers 11-19 to gain foundations for place value, 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 number names and the place value across the languages in the classroom will help students get a better understanding of numbers in general making connections of number names in other languages. For kindergarten, there are lots of games that can be sent home for parents to play with their child and increase the child's understanding of numeracy and gain the language communication will increase while playing the games. Math nights would be another way of including parent and community involvement in which teachers will</p>
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	<p>model how to play math games in different grade levels. Also, taking advantage of teachers' second languages to model games in the children's home language will be very powerful for parents whose second language is developing.</p>	
<p>Cross-Curricular Connections</p>	<p>Social Studies: In Kindergarten, the New Mexico Social Studies Standards state students should "understand the concept of product". Consider providing a connection for students to see the idea of unitizing in products that are individual items packaged together and sold as a single unit, such as a box of crayons or a box of popsicles.</p> <p>Morning Meeting (or other morning routine): Consider providing a connection to tracking the number of days in school in a way that makes the number efficient to count, such as full groups of tens frames and an additional partially filled tens frame.</p>	
<p>Validate/Affirm/Build/Bridge</p>	<ul style="list-style-type: none"> ● <i>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?</i> ● <i>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 school and society?</i> 	<ul style="list-style-type: none"> ● 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 work with numbers 11-19 to gain foundations for place value the use of mathematical representations within the classroom is critical because five-year old children rely on visuals once a skill has been introduced in a concrete manner. Teacher's need to plan strategically, foreseeing that vocabulary in kindergarten will be a major issue with all the different experiences students come with. Not all students had the opportunity to attend pre-school, therefore teaching the foundations of place value should be in the progression of difficulty using the model of concrete to abstract representations and the teacher has to provide modeling using objects in order for students to gain understanding and benign to have a foundation with place value.

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Planning for Multi-layered System of Supports

Vertical Alignment

<i>Previous Learning</i>	<i>Current Learning</i>	<i>Future Learning</i>
<ul style="list-style-type: none"> Connect to counting by one to 10 and higher. Connect to counting the number of items in a group of up to 10 objects and knowing that the last number tells how many. 	<ul style="list-style-type: none"> Connect to decomposing numbers to ten into pairs in more than one way. (K.OA.3) 	<ul style="list-style-type: none"> Connect to thinking of 10 ones as “a ten”. (1.NBT.2a) Connect to understanding the numbers 10, 20, 30, 40, 50,60,70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, and nine tens and 0 ones. (1.NBT.2c)

Suggested Instructional Strategies

Pre-Teach

<i>Level of Intensity</i>	<i>Essential Question</i>	<i>Examples</i>
Targeted	<i>What pre-teaching will prepare students to productively struggle with the mathematics for this cluster within your HQIM?</i>	For example, some learners may benefit from targeted pre-teaching that rehearses new mathematical language when studying work with numbers 11-19 to gain foundations for place value because this targeted instruction will support greater access to grade level instruction and assignments through the integration and early exposure to vocabulary words within the actual mini lesson for the upcoming place value lesson. Illustrations with the oral integration of the vocabulary and modeling will give these students a head start for the actual work with teen numbers and ten-frames.
Intensive	<i>What critical understandings will prepare students to access the mathematics for this cluster?</i>	K.OA.A.3: This standard provides a foundation for work with working with numbers from 11-19. Students gain foundations for place value because students need to have the basic foundation of counting numbers and also comparing numbers to identify which one is bigger or

		<p>smaller. 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.</p>
Universal Support Framework		
A student should know/understand...	A student should be able to do...	<i>Potential Scaffolds</i>
<ul style="list-style-type: none"> ● The numbers 11-19 can be composed and decomposed into a group of ten ones and some more ones. 	<ul style="list-style-type: none"> ● Represent a quantity from 11-19 with symbols and numerals. ● Use objects, drawings, or equations to represent numbers 11-19 as a group of ten ones and some more ones. ● Create models such as bundles of ten and ten frames to create a collection of “ten ones”. 	<ul style="list-style-type: none"> ● Build on students’ experience with the following skills: <ul style="list-style-type: none"> ○ Model how to make a group/bundle of ten. ○ Model how to use a group of ten to add on to make a new larger/greater number. ○ Connect equivalent representations for the numbers 11 to 19, such as knowing that the number 14 means to count out and bundle 10 popsicle sticks and then to grab 4 additional popsicle sticks and that a pictorial representation of a full tens frame and a second tens frame with four additional dots can be represented symbolically using the numeral “14”. ○ Write equations based on concrete and pictorial models that show how a teen number is composed of 10 ones and some additional ones, such as $14=10+4$. ● Cognitive Strategies <ul style="list-style-type: none"> ○ Repeatedly model the strategies ○ 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

		<p>better access the grade level content. Examples include:</p> <ul style="list-style-type: none"> ○ Digital or hands on manipulatives: two colored counters, linking cubes, base ten blocks, bears, ten frame counters, beans, straws, subitizing cards, beads, number bonds, etc... ○ Digital resources from math programs or online resources for counting, comparing, addition, and subtraction practice.
Re-Teach		
<i>Level of Intensity</i>	<i>Essential Question</i>	<i>Examples</i>
Targeted	What formative assessment data (e.g., tasks, exit tickets, observations) will help identify content needing to be revisited during a unit?	Examine assessments for evidence of lingering misconceptions (see common misconceptions). If students exhibit one more of these misconceptions, consider addressing the misconception. For example, students may benefit from re-engaging with content during a unit on work with numbers 11-19 to gain foundations for place value by critiquing student approaches/solutions to make connections through a short mini-lesson because as students are able to give each other feedback this helps them with their critical thinking and examining whether they are correct or make changes to their work.
Intensive	What assessment data will help identify content needing to be revisited for intensive interventions?	What assessment data will help identify content needing to be revisited for intensive interventions? Examine assessments for evidence of students still developing the underlying ideas, for example, some students may benefit from intensive extra time during and after a unit work with numbers 11-19 to gain foundations for place value by offering opportunities to understand and explore different strategies because students need to have multiple opportunities to count numbers, know numbers and be able to decompose numbers. Working with numbers at this level means knowing that addition is putting together therefore a number line should be accessible to students but most importantly the use of ten-frames and markers should be used to show composition of numbers.
Extension		

<i>Essential Question</i>	<i>Examples</i>
<p>What type of extension will offer additional challenges to 'broaden' your student's knowledge of the mathematics developed within your HQIM?</p>	<p>To extend students learning about working with numbers 11-19, some learners may benefit from an extension such as open-ended tasks linking multiple disciplines when studying work with numbers 11-19 to gain foundations for place value because students will benefit from having to relate multiple skills/strategies like counting, adding smaller numbers to get bigger ones, understanding the value of 10 and some ones that come after 10 (11, 12, 13, 14, ...). Having a ten-frame to work with and to show the work is essential especially when the task becomes more abstract as to utilizing symbols for addition.</p>