



## Welcome from Math Perspectives!

January 2012

Dear North Carolina Teachers,

Happy New Year! We hope each of you enjoyed your winter break.

If you didn't start assessing your students before the winter break, now is the time to check in with each of them and re-assess your students to find the level of understanding each one has achieved in order to help you plan and differentiate your instruction.

Instead of a "map" like you have received the past two years, below is a guideline for you to use in making your decisions about what assessment to use at this time of the year for each of your students. This information is to provide guidance to help you use the assessments to plan for appropriate instruction for the whole class. Because number concepts develop in relatively predictable ways, there are particular concepts and Critical Learning Phases that the majority of children at specific grade levels need to work with. You can refer to the Introduction in any of the *Assessing Math Concepts (AMC)* books for additional information and help (pages 1-23). The Introduction is the same in every AMC book. All nine assessments are available to you online. After re-reading the information in the Introduction, please feel free to "try out" any of the nine assessments if you believe they will give additional information you need for any student.

### ***Assessments for Days 46-90 of the 2011-2012 School Year***

**Kindergarten Teachers**, the focus in Kindergarten is on learning to count objects to 21 or more, to make a pile of 18 or more, and to learn one more and one less for those numbers the child can count (Assessment 1: Counting Objects). As the children progress, they begin to move from seeing numbers as one and one more and one more to seeing that one number is contained within another number and how these numbers are related to each other (Assessment 2: Changing Numbers). Next, the children begin to see that numbers are composed of parts (Assessment 4: Number Arrangements).

#### **COUNTING OBJECTS TASKS 1 AND 2: RESULTS OF PREVIOUS ASSESSMENT**

- **Student was not yet able to count 21 objects and make a pile of 18**  
Re-assess using *Assessment 1: Counting Objects* Tasks 1 and 2  
Go on to Part Two: Tasks 3 and 4 One More/One Less if the student can count 12 objects and make a pile of 9.
- **Student was able to count 21 or more objects and make a pile of 18 but does not yet know 1 more and 1 less for numbers to 21**  
Re-assess using *Assessment 1: Counting Objects* Part Two: Tasks 3 and 4 One More/One Less.

## COUNTING OBJECTS TASKS 3 AND 4: RESULTS OF PREVIOUS ASSESSMENT

- **Student knows 1 more and 1 less for numbers to 8 or more**  
Assess using *Assessment 2, Changing Numbers*.

## CHANGING NUMBERS: RESULTS OF PREVIOUS ASSESSMENT

- **Student is able to change numbers and describe what they did for numbers to 10**  
Assess using *Assessment 4: Number Arrangements*

**First Grade Teachers**, the focus in First Grade is on learning the parts of numbers through 10 and to begin work with learning the structure of numbers as tens and ones. Children take much longer to learn the parts of numbers than most people expect.

## NUMBER ARRANGEMENTS RESULTS OF PREVIOUS ASSESSMENT

- **If the student was NOT able to identify and combine parts of numbers (A on *Identifying Parts of Numbers* and P or A on *Combining Numbers*)**  
Re-assess with *Assessment 4: Number Arrangements*.
- **If the student WAS able to identify and combine parts of numbers (A on *Identifying Parts of Numbers* and P or A on *Combining Numbers*),**  
Go on to *Assessment 6, Hiding Assessment*. Start with 5 and go up or down depending on the student's responses. Stop when you have determined the largest number the student has internalized. (i.e. knows the parts quickly and confidently)

## HIDING ASSESSMENT RESULTS OF PREVIOUS ASSESSMENT

- **If the student knew parts of numbers from 4 through 10**  
Assess using *Assessment 7: Ten Frames*.

**Second Grade Teachers**, the long-range goal for second graders is to learn to add and subtract two-digit numbers. In order to be successful, the students need to understand the structure of numbers as tens and ones and to be able to use knowledge of parts of numbers to 10 to add and subtract without counting.

## TEN FRAMES RESULTS OF PREVIOUS ASSESSMENT

**For Knows Parts of Numbers** (This section determines if the students know and can use parts of numbers to 10 when adding and subtracting)

- **If students did not know the parts of numbers (N or I)**

Assess using *Assessment 6: Hiding Assessment* (Check with the First Grade teachers if you are unfamiliar with this assessment)

**Adding Ones to a Ten** (This section determines if the student can add a ten and some ones without counting)

- If the student was unable to add ones to a ten without counting,  
Re-assess using Ten Frames
- If the student was able to add ones to a ten without counting  
Assess using *Assessment 8: Grouping Tens*

## ***Assessing Math Concepts***

### **Reflections on Assessing the Development of Math Concepts Over Time**

*Assessing Math Concepts* helps determine where children are in the development of core concepts. These concepts develop over many weeks and months and even years as children deepen their understanding of these concepts and recognize the connections between them. *Assessing Math Concepts* determines the level of facility and proficiency as well as understanding within a particular range of numbers. Because the understanding of core concepts develops over time, the assessments identify what the child understands so far and is inconsistent with the notion of mastery.

The core concepts assessed are the basic underpinnings for all work with number. Generally, the concepts begin to develop in a particular order but every concept continues to develop even while new ones are also developing. So, for example, children must know how to count before they can add; but they can begin to learn to add before they can count by 2s. They can learn that ten is a unit before they know all the parts of numbers to ten.

Children need to work with number concepts all year in some form even while they are working with other math concepts like geometry or measurement.

The core number concepts are:

- Counting
- Number Relationships
- Parts of Numbers to 10 (necessary for learning basic facts with meaning)
- Tens and Ones
- Hundreds, Tens and Ones
- Thousands, Hundreds, Tens and Ones and Beyond

**Assessment determines what they know or don't know about a topic, not whether they got right answer or not.**

### **Begin by Identifying the Instructional Level for One Assessment**

Children develop an understanding of number concepts at varying times. This means teachers need to know what level of understanding each child has reached. Most children in a grade level will be at a similar level of understanding but some children will be "ahead" and others "behind" the typical child. This means teachers at a particular grade level can begin with the same assessment and then go on or back as needed to identify the instructional needs of all the students.