

1.NBT: NUMBER & OPERATIONS IN BASE TEN

Cluster Statement: A: Extend the counting sequence.

Major Cluster (Students should spend the large majority of their time (65-85%) on the major work of the grade/course. Supporting work and, where appropriate, additional work should be connected to and engage students in the major work of the grade.)

<p>Standard Text</p> <p>1.NBT.A.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent several objects with a written numeral.</p>	<p>Standard for Mathematical Practices</p> <p>SMP 6: Students can attend to precision by recognizing that 24 is different than 42.</p> <p>SMP 7: Students can look for and make use of structure by recognizing patterns with numerals on a hundred chart.</p>	<p>Students who demonstrate understanding can:</p> <ul style="list-style-type: none"> • Count to 120. • Count to 120 starting at any number. • Read any number name up to 120. • Write any numeral up to 120. • Label a set of objects up to 120 with a written numeral.
		<p>Depth of Knowledge: 1-2</p>
		<p>Bloom's Taxonomy: Remember and Apply</p>
<p>Previous Learning Connections</p> <ul style="list-style-type: none"> • Connect to counting from 1 to 100 by ones and tens beginning with any number and reading, writing and representing objects with a range of numbers from 0-20. (K.CC.1-3) 	<p>Current Learning Connections</p> <ul style="list-style-type: none"> • Connect to understanding that the two-digits in the two-digit number represent tens and ones. (1.NBT.2) 	<p>Future Learning Connections</p> <ul style="list-style-type: none"> • Connect to skip counting within 1000 (by 5s, 10s and 100s) and using base ten numerals, number names, and expanded form to read and write numbers within 1000. (2.NBT.1-3)
<p>Clarification Statement: Students build on their counting to 100 by ones and tens and start a count at any number less than 120 and continue to 120. Students should be able to count and represent their counting in many ways; hundred charts and number lines are useful tools.</p>		
<p>Common Misconceptions</p> <ul style="list-style-type: none"> • Students may reverse digits in writing numerals and believe that 24 and 42 have the same value. 		

Multi-Layered System of Supports (MLSS)/Suggested Instructional Strategies

Pre-Teach

Pre-teach (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 (e.g., number lines or number chart) when studying extending the counting sequence because students will be exposed to the written and oral representation of counting on from any given number to 120. Also, students are expected to represent several objects with the written form

Pre-teach (intensive): *What critical understandings will prepare students to access the mathematics for this cluster?*

- K.CC.A.1 This standard provides a foundation for work with extending the counting sequence because students begin to count forward to 100 by ones and tens. 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.

Core Instruction

Access

Interest: *How will the learning for students provide multiple options for recruiting student interest?*

- For example, learners engaging with extending the counting sequence benefit when learning experiences include ways to recruit interest such as providing contextualized examples to their lives because students need to know how and why they will use the math in their lives. With counting, students need to be able to start counting from any number in written and oral form in order to be able to solve real-world problems.

Build

Effort and Persistence: *How will the learning for students provide options for sustaining effort and persistence?*

- For example, learners engaging with extending the counting sequence benefit when learning experiences attend to students attention and affect to support sustained effort and concentration such as generating relevant examples with students that connect to their cultural background and interests because students will be able to make connections with objects that are related to their cultural background or interests when counting in sequence from any given number.

Language and Symbols: *How will the learning for students provide alternative representations to ensure accessibility, clarity and comprehensibility for all learners? (e.g., a graph illustrating the relationship between two variables may be informative to one learner and inaccessible or puzzling to another; picture or image may carry very different meanings for learners from differing cultural or familial backgrounds)*

- For example, learners engaging with extending the counting sequence benefit when learning experiences attend to the linguistic and nonlinguistic representations of mathematics to ensure clarity can comprehensibility for all learners such as making connections to previously learned structures because students can make connections to recognizing the numbers and their names when they are start counting from any given number.

Expression and Communication: *How will the learning provide multiple modalities for students to easily express knowledge, ideas, and concepts in the learning environment?*

- For example, learners engaging with extending the counting sequence benefit when learning experiences attend to the multiple ways students can express knowledge, ideas, and concepts such as using physical manipulatives (e.g., blocks, 3D models, base-ten blocks) because it will help students to be able to count on from any given number when using physical manipulatives as they continue to count in sequence.

Internalize

Comprehension: *How will the learning for student's support transforming accessible information into usable knowledge, knowledge that is accessible for future learning and decision-making?*

- For example, learners engaging with extending the counting sequence benefit when learning experiences attend to students by intentionally building connections to prior understandings and experiences; relating important information to the learning goals; providing a process for meaning making of new learning; and, applying learning to new contexts such as incorporating explicit opportunities for review and practice because students need multiple opportunities to be able to count in sequence from any given number using different modalities, such as written and oral.

Re-teach

Re-teach (targeted): *What formative assessment data (e.g., tasks, exit tickets, observations) will help identify content needing to be revisiting during a unit?*

- For example, students may benefit from re-engaging with content during a unit on extending the counting sequence by providing specific feedback to students on their work through a short mini-lesson because as students are able to give feedback to other students, then they are able to do some critical thinking to determine where there might have been an error as the students was counting from any given number.

Re-teach (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 extending the counting sequence by offering opportunities to understand and explore different strategies because students need to be exposed to multiple opportunities to be able to get a concrete understanding of counting on from any given number. It would be helpful to provide students with a number chart or number line to provide a visual support.

Extension

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 open ended tasks linking multiple disciplines when studying extending the counting sequence because an open ended task would allow students more practice to become more fluent with counting on from any given number.

Culturally and Linguistically Responsive Instruction:

Validate/Affirm: 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?

Build/Bridge: 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?

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 extending the counting sequence the types of mathematical tasks are critical because students need to be able to count on or backwards from any given number as they get into higher grades. It is important for students to be fluent and have a good understanding of the order of numbers. Students can also count in their home language, if possible.

Standards Aligned Instructionally Embedded Formative Assessment Resources:

Source: <https://achievethecore.org/coherence-map/1/4/16/16>

Choral Counting II

Provided by Illustrative Mathematics

Materials

- 100 chart or large number line, preferably one that extends beyond 100.
- A pointer
- Setup
- Have students sit in the whole group meeting area.

Actions

Lead the students in chanting the counting sequence starting with one to one hundred; use the pointer to follow the number sequence. Then start counting at various numbers other than one that are randomly selected from 1-120. Have a student take over the job of pointing out the number sequence. Highlight the multiples of ten using a marker or a colored screen and have students chant the counting sequence by 10s, by 5s and by 2s. This should be done daily.

This type of assessment question requires students to count the days in the month on the classroom calendar to practice the counting sequence; first count the number of days total and then count from the current date to the end of the month to get practice starting at numbers other than one. It is important start from different numbers each day when counting by ones to increase student flexibility with the number sequence.

Relevance to families and communities:

During a unit focused on extending the counting sequence, 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, students make connection of number sense by counting objects within 120, counting to 100 is easier than counting to 120 because of number sense. "What number comes after 100?"

Cross-Curricular Connections:

Social Studies: In first grade, the New Mexico Social Studies Standards state students should "describe different ways to determine a decision (e.g., majority rule, consensus, authoritarian [parent, teacher, principal])". Consider providing a connection for students to have 120 people or less (maybe the entire first grade) vote on something and then count the votes.
Classroom Jobs (or other similar routine): Consider providing a connection to counting or taking inventory of various items around the classroom.