Constructing Task: Riddle Me This?

STANDARDS FOR MATHEMATICAL CONTENT

MCCK.NBT.1 Compose and decompose numbers from 11 to 19 into ten o ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

MCCK.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality.

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.

MCCK.CC.6 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.

STANDARDS FOR MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

The relationships of one more than, two more than, one less than, two less than are important for all numbers. However, these ideas are built on and connected to the same concepts for numbers less than 10. The fact that 17 is one less than 18 is connected to the idea that 7 is one less than 8. Children may need help in making this connection after some quality time spent in the exploration of these numbers.

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ESSENTIAL QUESTIONS

- When do we use counting skills in everyday life?
- How can you know a quantity without counting each object?
- Why do I need to be able to count objects?

- Why do we need to be able to count forwards and backwards?
- What is the difference between a group of ten and the leftovers?

MATERIALS

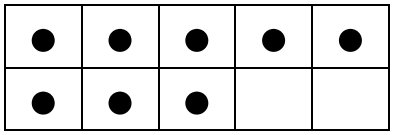
- *Riddle Me This?* task cards
- Single or Double Ten Frame
- Counters

GROUPING

Whole group/Partner

TASK DESCRIPTION, DEVELOPMENT, AND DISCUSSION

Create a number on a ten frame. Invite students to discuss and share everything they notice about the number. Example if the number 8 is on the 10 frame.



3 more than 5	2 less than 10	4 groups of 2
2 groups of 3 and 2 more	3 groups of 2 and 2 more	2 groups of 4

Riddle for "8"- *I am a number. I am more than 5. If you give me 2 more dots I would make a 10? I am a 1-digit number. What number am I?*

I am a number, I have a 5 and 2 more. What number am I?
I am a number, I am 1 less than 6. What number am I?

Make up riddles about numbers from 0-20 and have students try and identify the mystery number.

This task can be repeated throughout the year. As students become more comfortable with the concept and with reading and writing, have them make their own mystery riddles and share them with classmates. Students can use the *Riddle Me This?* task cards to help create riddles. When modeling riddles to students, it is extremely beneficial to model using the task cards.

Comment:
Create a word bank that students can use to help them write their riddles. Some possible suggestions to add to your word bank could be:

I am more than ____
I am less than____
I am ____ counters more/less than ____

I am a ____-digit number, etc….

FORMATIVE ASSESSMENT QUESTIONS

- How do you know that you counted correctly?
- What is a good way to justify your answer?
- What strategy are you using to solve the riddle?
- Is the number closer to 10 or 20? How do you know?

DIFFERENTIATION

Extension

- Use a higher number and increase the rigor of the questions in the riddle.
  Example:

  I am a number,
  I have 1 group of 5 and 7 ones.
  What number am I?

Intervention

- In a small group have student answer riddles about smaller numerals.
- Use a 5-frame or10-frame riddles to limit the possible answers to the riddle**.**

I am a number, I am 2 less than_____. What number am I?	I am a number, I have _____ more than 5. What number am I?
I am a number, I am 2 more than_____. What number am I?	I am a number, I am 1 less than_____. What number am I?
I am a number, I am 2 less than_____. What number am I?	I am a number, I have _____ ten and _____more. What number am I?