Topic E

Modeling Numbers Within 1,000 with Place Value Disks

**2.NBT.A**

|  |  |  |
| --- | --- | --- |
| Focus Standard: | 2.NBT.A | Understand place value. |
| Instructional Days: | 5 |  |
| Coherence -Links from: | G1–M6 | Place Value, Comparison, Addition and Subtraction to 100 |
| -Links to: | G2–M4 | Addition and Subtraction Within 200 with Word Problems to 100 |
|  | G2–M7 | Problem Solving with Length, Money, and Data |

In Topic E, students transition to the more abstract place value disks that will be used through Grade 5 for modeling very large and very small numbers. The foundation has been carefully laid for this moment since Kindergarten, when students first learned how much a number less than 10 needs to make ten. Students repeat the counting lessons of the bundles and money, but with place value disks (**2.NBT.2**).

The three representations: bundles, money, and disks, each play an important role in the students’ deep internalization of the meaning of each unit on the place value chart (**2.NBT.1**). Like bills, disks are “traded,” “renamed,” or “changed for” a unit of greater value (**2.NBT.2**).

Finally, students evaluate numbers in unit form with more than 9 ones or tens, for example, 3 hundreds 4 tens 15 ones and 2 hundreds 15 tens 5 ones. Topic E also culminates with a problem-solving exploration in which students use counting strategies to solve problems involving pencils that come in boxes of 10 (**2.NBT.2**).

|  |
| --- |
| A Teaching Sequence Towards Mastery of Modeling Numbers Within 1,000 with Place Value Disks |
| Objective 1: Count the total value of ones, tens, and hundreds with place value disks. (Lesson 11) |
| Objective 2: Change 10 ones for 1 ten, 10 tens for 1 hundred, and 10 hundreds for 1 thousand. (Lesson 12) |
| Objective 3: Read and write numbers within 1,000 after modeling with place value disks. (Lesson 13) |
| Objective 4: Model numbers with more than 9 ones or 9 tens; write in expanded, unit, standard, and word forms. (Lesson 14) |
| Objective 5: Explore a situation with more than 9 groups of ten. (Lesson 15) |