

## Just in Time Quick Check

### Standard of Learning K.NS.1

#### **Strand:** Number and Number Sense

#### **Standard of Learning K.NS.1**

**The student will utilize flexible counting strategies to determine and describe quantities up to 100.**

- a) Use one-to-one correspondence to determine how many are in a given set containing 30 or fewer concrete objects (e.g., cubes, pennies, balls), and describe the last number named as the total number of objects counted.
- b) Recognize and explain that the number of objects remains the same regardless of the arrangement or the order in which the objects are counted.
- c) Represent forward counting by ones using a variety of tools, including five-frames, ten-frames, and number paths (a prelude to number lines).
- d) Count forward orally by ones from 0 to 100.
- e) Count forward orally by ones, within 100, starting at any given number.
- f) Count backward orally by ones when given any number between 1 and 20.
- g) State the number after, without counting, when given any number between 0 and 30.
- h) State the number before, without counting, when given any number between 1 and 20.
- i) Use objects, drawings, words, or numbers to compose and decompose numbers 11-19 into a ten and some ones.
- j) Group a collection of up to 100 objects (e.g., counters, pennies, cubes) into sets of ten and count by tens to determine the total (e.g., there are 3 groups of ten and 6 leftovers, 36 total objects).

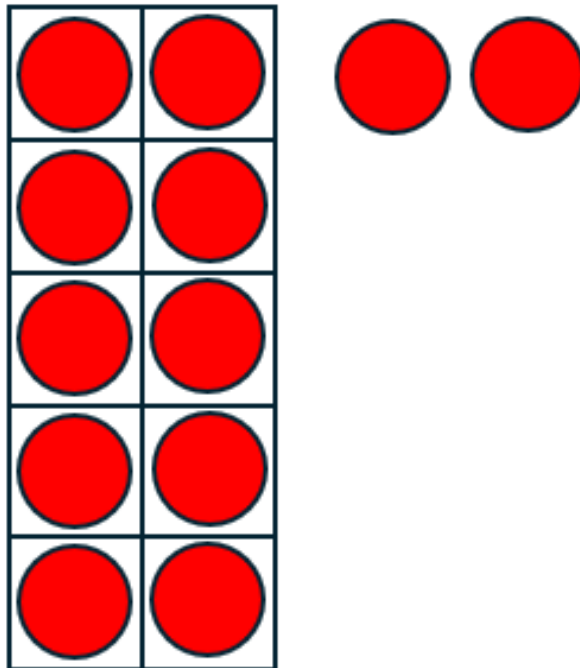
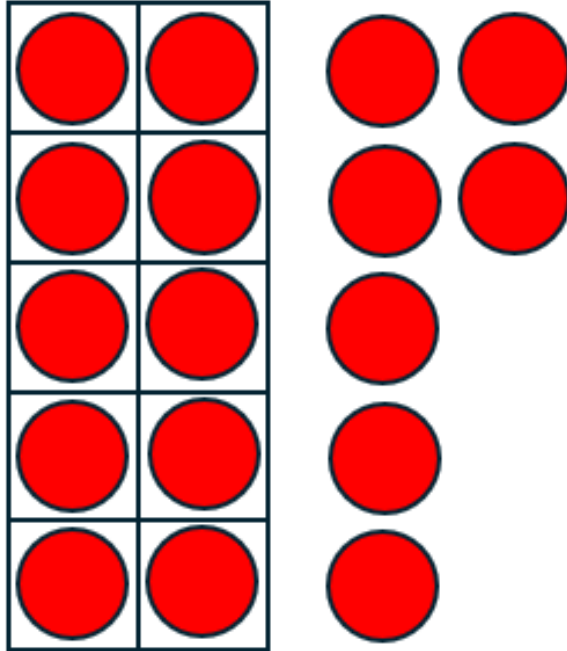
#### Just in Time Quick Check

#### Just in Time Quick Check Teacher Notes

#### **Supporting and Prerequisite SOL:** K.NS.2

K.NS.1 Just in Time Quick Check: Student Interview

Ten Frames



Number Paths

36	37	38	39	40	41	42	
----	----	----	----	----	----	----	--

51		53	54	55
----	--	----	----	----

	90	91	92	93	94	95	96
--	----	----	----	----	----	----	----

Teacher Note: For this interview, you will need 100 counters, the ten frame cards from page 2 and the number paths from page 3.

1. Place seven counters close together in a line on the table in front of the student and ask the student to count them. After the student counts the seven counters, spread the same seven counters further apart on the table and ask the student how many counters there are now. Note whether the student recounts the counters or knows that there are seven without counting.
2. Place a collection of 28 counters on the table and ask the student to estimate how many counters they think there are. Next, ask the student to count to see how many counters there are.

Estimate: \_\_\_\_\_

Actual count: \_\_\_\_\_

If the student is unable to correctly count the collection of 28 counters, repeat with smaller number of counters (17, 12, 8, 5) until the student can successfully count with one to one correspondence.

3. Ask the student to count. Record the highest number the student can count to with success or stop the student at 100. (You may wish to stop the student at their first error.) Make note of any errors made by the student.

The student can count to: \_\_\_\_\_

Skip to question 5 if student was unable to count to 100.

4. If the student was successfully able to count to 100 in question 3, tell the student they are going to count again, but they are going to start at different numbers.
  - a) Start at 86 and count to 100.
  - b) Start at 22 and count to 50.

5. Ask the student to count backward from 10. Make note whether they included zero: ...3, 2, 1, 0. Skip to question 7 if student is unable to count backward from 10.
  
6. Ask the student to count backward from 17. Make note whether they included zero: ...3, 2, 1, 0.
  
7. Say: *I am going to say a number and I want you to tell me the number that comes after the number I say. So, if I say 23, you would say 24. Are you ready?*
  - a) What number comes after 37? \_\_\_\_\_
  - b) What number comes after 79? \_\_\_\_\_
  - c) What number comes after 50? \_\_\_\_\_
  - d) What number comes after 11? \_\_\_\_\_

Teacher Note: If the student is unable to complete the task as written (makes 2 or more errors), please administer the following:

Say: *Let's try these numbers.*

Can you tell me what number comes after 8? \_\_\_\_\_

What number comes after 13? \_\_\_\_\_

What number comes after 19? \_\_\_\_\_

What number comes after 4? \_\_\_\_\_

What number comes after 20? \_\_\_\_\_

8. Say: *Ok, now I am going to ask about the number that comes BEFORE a number. So, if I say 3, you would say 2, because when we count, 2 comes before 3. Are you ready?*
  - a) What number comes before 5? \_\_\_\_\_
  - b) What number comes before 18? \_\_\_\_\_
  - c) What number comes before 10? \_\_\_\_\_
  - d) What number comes before 1? \_\_\_\_\_

9. Provide the student with the ten frame card representing 17 from page 2.
- a) Ask the student how many dots are represented on the card. Note whether they identified the dots in the ten frame as a group of ten or if they counted all the dots.
  
  - b) Repeat with the ten frame card representing 12 from page 2. Ask the student how many dots are represented on the card. If they counted all the dots in the previous question, ask if they can determine the total without counting all the dots. Note whether they identified the dots in the ten frame as a group of ten or if they counted all the dots.

10. Provide the student with the number paths from page 3. Ask the student to say what number goes in the empty box in each number path.

11. Provide the student with a group of 100 counters. Refrain from telling the student the number of counters.

*Say: Please put these counters into groups of ten.* Once the student has placed counters into groups of ten, ask them to count them by tens to determine how many there are.

## Just in Time Quick Check Teacher Notes K.NS.1

### Common Errors/Misconceptions and their Possible Indications

1. Place seven counters close together in a line on the table in front of the student and ask the student to count them. After the student counts the seven counters, spread the same seven counters further apart on the table and ask the student how many counters there are now. Note whether the student recounts the counters or knows that there are seven without counting.

*Students may believe that reorganizing the objects into a different shape or configuration changes the quantity of objects. Students may think that because the counters are spread further apart there are more counters. Students at this stage need experience counting objects, rearranging objects, and recounting objects to verify that the quantity has not changed. Students may benefit from conversations where the teacher asks questions such as, "Did we add any counters?" and "Did we remove any counters?" and then prompt students to explain why the number should or should not change.*

2. Place a collection of 28 counters on the table and ask the student to estimate how many counters they think there are. Next ask the student to count to see how many counters there are.

Estimate: \_\_\_\_\_

Actual count: \_\_\_\_\_

If the student is unable to correctly count the collection of 28 counters, repeat with smaller number of counters (17, 12, 8, 5) until the student can successfully count with one to one correspondence.

*Some students may count aloud but not demonstrate one-to-one correspondence with each counter. Students that are unable to count with one-to-one correspondence to thirty should engage in counting experiences with smaller numbers and expand to work with larger numbers as they demonstrate mastery.*

*Students may count aloud without tracking individual objects or they may count faster or slower than the speed of their tracking. Encourage students that are struggling to touch and move each object as they count, saying one number name in sequence each time they move an object. As students become successful with counting while moving objects, they may transition to simply touching each object or tracking each object with their eyes.*

3. Ask the student to count. Record the highest number the student can count to with success or stop the student at 100. (You may wish to stop the student at their first error.) Make note of any errors made by the student.

The student can count to: \_\_\_\_\_

Skip to question 5 if student was unable to count to 100.

*Students may make one or more common errors with this task. Students may stop at 10 or 20 (or the highest number they know). Should this happen, prompt the student by asking what number comes next. Some students may have trouble with 11, 12 and the teen numbers as well as crossing a decade (going from 29 to 30, or 59 to 60, etc.). Students may not understand the progression of the decades (twenty, thirty, forty, etc.). When these errors occur, students need additional practice, tailored to their specific needs.*

*If a student has difficulty getting started, have them begin counting with you (e.g., "Let's count together: zero, one, two, three..."), and have the student continue without your help. It is important to provide instruction beginning where the student is most comfortable. Some students may not be able to count by ones to 4 or 6 (e.g., instruction should focus on counting just past the highest number and moving forward incrementally). Once a student can count orally to 20, the next benchmark would be counting to 50, then 80, then 100. Choral counting and other frequent activities can provide students with exposure to the verbal patterns of counting that are needed to help them progress.*

4. If the student was successfully able to count to 100 in question 3, tell the student they are going to count again, but they are going to start at different numbers.

- a) Start at 86 and count to 100.

- b) Start at 22 and count to 50.

*Students may struggle to count on from a number other than zero or one. Having students participate in daily counting activities (e.g., count-arounds, choral counting) can support development of this skill. Teachers may start with choral counting activities where they present a start number and end number to the class, and all students count aloud simultaneously. Teachers may then transition to a count-around activity where instead of counting aloud together, students sit in a circle and take turns saying the next number in sequence.*

5. Ask the student to count backward from 10. Make note whether they included zero: ...3, 2, 1, 0. Skip to question 7 if student is unable to count backward from 10.

*When counting backwards, omitting zero is a common error. This usually indicates a lack of experience and understanding of zero. If this occurs, students may need additional practice with counting back including the zero. It can be helpful for students to use pictures or counters as they count backwards.*

*If students cannot count back from 10, start with a smaller number – check to see if they can count back from 5 and then 8 as they work up to counting back from 10. Using counters can help students to visually see the result and begin to understand that counting backwards indicates that you have one less each time you say a number.*

6. Ask the student to count backward from 17. Make note whether they included zero: ...3, 2, 1, 0.

*Some students may struggle to count backward from a number other than ten or twenty. Students may confuse the counting sequence or automatically revert to a familiar number. Other students may count forward from the given number instead of counting backward. Providing students with a number path may initially help students that struggle to count backward from any number. Short, frequent counting activities that begin at varied starting points will build fluency with backward counting from any number.*

7. Say: *I am going to say a number and I want you to tell me the number that comes after the number I say. So, if I say 23, you would say 24. Are you ready?*

- a) What number comes after 37? \_\_\_\_\_  
b) What number comes after 79? \_\_\_\_\_  
c) What number comes after 50? \_\_\_\_\_  
d) What number comes after 11? \_\_\_\_\_

*Some students may have difficulty stating the number after with numbers greater than twenty or when the next number crosses over a decade. As noted in the student interview, if a student makes two or more errors, please administer the second set of questions. Students who are unable to complete the first portion of the task likely have a few misconceptions or underdeveloped understandings. One strategy for supporting students in developing an understanding of one more, one less is “counting around the room,” starting at different numbers. Arrange students in a circle (whole group or small group) and practice counting by ones but start at numbers other than one.*

*Students who miss question b above (what number comes after 79?) may have trouble crossing the decade. This can be due to not fully understanding the pattern of the ones place while counting (e.g., not understanding the sequence of 28, 29, 30; or 58, 59, 60). Providing additional practice for crossing the decades is encouraged. This can be accomplished through counting around the room or other counting activities. Additionally, students may miss question b (what number comes after 79?) because they are not sure how to name the next decade. In this case, activities such as counting around the room and practicing counting by tens can help solidify the understanding of the patterns within and between the decades. A hundreds chart can also be a useful tool to develop an understanding of counting patterns.*

Teacher Note: If the student is unable to complete the task as written (makes 2 or more errors), please administer the next set of numbers.

Say: *Let's try these numbers.*

Can you tell me what number comes after 8? \_\_\_\_\_

What number comes after 13? \_\_\_\_\_

What number comes after 19? \_\_\_\_\_

What number comes after 4? \_\_\_\_\_

What number comes after 20? \_\_\_\_\_

*If students make two or more errors in this second set of questions, they will need additional practice counting and identifying numbers within twenty. Counting around the room (or in a small group) is strategy that will help to strengthen this skill. For these students, use the following guide as counting benchmarks or stopping points for counting around the room: 25, 40, 60, 75, and 100. Be sure to start at different numbers when playing the game. Once the benchmark or stopping point of 40 is reached, start with numbers both before 20 and after 20.*

8. Say: *Ok, now I am going to ask about the number that comes BEFORE a number. So, if I say 3, you would say 2, because when we count, 2 comes before*

3. *Are you ready?*

a) What number comes before 5? \_\_\_\_\_

b) What number comes before 18? \_\_\_\_\_

c) What number comes before 10? \_\_\_\_\_

d) What number comes before 1? \_\_\_\_\_

*Students who are unable to complete this task successfully need additional opportunities to engage in counting back from 20. Counting around the room backwards can be a helpful strategy for supporting development of this skill. Students may also benefit from using a number path or ten frame cards to help them visualize their counting. When using the number path or ten frame*

*cards, if directionality is a concern for the student (especially those struggling with directionality while reading), it may be helpful to use objects on a ten frame mat and have the student physically remove one and state the new number represented. Stories and situations about items being eaten (cookies on a plate) or flying away (birds on a tree) can also provide context for students who struggle in identifying the number before.*

9. Provide the student with the ten frame card representing 17 from page 2.
  - a) Ask the student how many dots are represented on the card. Note whether they identified the dots in the ten frame as a group of ten or if they counted all the dots.
  - b) Repeat with the ten frame card representing 12 from page 2. Ask the student how many dots are represented on the card. If they counted all the dots in the previous question, ask if they can determine the total without counting all the dots. Note whether they identified the dots in the ten frame as a group of ten or if they counted all the dots.

*Students who count all to determine the number of dots represented in the ten frame images may be unable to see ten as a single unit when composing and decomposing numbers 11-19. If students are counting by ones, prompt them by asking, "How many dots are in this ten frame?" "Do you need to count them all?" Students may need additional practice grouping objects into a unit of ten and some leftovers and counting on from 10.*

10. Provide the student with the number paths from page 3. Ask the student to say what number goes in the empty box in each number path.

*Some students may struggle to identify the missing number in the number path because they are unable to count using the provided sequence. Other students may be successful in identifying the missing number when they are provided with the number that comes immediately before the missing number, but struggle with the third number path where they must count backward or determine what number comes before 90. These students may benefit from routines and activities with number paths and hundred charts where numbers are covered by counters or sticky notes and students are encouraged to use forward and backward counting patterns to determine the hidden numbers.*

11. Provide the student with a group of 100 counters. Refrain from telling the student the number of counters.

Say: *Please put these counters into groups of ten.* Once the student has placed counters into groups of ten, ask them to count them by tens to determine how many there are.

*Some students may lack one-to-one correspondence and struggle to count the objects accurately and/or place them into groups of ten successfully. These students may need additional experience counting real objects, progressing as their ability increases (e.g., starting with 20 objects, then moving to 30 or 40 objects) until the student is ready to count 100 objects. It may be beneficial to model counting, with an emphasis on moving the objects when counting them or touching each object after organizing them. In addition, it may be helpful for students to have a number chart that they can refer to while counting.*

*Other students may be able to put the counters into groups of ten but may not be able to count by tens to 100. They may be able to go to a certain point (e.g., they may be able to count 10-20-30 and then get stuck). These students would benefit from additional practice beginning at the student's counting threshold. Students need opportunities to see that we count for a reason – to determine quantity. Therefore, they need concrete objects or visuals to help cement their understanding and ability to count by tens. Counting two hands at a time around the classroom can serve as a good visual of what it means to count by tens. Other visuals might include a hundreds chart (with the decade column highlighted), a set of full ten frame pictures, etc.*