

Unit #1: Math- Numbers and Operations in Base Ten (Grade 3)

Content Area: **Mathematics**
Course(s): **Math 3**
Time Period: **Marking Period 1**
Length: **Sept. - Nov.**
Status: **Published**

Established Goals/Standards

Please choose the appropriate Goals/Standards from the Standards tab above.

MA.3.OA.D.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MA.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
MA.3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
MA.3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
MA.3.NBT.A.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.

Essential Questions

Please add your Essential Questions by clicking on the Lists tab above.

- How are greater numbers read and written?
- How can sums and differences be estimated?
- How can sums and differences be found mentally?
- How can whole numbers be compared and ordered?
- What are standard procedures for adding and subtracting whole numbers?

Enduring Understanding

Please add your Enduring Understandings by clicking on the Lists tab above.

- Models and standard algorithm for adding and subtracting 3-digit numbers are just an extension to the hundreds place of the models and standard algorithm for adding and subtracting 2-digit numbers. Lining up place value, finding the total or difference in each place, and regrouping or borrowing as needed will lead to the sum or difference.
- Our number system is based on groups of ten. The place-value periods ones, thousands, millions, and so forth, are used to read and write large numbers.
- Place value can be used to compare and order numbers
- There is more than one way for doing addition and subtraction mentally. Each involves changing the

numbers or the expression so the calculation is easy to do mentally. The new problem has the same answer as the original.

- There is more than one way to estimate sums and differences. Techniques can be used to replace numbers with other numbers that are close and easy to compute mentally.

Content

Students will be able to:

- read and write numbers to the hundred thousands place
- name numbers in different ways
- locate numbers on a number line and identify patterns and calculate missing labels
- compare and order 3-digit and 4-digit whole numbers
- make organized lists to represent information given in a problem
- use the Commutative, Associative, and Identity Properties of Addition
- write number addition and subtraction sentences
- solve addition and subtraction problems using mental math
- round 2- digit and 3- digit whole numbers to the nearest ten or hundred
- solve problems by estimating sums and differences
- determine if equations are equal and find the value of an unknown number in an equation
- solve word problems and check answers for reasonableness
- solve 3-digit addition problems using expanded algorithm
- add 3-digit numbers using standard addition algorithm
- add 3 or more 2-digit and/or 3-digit numbers
- draw a picture to solve a problem
- solve 3-digit subtraction problems by breaking them into smaller, easier subtraction problems
- subtract 3-digit numbers using the standard subtraction algorithm
- subtract 3-digit numbers
- solve word problems by writing a number sentence based on a picture they have drawn describing the problem

Vocabulary students will know:

digits

place value

standard form

expanded form

word form

period

compare

order

addends

sum

Commutative (Order) Property of Addition

Associative (Grouping) Property of Addition

Identity (Zero) Property of Addition

difference

fact family

round

estimate

compatible numbers

equation