Unit D - *How … is 1000?*

Overview

In this unit, students develop a deeper understanding of place value with numbers to 1,000. This understanding builds upon concepts and models students refined for adding and subtracting within 100 in previous units. Students compose and decompose numbers based on place value using multiple models and representations including sticks, cubes, paper clips and coins in order to understand sets of 10 and 100 as single entities. Students develop a greater place value understanding as they realize that any number can be decomposed based on place value groupings. Students see that multi-digit numbers are formed by following the same counting pattern present in single digit counting.

21st Century Capacities: Analyzing, Product Creation

Stage 1 - Desired Results

ESTABLISHED GOALS/ STANDARDS

MP 4 Model with mathematics.
MP 7 Look for and make use of structure.

CCSS.MATH.CONTENT.2.NBT.A.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

CCSS.MATH.CONTENT.2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

CCSS.MATH.CONTENT.2.NBT.B.8 Mentally add 10 or 100 to a given number 100-900, and

Transfer:

Students will be able to independently use their learning in new situations to...

1. fluently move within representations of numbers; (Product Creation)
2. identify underlying patterns and relationships that exist within situations or problems involving numbers (within 1,000), through the use of resources. (Analyzing)

Meaning:

UNDERSTANDINGS: *Students will understand that…*

1. The placement of a digit within a given number determines the value, or the unit that the digit represents.
2. Strategies help us to recognize relationships between numbers in order to add and subtract in flexible ways
3. Utilizing tools, patterns and structures helps to visualize mathematics and develop efficiency with problem solving

ESSENTIAL QUESTIONS: *Students will explore & address these recurring questions:*

A. How do I show my thinking? (using representations e.g. words, numbers, models)
B. Is this the most efficient way to solve this problem? How do I know?
C. What is the pattern here? (Place Value)
D. How can seeing numbers in different ways help us to solve problems?

mentally subtract 10 or 100 from a given number 100-900. CCSS.MATH.CONTENT.2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.[1] CCSS.MATH.CONTENT.2.MD.B.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. CCSS.MATH.CONTENT.2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?	***Acquisition:***	
	Students will know… 1. A set of 10 or 100 can be thought of as a single entity 2. Numbers can be decomposed based on place value groupings in multiple ways 3. Strategies and models for number combinations to 1000 4. Names and values of coins 5. Vocabulary: thousand, dime, nickel, penny, quarter, cent, dollar, tens, hundreds	*Students will be skilled at…* 1. Counting bundles of 10 and 100 using a variety of manipulatives 2. Adding and subtracting by 10 with numbers 0 to 200 3. Combining coins with a total value of a dollar or less 4. Counting forward and backward by 10 and 100 on and off decade numbers 5. Adding and subtracting multiples of 10 or 100, both on and off the decade 6. Combining bills with a total value of several dollars