EAST ISLIP SCHOOL DISTRICT

A Story of Units
Parent Handbook

Grade 4
Module 1

Grade 4 ‡ Module 1

Place Value, Rounding, and Algorithms for Addition and Subtraction

OVERVIEW

In this 25-day module of Grade 4, students extend their work with whole numbers. They begin with large numbers using familiar units (hundreds and thousands) and develop their understanding of millions by building knowledge of the pattern of *times ten* in the base ten system on the place value chart (**4.NBT.1**). They recognize that each sequence of three digits is read as hundreds, tens, and ones followed by the naming of the corresponding base thousand unit (thousand, million, billion).[1]

The place value chart will be fundamental in Topic A. Building upon their previous knowledge of *bundling*, students learn that 10 hundreds can be composed into 1 thousand and, therefore, 30 hundreds can be composed into 3 thousands because a digit's value is ten times what it would be one place to its right (**4.NBT.1**). Conversely, students learn to recognize that in a number such as 7,777 each 7 has a value that is 10 times the value of its neighbor to the immediate right. 1 thousand can be decomposed into 10 hundreds, therefore 7 thousands can be decomposed into 70 hundreds.

Similarly, multiplying by 10 will shift digits one place to the left, and dividing by 10 will shift digits

thousands, etc.) at times requiring the composition of greater units when adding (10 hundreds are composed into 1 thousand) and decomposition into smaller units when subtracting (1 thousand is decomposed into 10 hundreds) (**4.NBT.4**). Throughout these topics, students will apply their algorithmic knowledge to solve word problems. Also, students use a variable to represent the unknown quantity.

The module culminates with multi-step word problems in Topic F (**4.OA.3**). Tape diagrams are used throughout the topic to model additive compare problems like the one exemplified below. These diagrams facilitate deeper comprehension and serve as a way to support the reasonableness of an answer.

A goat produces 5,212 gallons of milk a year. The cow produces 17,279 gallons a year. How much more milk does the goat need to produce to make the same amount of milk as a cow?

17,279 − 5,212 = _____

The goat needs to produce _____ more gallons of milk a year.

Terminology

New or Recently Introduced Terms

Ten thousands, hundred thousands (as places on the place value chart)

One millions, ten millions, hundred millions (as places on the place value chart)

Algo29 0 Td( )TjEr.c9(tu001 Tw<00 36.9k3[0.6(t)4.2(l)4(y I)3.8(n)0.6(t)4(e)y6 [Al)-llTjTT(p(l)4(O632hS7ID

Digit (a numeral between 0 and 9)

Standard form (a number written in the format: 135)

Expanded form (e.g., 100 + 30 + 5 = 135)

Word form (e.g., one hundred thirty-five)

Tape diagram (bar diagram)

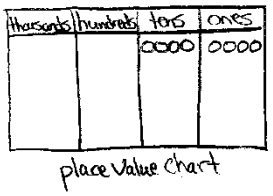
Number line (a line marked with numbers at evenly spaced intervals)

Bundling, making, renaming, changing, exchanging, regrouping, trading (e.g. exchanging 10 ones for 1 ten)

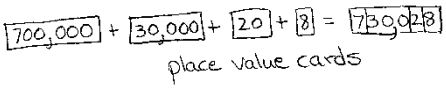
Unbundling, breaking, renaming, changing, regrouping, trading (e.g. exchanging 1 ten for 10 ones)

=, <, > (equal, less than, greater than)

Number sentence (e.g., 4 + 3 = 7)



Suggested Tools and Representations



Place value charts (at least one per student for an insert in their personal board)

Place value cards: one large set per classroom including 7 place values

Number lines (a variety of templates) and a large one for the back wall of the classroom