

Assessing Math Concepts Notes

By Kathy Richardson

The notes, included with each assessment on the web version of AMC, are intended to provide information not included in the assessment responses or report. They are not intended to elaborate on an individual response.

1. Counting Objects

- **Confident**

- **Lacks confidence**

(This explanation is the same for all the assessments where confidence is included in the notes.)
These indicators are not intended to be used to measure which particular items a child answered with confidence and others that he did not. The selection of one or the other is a general statement about the child's demeanor during the assessment as a whole. The child's level of confidence (or lack of confidence) sometimes reveals his level of proficiency or comfort with a task. Some children can do all the tasks and even be "ready to apply" to a particular number, but lack confidence. This would imply they need more experiences in order to develop confidence.

- **Counts methodically**

- **Rushes, makes errors**

These indicators are to identify children who are more methodical than most children, or are more in a hurry when they count than most. A child who is "ready to apply" but has to count slowly and deliberately is not as proficient a counter as a child who counts without special effort. Another child may know all he needs to know about counting, but not be "ready to apply" because he has a tendency to rush and make mistakes.

- **Stops when doesn't know rote sequence**

- **Continues counting, makes up rote sequence**

It is interesting to note which children keep counting even when they don't know the sequence and which children simply stop when they "run out of numbers."

- **Says 1 more for 1 less**

Many children keep saying the pattern for 1 more, even when one is being taken away.

- **Can count accurately, but is inconsistent**

This indicator can explain why a child may not have been "ready to apply" even when they have shown they know how to count. There is a period of time for many children where they can count correctly one time and not the next. This indicator helps distinguish a child who is inconsistent from one who is unable to count to a particular number.

2. Changing Numbers

- **Makes a new pile**

- **Adds total amount onto pile**

- **Guesses an amount to add**

- **Guesses an amount to remove**

There are so many possible responses that several had to be combined into one response: Can't/Make(s) new pile/Adds total. This response indicates that the child cannot change one pile to another. But you can provide more specific information by using these indicators to point out the particular method the student uses.

- **Says number before adding**
- **Says number before removing**
Children are “ready to apply” if they can identify the number added or removed after they have changed the number. However, some children will know how many to add or remove before they actually change the number and will spontaneously say what they are going to do. For example, “I need to add 3 to make 8.” This gives teachers an opportunity to acknowledge this.

3. More/Less Trains

- **Confident**
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- **Inaccurate when counting**
Sometimes children appear not to know “how many more” simply because they counted wrong and not because they don’t understand how to answer that question. This is a way to explain that.
- **Lines up to compare**
The response “Matches 1 to 1” probably makes this particular note unnecessary.
- **Less is harder than more**
There is only one question asking “how many less?” but this indicator will allow teachers to indicate if it was harder for the children than “how many more?” even if they got the answer right.
- **Knows relationship**
Children are not expected to know the relationship in order to be “ready to apply” if they can figure it out. However, some children will know how many more or less without counting and the teacher can indicate that by using this note.

4. Number Arrangements

- **Confident**
- **Lacks confidence**
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- **Counting inaccurate**
This is a place to explain an error a child might make. For example, they may try to count on but end up with the wrong answer.
- **Counts all first, then describes parts**
There is a stage where children are just beginning to see the parts in numbers, but have to count first in order to tell how many in the groups they see.
- **Has difficulty explaining**
It is worth noting when a child can see parts but has trouble explaining what they see.

- **Counts, but says, “I just knew”**
Sometimes, children think “I just knew” is the answer the teacher is looking for and may say that even when they needed to count to find out how many. We want children to realize that we are very interested in what they actually did. It is important that we listen without judgment (including praise) to help communicate that. Sometimes, I will help them acknowledge the way they did it by saying, “Did you ‘just know’ when you counted?” Or, I might say, “What did you do first to find out how many?”
- **Counts by 2s**
A child sometimes gets the idea that it is more “grown-up” to count by 2s than it is to count by ones and begins counting everything by 2s instead of looking for groups. Asking them “What groups did you see?” will help them learn to look for those groups instead of just counting.
- **Knows combinations quickly**
This is a place to note if a child knows the combinations without hesitation.

5. Combination Trains

- **Confident**
- **Lacks confidence**
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- **Counts, then describes parts**
There is a stage where children are just beginning to see the parts in numbers, but have to count first in order to tell how many in the groups they see.
- **Counts, but says, “I just knew”**
Sometimes, children think “I just knew” is the answer the teacher is looking for and may say that even when they needed to count to find out how many. We want children to realize that we are very interested in what they actually did. It is important that we listen without judgment (including praise) to help communicate that. Sometimes, I will help them acknowledge the way they did it by saying, “Did you ‘just know’ when you counted?”. Or, I might say, “What did you do first to find out how many?”
- **Counts by 2s**
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- **Always uses same strategy**
This note is to indicate when a child automatically solves problems in the same way (counting on, for example) rather than considering what they know and can see for each train.
- **Adds without looking at model**
It is interesting to note when a child does not need the model as a referent.
- **Uses known combos to figure out unknown**
This information will show up on the individual report when you select “Related combos,” so it is not necessary to select this note. It can serve as a summary of the child’s ability to do this at a quick glance at the report.

6. The Hiding Assessment

- **Confident**
- **Lacks confidence**
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- **Answers quickly**
- **Knows but takes time to answer**
This is a place to distinguish between the children who know the combinations without hesitation from those who know without counting but take a bit of time to come up with their answer.
- **Incorrect answers are close**
- **Incorrect answers unreasonable**
This is a place to distinguish between the children who get incorrect answers because they counted wrong or remembered wrong versus a child who is unaware that the wrong answers don't make any sense. When an answer is unreasonable, it most often indicates that the child has no idea and just guesses.
- **Describes method used spontaneously**
Some children "think out loud" and say what they are doing without being asked. For example, "Oh, I know that one. Last time you showed me 3 and 5 were hiding. So, now I know the 3 is hiding." This gives teachers an opportunity to acknowledge this.
- **Has difficult describing method used**
It is worth noting when a child has trouble explaining their thinking during the assessment as a whole.

7. Ten Frames

You can get "extra" information from this assessment if you pay attention to how the children determine the number of stars.

- **Counts stars on ten frame**
Some children will need to count the stars.
- **Combines groups of stars**
Some children will add up the groups they see. For example, "I see 3 and 3 is 6 and 2 more makes 8."
- **Recognizes stars without counting**
Some children will be familiar enough with the ten frames and recognize the number of stars as soon as they see the ten frame.
- **Knows parts of ten without counting**
- **Does not know parts of ten**
It is worth noting the child's knowledge of parts of ten separate from knowing the parts of numbers in general.

8. Grouping Tens

- **Confident**
- **Lacks confidence**

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- **Reluctant to estimate**

Children often feel like they are supposed to be "right" so are unwilling to give an estimate. They need experiences in order to learn that they are not expected to know exactly how many, but to just think about what it might be before counting.
- **Tells value of groups rather than number of groups**

Understanding the difference between the value of 30 cubes (for example) and the number of groups of ten in 30 is at the heart of this assessment. Confusing this is indicative of the child's need for more experiences.
- **Counts individual cubes by 10s**

This response reveals a child's confusion about the concept of ten as a unit. Children who are trying to do what the teacher wants but are not yet able to count groups sometimes start counting the piles of 10, saying, "10, 20, 30," and then go on counting the remaining 1s saying, "40, 50," and so on.
- **Reacts to estimate while counting**

Most children are going to be focused on making groups of 10 and not thinking about the quantity, so do not pay attention to whether their estimate is close or not. A child who does react is thinking about the quantity as she goes along and therefore notices if she reaches the number she estimated.
- **Changes estimate while counting**

When a child makes a new estimate based on what she is finding out as she counts, it shows she is thinking of the meaning of the quantity and not just focused on making 10s.
- **Leaves out 1s when adding/subtracting 10**

Some children will get answers wrong because they focus on the 10s and forget or can't hold the 1s in mind. This is a different kind of error than making an addition or subtraction error and is worth noting.

9. Two-Digit Addition and Subtraction

- **Solves with ease and accuracy**

It is worth noting if a child does more than get the right answer, and is able to do this with ease.
- **Sometimes self-corrects**

When children self-correct, they are given credit for getting the right answer, but it is worth noting for two reasons. One is that they are thinking about what they are saying and recognize their error—which is good. Another reason is that getting the right answer was not easy for them, indicating they may need a bit more practice.
- **Makes minor computation errors**

This notes helps distinguish the child who is having difficulty with the process from one who understands, but makes minor errors.

- **Counts by 10s**
This note adds further details about how a child who counts arrives at their answers.
- **Loses track of 10s**
Children who end up with wrong answers sometimes have trouble keeping track of the number of 10s they end up with.
- **Subtracts smaller number from larger number**
This is a typical problem when children subtract. It pertains only to the symbolic problem. It reveals that the child is not thinking of what the numbers represent, but is focused on the digits.
- **Not making sense/confused**
This note could apply to the whole assessment. However, it often describes a child who is able to add or subtract when the models are present, but is confused when trying to show what they did to solve the symbolic problem. If the confusion is only evident when working with the symbolic problem you may want to add a comment taking note of that.
- **Has difficulty explaining**
It is worth noting when a child has trouble explaining their thinking during the assessment as a whole. If it is only true when solving the symbolic problem, you may want to add a comment taking note of that.