**2nd Grade Module 1 Topic Analysis**

**Big Picture Questions-**

What enables students to make the jump from “Addition and Subtraction within 20” to “Addition and Subtraction within 100?”

*Place Value understandings, properties of operations (decomposing and composing), and the relationships between addition and subtraction*

What are the Level 2 and Level 3 strategies that are developed in 1st grade (see the pictures)? How do they make computation more efficient?

*Level 2: Counting on and Level 3: Decompose and addend to compose a ten. Counting on is more efficient that Counting All (Level 1). Level 3 Strategies enable students to make an easier problem to solve.*

What’s interesting about the arrangement of the application problems and concept developments in this module? Why are they arranged this way?

*Application problems follow the concept development. Most modules have the application problem arranged before the concept development. Problem solving needs to begin as a guided activity. You are working to help students learn how to independently reason through the relationships and choose the appropriate strategy to solve the problem.*

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| **Questions About the Topics** | **Answers from the Overview** | **Standards Addressed** |
| **Topic A: Foundations for Addition and Subtraction Within 20*** What prior learning is revisited in Topic A?
* How is this understanding extended in this module?
 | *Students review partners to 10 and decompositions within 10 from Kindergarten and 1st Grade.* *These become “facts” students know from memory.* *Use with larger numbers to make the next 10. (28 + \_\_\_ = 30)* |  |
| **Topic B: Mental Strategies for Addition and Subtraction within 20*** What are the culminating mental math strategies developed in this Topic?
* How does Topic B expand what students can do by build upon what students already know?

  | *Making a 10 and taking from a 10 are the strategies developed to enable the students to master mental math.**They make a 10 to add to the teens. They see the simpler problem within the ones and then add on the 10. They subtract from the 10 to make subtracting from a teen number easier.*  |  |
| **Topic C: Strategies for Addition and Subtraction within 100*** What types of addition and subtraction problems within 100 do the students start with?
* How will the students begin the process of solving problems that cross the multiples of 10?
* How does the second work sample shown in Topic C combine the two problem types shown in Topic B?
 | *Addition and subtraction within a multiple of 10.* *(47-5 =42)**They will use basic facts and the properties of addition to decompose numbers and associate numbers to make easier problems. (26 + 9 = 20 + 6 + 4 + 5 = 35)**The students pull out a 10 and subtract from the 10. Then they apply the idea of adding the ones to combine 81 and 5 to get 86.* |  |