New Mexico Instructional Scope

Kindergarten Counting and Cardinality Guide

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

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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

- Know number names and the count sequence.
  - K.CC.A.1
  - K.CC.A.2
  - K.CC.A.3
- Count to tell the number of objects.
  - K.CC.B.4
  - K.CC.B.5
- Compare Numbers.
  - K.CC.C.6
  - K.CC.C.7

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Grade	*CCSS Domain*	*CCSS Cluster*
K	**Counting and Cardinality**	**Know number names and the count sequence.**

Cluster Standard: K.CC.A.1

Standard	**Standards for Mathematical Practice**
Count to 100 by ones and by tens.	• **SMP 6:** Attend to precision. • **SMP 8:** Look for and express regularity in repeated reasoning.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• The emphasis of this cluster is on the counting sequence. • When counting by ones, students need to understand that the next number in the sequence is one more. When counting by tens, the next number in the sequence is "ten more" (or one more group of ten). Students should be able to count forward from any number, 1-99. Students should be given multiple opportunities to count objects and recognize that a number represents a specific quantity.	• Count to 100 by ones, increasing their range with time. • Count to 100 by tens.
DOK	**Blooms**
1	Remember

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Grade	*CCSS Domain*	*CCSS Cluster*
K	**Counting and Cardinality**	**Know number names and the count sequence.**

Cluster Standard: K.CC.A.2

Standard	**Standards for Mathematical Practice**
Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	• **SMP 6:** Attend to precision. • **SMP 7:** Look for and make use of structure.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• The emphasis of this cluster is on the counting sequence. • When counting by ones, students need to understand that the next number in the sequence is one more. When counting by tens, the next number in the sequence is "ten more" (or one more group of ten). Students should be able to count forward from any number, 1-99. Students should be given multiple opportunities to count objects and recognize that a number represents a specific quantity.	• Count forward from a random starting number, instead of 1, increasing their range with time.
DOK	**Blooms**
1-2	Remember and Understand

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Grade	*CCSS Domain*	*CCSS Cluster*
K	**Counting and Cardinality**	**Know number names and the count sequence.**

Cluster Standard: K.CC.A.3

Standard	**Standards for Mathematical Practice**
Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).	• **SMP 2:** Reason abstractly and quantitatively. • **SMP 8:** Look for and express regularity in repeated reasoning.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• The emphasis of this cluster is on the counting sequence. • When counting by ones, students need to understand that the next number in the sequence is one more. When counting by tens, the next number in the sequence is “ten more” (or one more group of ten). Students should be able to count forward from any number, 1-99. Students should be given multiple opportunities to count objects and recognize that a number represents a specific quantity.	• Students can write numbers 1-20, increasing their range with time. • Represent up to 20 objects with written numerals, no matter the arrangement of the objects. • Recognize the relationship between 0 and no objects.
DOK	Blooms
1	Remember

Common Misconceptions

• Struggling with continuous counting and skipping numbers. • Being confused by the names for the teen numbers.	• Not seeing 0 as a number. • Inverting and/or reversing numerals.

• Believing that counting must always start at 1.	

Grade	*CCSS Domain*	*CCSS Cluster*
K	**Counting and Cardinality**	**Count to tell the number of objects.**

Cluster Standard: K.CC.B.4

Standard	Standards for Mathematical Practice
Understand the relationship between numbers and quantities; connect counting to cardinality. • **K.CC.B.4.A**: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. • **K.CC.B.4.B:** Understand that the last number name called indicates the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. • **K.CC.B.4.C:** Understand that each successive number name refers to a quantity that is one larger.	• **SMP 2:** Reason abstractly and quantitatively. • **SMP 6:** Attend to precision.
Clarification Statement	**Students Who Demonstrate Understanding Can...**
• Experience with **counting** allows students to discuss and come to understand the second part of the standard that states that the **number** of objects is the **same** regardless of their **arrangement** or the **order** in which they were counted.	• Count objects in a group (each object is counted only once) regardless of arrangement and order. • Determine "how many?" are in a group after counting all the objects. • Indicate, by counting, that the last number called indicates the number of objects. • Count on from a known number (without recounting the whole group) when one more object is added to the group.

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DOK	Blooms
2	Apply and Analyze

Grade	*CCSS Domain*	*CCSS Cluster*
K	**Counting and Cardinality**	**Count to tell the number of objects.**

Cluster Standard: K.CC.B.5

Standard	Standards for Mathematical Practice
Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.	• **SMP 7:** Look for and make use of structure. • **SMP 8:** Look for and express regularity in repeated reasoning.
Clarification Statement	Students Who Demonstrate Understanding Can...
Counting objects arranged in a line is easiest; with more practice, students learn to count objects in more difficult arrangements, such as rectangular arrays (they need to ensure they reach every row or column and do not repeat rows or columns); circles (they need to stop just before the object they started with); and scattered configurations (they need to make a single path through all of the objects).	• Count objects up to 20 in a variety of arrangements (transition to dot cards, ten frames, dominos, and other representations). • Tell "how many" objects are in a group in a variety of arrangements. • Show the correct number of objects when I am told a number up to 20. • When told a number, Show the correct number of objects in different arrangements.
DOK	Blooms
2	Apply

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Common Misconceptions	
• Not yet understanding one-to-one correspondence. • Believing that the arrangement of a set of objects affects the total count.	• Believing that the tagged count is related to the object rather than its position (e.g., an object is always 4 even when it is first in a line).

Grade	*CCSS Domain*	*CCSS Cluster*
K	**Counting and Cardinality**	**Compare numbers.**

Cluster Standard: K.CC.C.6

Standard	Standards for Mathematical Practice
Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	• **SMP 6:** Attend to precision. • **SMP 7:** Look for and make use of structure.
Clarification Statement	Students Who Demonstrate Understanding Can...
Students first learn to match the objects in the two groups to see if there are any extra and then to count the objects in each group and use their knowledge of the count sequence to decide which number is greater than the other (the number farther along in the count sequence).	• Tell which has more by matching or counting the number of objects in both groups. • Tell which has less by matching or counting the number of objects in both groups. • Tell when groups are equal by matching or counting. • Create equal groups in different arrangements.
DOK	Blooms
2	Apply and Analyze

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Grade	*CCSS Domain*	*CCSS Cluster*
K	**Counting and Cardinality**	**Compare numbers.**

Cluster Standard: K.CC.C.7

Standard	Standards for Mathematical Practice
K.CC.C.7: Compare two numbers between 1 and 10 presented as written numerals.	• **SMP 2:** Reason abstractly and quantitatively. • **SMP 6:** Attend to precision.
Clarification Statement	Students Who Demonstrate Understanding Can...
	• Read numerals to 10. • Tell the values of numbers to 10. • Determine if a set is greater or less than another set (up to 10). • Compare two numerals between 1 and 10 and say which has a greater value.
DOK	Blooms
1-2	Remember, Apply, and Analyze

Common Misconceptions

• Lack of one-to-one correspondence. • Believing that the arrangement of a set of objects affects the total count.	• Believing that a longer line of objects automatically contains more objects. • Struggling with the language of comparison.

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Kindergarten Counting and Cardinality Guide

Student Discourse Guide

- **Purposeful, rich classroom discourse offers students the opportunity to express their ideas, thinking, and to critique the reasoning of others in a variety of ways (writing, drawing, verbal). Purposeful implementation of 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 paths to solutions and reveal knowledge or misunderstandings to educators. The process also allows educators to honor students' culture, lived experiences and evolving math identities.**
- **Discourse that focuses on tasks that promote reasoning and problem solving is a primary mechanism for developing conceptual understanding and meaningful learning of mathematics (Michaels, O'Connor, and Resnick, 2008)**

Domain: **Counting and Cardinality**	Strand: **Know the names and the count sequence**

Suggested Student Discourse Questions

• What number comes next (1-20)? How do you know? • How can you and your partner take turns counting to 20?	• How does your age follow a number sequence? How do you know how old you'll be on your next birthday? • What are some different ways we can count the students in our classroom?

Domain: **Counting and Cardinality**	Strand: **Compare Numbers**

Suggested Student Discourse Questions

• What does greater than, less than or equal to mean? • Explain how your partner's number of objects is greater than or less than your number of objects.	• Would you rather have this amount or this one? Ex. Would you rather have 5 cookies or 3 cookies? Why? • How did you use your manipulatives to show the greater number of objects?

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Kindergarten Counting and Cardinality Guide

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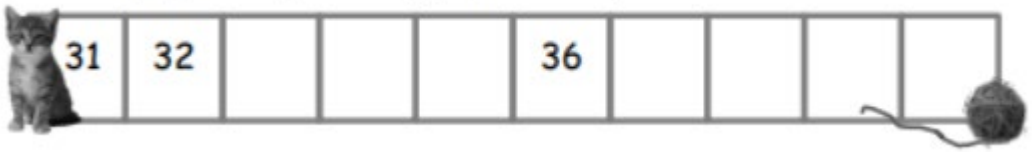
ASSESSMENT GUIDE

- Know number names and the count sequence
- Count to tell the number of objects
- Compare numbers

Grade	*CCSS Domain*	*CCSS Strand*
K	**Counting and Cardinality**	**Know the names and the count sequence.**

Sample Task #1 (Constructed Response)

Count up by 1s. Help the kitty play with her yarn!



Sample Task #2

Count the number of dots and write the number.

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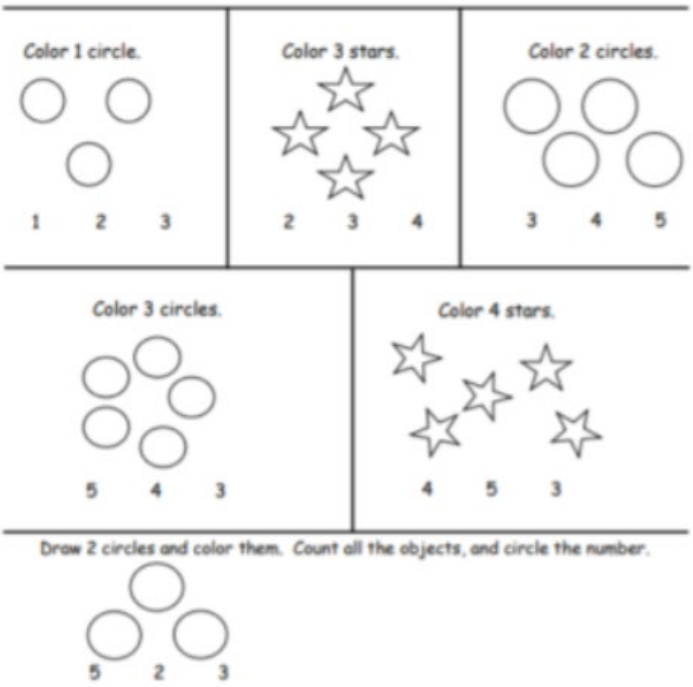
Kindergarten Counting and Cardinality Guide

Grade	*CCSS Domain*	*CCSS Strand*
K	**Counting and Cardinality**	**Count to tell the number of objects.**

Sample Task #1 (Constructed Response)

Count the objects. Circle the total number of objects.
Color 1, 2, or 3 to see the hidden partners.



Draw 2 circles and color them. Count all the objects, and circle the number.

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	Sample Task #2 (Multiple Choice)
	Count the number of circles and choose the correct answer.

Grade	*CCSS Domain*	*CCSS Strand*
K	**Counting and Cardinality**	**Compare Numbers**

Sample Task #1 (Constructed Response)

Draw a stick **shorter than** my 5-stick.

Draw a stick **longer than** mine.

Draw a stick **shorter than** mine.

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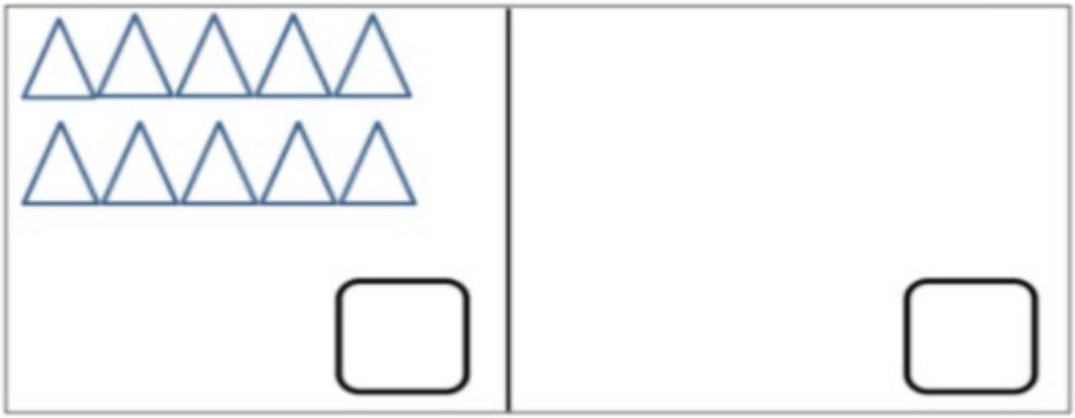
	Sample Task #2
	Count and color the triangles. Draw a group of triangles that is 1 less. Write how many you drew. 

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MLSS AND CLR GUIDE

- Know number names and the count sequence
- Count to tell the number of objects
- Compare numbers

CCSS Domain	*CCSS Cluster*
Counting and Cardinality	**Know number names and the count sequence**

Culturally and Linguistically Responsive Instruction

Relevance to Families and Communities	During a unit focused on counting, 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, incorporating how mathematical concepts were already being used at home. Then finding ways to incorporate this prior knowledge, such as familiarity with sports, into classroom lessons. Instead of using football merely as the context for a problem, the numbers inherent to football, like series of sevens and threes, could be used.	
Cross-Curricular Connections	Social Studies: In Kindergarten, the New Mexico Social Studies Standards state students should "identify classroom population". Consider providing a connection for students to count the classroom population in ways that change (such as number of students present and number of students absent each day). Morning Meeting (or other morning routine): Consider providing a connection to counting various aspects related to the calendar, including the first 100 days of school.	
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*	• Task: When planning with your HQIM, consider how to modify tasks to represent the prior experiences, culture, language and interests of your students to "portray mathematics as useful and important in students' lives and promote students' lived experiences as important in mathematics class." Tasks can also be designed to "promote social justice [to] engage students in using mathematics to understand and eradicate social inequities (Gutstein 2006)." For example, when studying knowing number names and counting in sequence, the types of mathematical tasks are critical because Practices within a culture affect understanding. Some assessment tools may greatly underestimate the knowledge that students possess. Tools that are used

	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?	in students' everyday lives may better capture student understanding. For example, a student who stops by the corner store to buy snacks every day understands place value to some degree but may not be able to show that knowledge using cubes.

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Planning for Multi-Layered System of Supports

Vertical Alignment

Previous Learning	*Current Learning*	*Future Learning*
• Connect to counting by ones to 10 and higher. • Connect to recognizing and naming numerals 1 to 5.	• Connect continuing in the Counting and Cardinality domain to use counting to tell the number of objects. (K.CC.4) • Connect to continuing to work with concepts of number meaning in the domains of Operations and Algebraic Thinking, as well as Number and Operations in Base Ten.	• Connect to extending the counting sequence, number recognition and writing to 120. (1.NBT.1)

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 introduces new representations when studying knowing the number names and the count sequence because students will need support when learning numbers and number sequences. Visual aids that give support create confidence and will stimulate thinking and improve the learning environment in a classroom.
Intensive	*What critical understandings will prepare students to access the mathematics for this cluster?*	Indicator 9.3 of the “New Mexico Early Learning Guidelines, Essential Indicator” will provide some knowledge that is required. This standard provides a foundation for work with numbers and ways of representing numbers because numbers represent quantity or "how many?". Students who develop number sense understand the order in math. They see the relationships that numbers have to one another; they understand how numbers are put together and taken apart; and they have an intuitive sense about our

		number system. 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***

• Sequence can be used to know which decade is next in the counting sequence.
• Understand that a number can represent a group of objects.
	• Rote count to 100 by ones and tens.
	• Rote count forward by ones beginning at any given number within 100.
	• Rote count backwards by ones from any given number within 20.
	• Recognize and write numbers from 0-20.
		• Build on students' experience with the following skills:
		  ○ Represent individual digits with objects.
		  ○ Give students multiple opportunities to practice sequencing.
		
		• Cognitive Strategies
		  ○ 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 better access the grade level content. Examples include:
		  ○ Digital or hands on manipulatives: two colored counters, linking cubes, base ten blocks, bears, ten frame counters, beans, straws, subitizing cards, beads, etc...
		  ○ Digital resources from math programs or online resources for counting practice.

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	Students may benefit from re-engaging with content during a unit on addition and subtraction by revisiting student thinking through a short mini-lesson because students should have a good understanding of number

	be revisited during a unit?	names and count sequence.
Intensive	What assessment data will help identify content needing to be revisited for intensive interventions?	Some students may benefit from intensive extra time during and after a unit counting to quantity by offering opportunities to understand and explore different strategies because it is important for students to have lots of opportunities to practice counting and hearing others count in order to develop fluency with place value patterns and allows students to become familiar with patterns through counting.
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?		Some learners may benefit from an extension such as the opportunity to explore links between various topics when studying knowing the number names and the count sequence because cross-curricular teaching, or instruction that intentionally applies multiple academic disciplines simultaneously, is an effective way to teach students transferable problem-solving skills, give real-world meaning to school assignments, and increase engagement and rigor.

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Kindergarten Counting and Cardinality Guide

CCSS Domain	*CCSS Cluster*
Counting and Cardinality	**Count to tell the number of objects**

Culturally and Linguistically Responsive Instruction

Relevance to Families and Communities	During a unit focused on counting objects, 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. Families may find value in teaching students about counting activities in their everyday activities and filming them to share with the class. Students and families can share the names for numbers in their heritage language and activate connections between the learning in the classroom and learning in their culture.	
Cross-Curricular Connections	Science: In Kindergarten, the NGSS states students should "use and share observations of local weather conditions to describe patterns over time." Consider providing opportunities for students to track on a calendar and then count the number of cloudy, sunny or rainy days. Language Arts: Literature can offer connections about measurement such as: *Ten Black Dots* by Donald Crews and *The Very Hungry Caterpillar* by Eric Carle.	
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*	• Goal Setting: Setting challenging but attainable goals with students can communicate the belief and expectation that all students can engage with interesting and rigorous mathematical content and achieve in mathematics. Unfortunately, the reverse is also true, when students encounter low expectations through their interactions with adults and the media, they may see little reason to persist in mathematics, which can create a vicious cycle of low expectations and low achievement. For example, when studying counting objects, goal setting is critical because students come to Kindergarten with a variety of early experiences and different developmental levels and rate of learning differs depending on the needs of individual students. When students know the expectations and can establish goals as targets there is a development of intrinsic motivation that encourages student progress in the development of the skill.

	identities as capable mathematicians that can use mathematics within school and society?	

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Planning for Multi-Layered System of Supports

Vertical Alignment

Previous Learning	*Current Learning*	*Future Learning*
• Connect to counting the number of items in a group of up to 10 objects and knowing that the last number tells how many. • Connect to giving up to 5 items when requested.	• Connect to continuing to work with concepts of number meaning in the domains of Order and Algebraic Thinking, as well as Number and Operations in Base Ten. • Connect to comparing the size of sets to answer greater than, less than, or the same, including written numerals. (K.CC.6, 7)	• Connect to extending the counting sequence, number recognition and writing to 120. (1.NBT.1) • Connect to counting strategies to add and subtract within 20. (1.OA.1)

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 new mathematical language when studying counting objects because not all students will make the connection between rote counting, numbers, and quantity/one-to-one correspondence.
Intensive	*What critical understandings will prepare students to access the mathematics for this cluster?*	New Mexico Early Learning Guidelines, Essential Indicator 9.1, 9.3 a-b, and 12.1 and K.CC.A.12: These standards provide a foundation for work with counting objects because students need a foundational understanding of numbers and counting/labeling quantities prior to counting objects at higher quantities. 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 last number called represents the total number of objects in the group.
• The number of objects in a group does not change when objects are moved or rearranged.
• Each number said, in sequence, represents a quantity that is one more than the previous number.
	• Say the number name in consecutive order as they point to each object when they count.
	• Count objects from 1-20 in various arrangements and recall the number when asked "how many".
	• Count out a set of objects when given a number from 1-20 (without exceeding the given number).
		• Build on students' experience with the following skills:
		  ○ Represent groups of objects as a whole.
		  ○ Give students multiple opportunities to practice sequencing from any given number within 1-20.
		
		• Cognitive Strategies
		  ○ 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 better access the grade level content. Examples include:
		  ○ Digital or hands on manipulatives: two colored counters, linking cubes, base ten blocks, bears, ten frame counters, beans, straws, subitizing cards, beads, etc...
		  ○ Digital resources from math programs or online resources for counting practice.

Re-Teach		
Level of Intensity	***Essential Question***	***Examples***
Targeted	What formative assessment data (e.g., tasks, exit tickets, observations) will help	Examine assessments for evidence of lingering misconceptions (see common misconceptions). If students exhibit one more of these misconceptions,

	identify content needing to be revisited during a unit?	consider addressing the misconception. For example, students may benefit from re-engaging with content during a unit on counting objects by critiquing student approaches/solutions to make connection through a short mini-lesson because not all students have the functional ability and experience to develop a strategy or the perseverance to try until they develop a strategy that will encourage their success in the long term (e.g., counting 2 items is not likely to need more than one-to-one-correspondence, however, 20 items may require grouping, moving, recall, and memory to sustain the task to completion and success).
Intensive	What assessment data will help identify content needing to be revisited for intensive interventions?	Some students may benefit from intensive extra time during and after a unit counting objects by offering opportunities to understand and explore different strategies because not all students have the functional ability and experience to develop a strategy or the perseverance to try until they develop a strategy that will encourage their success in the long term (e.g., counting 2 items is not likely to need more than one-to-one-correspondence, however, 20 items may require grouping, moving, recall, and memory to sustain the task to completion and success).

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?	To extend students learning about counting objects, some learners may benefit from an extension such as the opportunity to explore links between various topics when studying counting objects because standard K.CC.C.6 asks students to Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, (e.g., by using matching and counting strategies) is taught in tandem and allows for the natural extension and linking of concepts around grouping and sorting objects.

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Kindergarten Counting and Cardinality Guide

CCSS Domain	*CCSS Cluster*
Counting and Cardinality	**Compare numbers**

Culturally and Linguistically Responsive Instruction

Relevance to Families and Communities	During a unit focused on comparing numbers, 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, learning about relevance of numbers and the value associated with numbers in the culture of the student/family may provide relevance for the student in learning this skill.	
Cross-Curricular Connections	Social Studies: In Kindergarten, the New Mexico Social Studies Standards state students should "identify classroom population". Consider providing a connection for students to count the classroom population in ways that change (such as number of students present and number of students absent each day) and then compare those numbers. Language Arts: Literature can offer connections about measurement such as: *More or Less?* by Stuart J. Murphy and *Albert Keeps Score* by Daphne Skinner.	
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*	• **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 comparing numbers the types of mathematical tasks are critical because students may benefit from a routine and ritual practice and process to develop their comparison skills and build fluency to compare a variety of numbers.

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	identities as capable mathematicians that can use mathematics within school and society?	

Planning for Multi-Layered System of Supports

Vertical Alignment

Previous Learning	*Current Learning*	*Future Learning*
• Connect to recognizing and naming numerals 1 to 5. • Connect to comparing two groups (containing up to 5 objects each) and describing them using comparative words, such as, less, fewer, or equal. • Connect to looking at a group of up to 4 objects and quickly seeing and saying the number of objects.	• Connect to continuing in the Counting and Cardinality domain to use counting to tell the number of objects. **(K.CC.4-5)** • Connect to classifying objects and counting the number of objects in each category. **(K.MD.3)**	• Connect to comparing two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, = and <. **(1.NBT.3)** • Connect to organizing, representing, and interpreting data with up to three categories; asking and answering questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. **(1.MD.4)**

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*	For example, some learners may benefit from targeted pre-teaching that introduces new representations (e.g., number lines) when studying comparing numbers because experience and exposure to numbers and the

	cluster within your HQIM?	concepts required for a comparison may not be familiar and may require tools and new vocabulary for students to access the content required to learn and demonstrate knowledge of the standard.
Intensive	*What critical understandings will prepare students to access the mathematics for this cluster?*	What critical understandings will prepare students to access the mathematics for this cluster? New Mexico Early Learning Guidelines, Essential Indicator 9.1, 9.3 a-b, and 12.1 and K.CC.A.12: This standard provides a foundation for working with comparing numbers because students must have a foundation in numbers to engage in comparison taxonomy. 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***
• Vocabulary of greater than (more than), less than (fewer than), and equal (same as). • The connection between comparing two concrete quantities and comparing two numerals.	• Compare two groups of up to 10 objects and determine if there are more than, less than or an equal amount of objects. • Compare two numbers between 1 and 10 presented as written numerals. • Label a group of objects with the appropriate numeral.	• Build on students' experience with the following skills: ○ Use groups of objects to show more, less, or equal numbers. ○ Use counting to tell if a number is greater than, less than, or equal to. ○ Have students create groups of objects independently to show more, less, or equal to, compared to another group of objects. ○ Using a group of objects to show students how to find the appropriate numeral to label the amount of objects in the group. • Cognitive Strategies ○ 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 better access the grade level content. Examples include: ○ Digital or hands on manipulatives: two colored counters, linking cubes, base ten blocks, bears, ten frame counters, beans, straws, subitizing cards, beads, etc... ○ Digital resources from math programs or online resources for counting and comparing practice.
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?	Examine assessments for evidence of lingering misconceptions (see common misconceptions). If students exhibit one more of these misconceptions, consider addressing the misconception by having students re-engage with content during a unit on comparing numbers by clarifying mathematical ideas and/or concepts through a short mini-lesson because differences in language acquisition, exposure to vocabulary and higher-level taxonomy may not be areas of strength or familiarity for young students.
Intensive	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 comparing numbers by addressing conceptual understanding because comparison requires a level of understanding of numbers that some students may need more time to develop and may need support to begin to understand.
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?	To extend students learning, for example, some learners may benefit from an extension such as in-depth, self-directed exploration of self-selected topics when studying comparing numbers because students come to kindergarten with varying levels of experience and understanding of numbers and should be encouraged to explore numbers of higher value or develop deeper comparisons of numbers based on their developmental levels.