

## Assessing & Developing Math Concepts



### Stay Connected!

Kathy Richardson is the author and developer of the Assessing Math Concepts (AMC) series of assessments, the Developing Number Concepts (DNC) series for Kindergarten through Second Grade Mathematics and Number Talks for the Pre-K and Primary Classroom. Kathy, Program Director for Math Perspectives, is one of the most respected early childhood mathematics educators.

Kathy answers questions from teachers across the country who are using AMC, DNC and Number Talks. If you have questions for Kathy, please send them to Math Perspectives at [info@mathperspectives.com](mailto:info@mathperspectives.com).

**Q** Hello, I've read the instructions for playing build-a-floor with 7,8,9, and 10 but I still have questions. Should students use a different color for the counters for the second roll? It sounds like unlike for the other numbers (3-6), students will complete a whole tower before beginning the other parts of the floor? Is this correct? Thanks!

*Teacher Math Coach from Henrico, VA*

**A** Hi, let me see if I can help make this clearer. After the children have the first number built for all 6 parts of the floor using 1 color, they switch colors to complete the floor just like for the smaller numbers. Let's say they are working with 8. When they roll, they should try to find a way to make 8. For example, if they rolled a 5 and they have a 3, they should use it to make an 8. But if they roll a 2 (and they don't have a 6 to put it with), they can add the 2 to any of the numbers. They don't have to finish that tower before going on. When they roll again, they will see if they have a way to make 8.

I am not sure I answered your questions clearly enough. Let me know if you need me to try again. *Thanks, Kathy*

**Q** Hi Kathy, Thank you for your response. I understand now. While I have you, should I wait for a student to be fully ready to apply with the hiding assessment before moving on to the Tens Frames assessment or in general with any assessment before going to the next?

*Thanks, Teacher Math Coach from Henrico, VA*

**A** Hi, I'm glad my explanation of Build a Floor was helpful. I would not recommend waiting to do Ten Frames until after the children are ready to apply for all numbers in the Hiding Assessment.

Learning parts of numbers and learning that numbers are composed of tens and ones are two different concepts. Children develop more than one concept at a time. A child might be learning to count by 2s, working on parts of numbers to 8 and practicing breaking up numbers to make a ten and some more.

There are lots of different way/times that the assessments can be given. If you want to know how a child is thinking about teen numbers, you can give the Ten Frames assessment. Even if you find it too hard, you will know something about that child. If a child is not making progress with Hiding Assessment, you could check using Changing Numbers or Number Arrangements to see if they have the necessary foundational concepts. Finding what they don't know is as important as finding what they do know. There is not one right way to sequence the assessments. The assessments need to be useful tools that help you know what the children need.

Let me know if you have any other questions.

*Thanks, Kathy*

**Q** Hi Kathy, Question about AMC #5, Combination Trains. Should the train remain on the table? What happens if the student picks up the train and begins breaking it into parts either to figure it out or to describe how they knew? Thanks for the clarification.

*Math Interventionist from Lexington, MA*

**A** Thank you for your question. The train remains on the table but don't place it there before you start asking questions. Bring out the train and ask all 3 questions and then fill in the answers. How many blue? How many yellow? How many altogether? If the student picks up the train before they have figured out the answer, tell them to put it back together and not take it apart. If they are showing you what they did after they have answered, that is okay.

I hope this is helpful. Let me know if you have more questions.

*Thanks, Kathy*

**Q** Hi. I had a couple of questions about the #6 Hiding Assessment Online platform. 1) When a student is asked how they solved it they said they used 4+2 to solve it. Would I click "knows quickly" or would I click "used related combinations"? 2) When I am working with #6. I hid 4 cubes and showed 2. When I asked a student how many are in there. They would show 6 fingers and quickly hide 2 (not count back). What would I click on the choices of solving this?

*Math Interventionist from Arlington, MA*

**A** I need a little more information to be sure I understand your question, but let me give it a try. Using a related combination means the child didn't know quickly but took a second to figure it out using something else they know. Let's

say you are working with 6. If you say, "I am showing you 2, how many are hiding?" and the child answers 4 immediately, it would be knows quickly. If you asked him to explain how he thought about it, and he said, I thought of  $4 + 2$ , it could be a way to tell you what he knew. If he said something like, "I knew if you showed me 1, it would be five hiding. But you showed me 2, so it must be 4", that would be using a related combination.

For the other question, using the fingers to visualize the numbers makes the problem easier even if the child doesn't count. There isn't anything exactly matching that to select. But the one that indicates they don't need to count but also don't know it yet, would be Counts back/up/ Takes Time. What I would do is ask the child to see if he could tell how many without using his fingers when you go on. Then you will be able to see if he actually knows the missing part or if he has to stop and think about it a bit to be able to visualize it. Let me know if these answers made sense or if you have further questions. – Kathy

**Q** Hi Kathy, Thank you for your response.

"For the other question, using the fingers to visualize the numbers makes the problem easier even if the child doesn't count. There isn't anything exactly matching that to select. But the one that indicates they don't need to count but also don't know it yet, would be Counts back/up/ Takes Time. What I would do is ask the child to see if he could tell how many without using his fingers when you go on. Then you will be able to see if he actually knows the missing part or if he has to stop and think about it a bit to be able to visualize it."

If I ask the student to tell me how many without using his/her fingers.

1) The student paused for a long time and gave an answer, would I mark it as "Counts/on/back OR Takes time?"

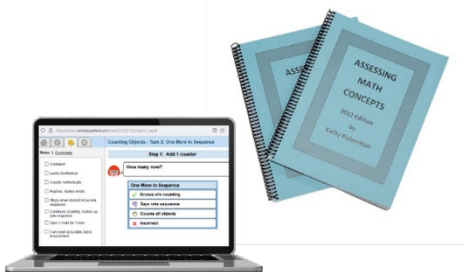
2) If the student didn't pause and said he/she saw the amount in his/her head (visualized the fingers). What strategy should I mark on the assessment?

*Thank you, Math Interventionist from Arlington, MA*

**A** What we are trying to learn is whether the child needs more practice or knows missing parts quickly and is ready to work with larger numbers. With young children, we have to interpret the clues the child gives us. So, if the child pauses, we assume they still need practice. If they know the answer quickly but say they were thinking of their fingers, that seems to me like they know and visualizing the fingers is how they know. I would be interested in how this child does on Part 2. When there are no counters at all, do they still respond quickly?

The assessment is just one setting where we get some information. We also need to watch the child at work and see if the responses are the same.

*Hope this helps. Kathy*



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If you're using Assessing Math Concepts and have a question regarding any of the nine assessments, we'd love to hear from you.

If you are using the paper Student Interview forms and would like to receive information on the Web-based version or professional development, please contact us by emailing [info@mathperspectives.com](mailto:info@mathperspectives.com) or call **360-715-2782**