



MATEMÁTICAS HOY



Grado 2, Módulo 4, Tópico D

2014/2015

Matemáticas de 2do. Grado

Módulo 4: Suma y Resta hasta 200 con Problemas de Palabras hasta 100

Carta sobre Matemáticas para Padres

Este documento se crea para dar a padres y estudiantes una mejor comprensión de los conceptos matemáticos encontrados en el material de Engage New York que se enseña en clase. El Módulo 4 de Engage New York abarca estrategias para sumar y restar hasta 200. Este boletín abordará el Módulo 4, Tópico D.

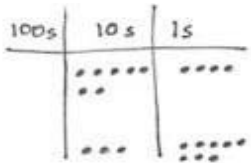
Tópico D: Estrategias para Componer Decenas y Centenas

Palabras a conocer

Cálculo Mental - Cálculos que el alumno hace en la cabeza sin la guía de lápiz o papel, calculadoras u otros elementos de ayuda.

Modelo de Fichas – Cada punto Representa 1 unidad de la columna en que se encuentra.

El valor posicional determina el valor de la posición de cada dígito.
6 decenas = 60
3 unidades = 3



Asociar, desasociar, reagrupar, renombrar, cambiar (componer o descomponer 10 o 100)

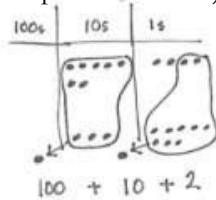


Tabla de Valor Posicional

Tabla Posicional con Encabezados

(usar con números)

centenas	decenas	unidades
7	2	6

Actividades de Conexión del Hogar y la Escuela:

1. Usar elementos de manipulación para representar sumas con números de dos dígitos.
2. Usar dibujos matemáticos para representar sumas de hasta dos dígitos y relacionar los dibujos con un método escrito.

Esfera de Atención – Tópico D

Comparar, Ordenar

Después de trabajar con elementos de manipulación para componer 10 unidades como 1 decena, los estudiantes relacionan este procedimiento con componer 10 decenas como 1 centena. Usan el lenguaje de valor posicional para explicar cuando forman una nueva centena. También relacionan 100 más del Módulo 3 con más (+) 100 y suman 100 en forma mental a un número dado.

Los estudiantes usarán el método de flecha y patrones para resolver mentalmente problemas de suma. Reconocerán que es más fácil sumar cuando se trabaja con el valor posicional de 10.

Ejemplos del Método de Flecha

$$7 + 8 = 7 \xrightarrow{+3} \underline{10} \xrightarrow{+5} \underline{15}$$

$$70 + 80 = 70 \xrightarrow{+30} \underline{100} \xrightarrow{+50} \underline{150}$$

$$67 + 83 = 67 \xrightarrow{+3} \underline{70} \xrightarrow{+30} \underline{100} \xrightarrow{+50} \underline{150}$$

Los estudiantes escribirán números en forma unidades antes de resolver en forma estándar.

Resolver mentalmente.

2 unidades + **8 unidades** = 10 unidades = 1 decena

$$2 + \underline{8} = 10$$

2 decenas + **8 decenas** = 10 decenas = 1 centena

$$20 + \underline{80} = 100$$

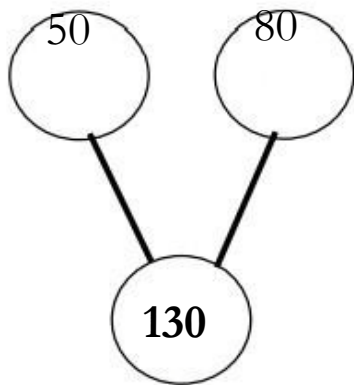
Los estudiantes usarán discos de número o puntos sobre una tabla de valor posicional para representar sumas con la composición de 1 decena y 1 centena.

The image shows three different ways to represent the addition of 74 and 38:

- Base Ten Blocks:** On the left, 74 is represented by 7 tens rods and 4 ones units, and 38 by 3 tens rods and 8 ones units. On the right, the sum is shown with 10 tens rods and 2 ones units, with one ten rod being broken down into 10 ones units.
- Place Value Chart:** A chart with columns for 100s, 10s, and 1s. 74 is represented by 7 dots in the 10s column and 4 in the 1s column. 38 is added to it, resulting in 10 dots in the 10s column and 2 in the 1s column. Below the chart is the equation $100 + 10 + 2$.
- Standard Algorithm:** A vertical addition problem:

$$\begin{array}{r} 74 \\ + 38 \\ \hline 74 \\ + 38 \\ \hline 112 \end{array}$$

Hay 50 niñas y 80 niños en el programa extraescolar. ¿Cuántos alumnos hay en total en el programa extraescolar?



A place value chart with columns for centenas, decenas, and unidades. The number 50 is written in the decenas column and 80 is written in the unidades column. The sum 130 is written below. A blue circle highlights the '1' in the decenas column of the sum, with an arrow pointing to it. Below the chart is the equation $100 + 30 + 0$.

Los estudiantes buscarán parejas de 10 unidades o 10 decenas para resolver, usando la propiedad asociativa para agrupar los números. (Propiedad Asociativa - La manera de agrupar los números para sumar no modifica el resultado)

Maya compró un atuendo por \$29, un bolso para libros por \$15, una carpeta por \$11, y un par de zapatos por \$25. ¿Cuánto dinero gastó Maya? Demuestra tu razonamiento.

Diferentes estrategias que los estudiantes pueden usar:

$$\begin{array}{r} 29 + 15 + 11 + 25 \\ \hline 40 + 40 = \$80 \end{array}$$

o

$$\begin{array}{r} 29 + 11 + 15 + 25 \\ 1 \wedge 10 \quad 5 \wedge 20 \\ \hline 29 + 1 + 10 + 15 + 5 + 20 \\ 30 + 10 + 20 + 20 = \$80 \end{array}$$



MATH TODAY



Grade 2, Module 4, Topic D

2nd Grade Math

Module 4: Addition and Subtraction within 200 with Word Problems to 100

Math Parent Letter

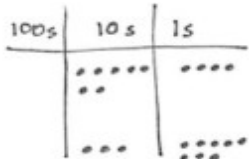
This document is created to give parents and students a better understanding of the math concepts found in the Engage New York material which is taught in the classroom. Module 4 of the Engage New York covers strategies for adding and subtracting within 200. This newsletter will discuss Module 4, Topic D.

Topic D: Strategies for Composing Tens and Hundreds

Words to Know:

Mental Math- Calculations that are done in a student's head without the guidance of pencil and paper, calculators or other aids.

Chip Model- Each dot represents 1 unit of the column that it is in.



Place Value Chart

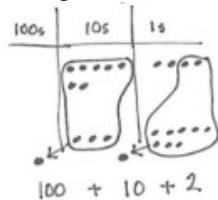
Place Value Chart with Headings
(use with numbers)

hundreds	tens	ones
7	2	6

Place value determines the value of the position of each digit.

6 tens = 60
3 ones = 3

Bundle, unbundle, regroup, rename, change (compose or decompose a 10 or 100)



Home and School Connection Activities:

1. Use manipulatives to represent additions with two digit numbers.
2. Use math drawings to represent additions with up to two digits and relate drawings to a written method.

Focus Area– Topic D

Compare, Order

Having worked with manipulatives to compose 10 ones as 1 ten, students relate this to composing 10 tens as 1 hundred. They use place value language to explain when they make a new hundred. They also relate 100 more from Module 3 to plus (+) 100 and mentally add 100 to given numbers.

Students will use the arrow method and use patterns to solve addition problems mentally. They will recognize that it is easier to add when working with the place value of 10.

Examples of the Arrow Method

$$7 + 8 = 7 \xrightarrow{+3} \underline{10} \xrightarrow{+5} \underline{15}$$

$$70 + 80 = 70 \xrightarrow{+30} \underline{100} \xrightarrow{+50} \underline{150}$$

$$67 + 83 = 67 \xrightarrow{+3} \underline{70} \xrightarrow{+30} \underline{100} \xrightarrow{+50} \underline{150}$$

Students will write numbers in unit form before solving in standard form.

Solve mentally.

$$2 \text{ ones} + \underline{8 \text{ ones}} = 10 \text{ ones} = 1 \text{ ten}$$

$$2 + \underline{8} = 10$$

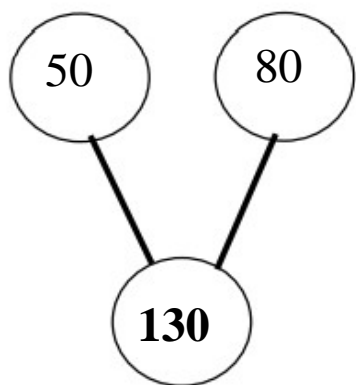
$$2 \text{ tens} + \underline{8 \text{ tens}} = 10 \text{ tens} = 1 \text{ hundred}$$

$$20 + \underline{80} = 100$$

Students use number disks or dots on a place value chart to represent addition with the composition of 1 ten and 1 hundred.

The image shows three different ways to add 74 and 38. On the left, number disks are used: 7 tens and 4 ones disks for 74, and 3 tens and 8 ones disks for 38. An arrow points to a second set of disks where 1 ten and 1 hundred disk have been formed from the ones disks. In the middle, a place value chart with columns for 100s, 10s, and 1s shows dots representing the numbers. An arrow points to a second chart where the dots are grouped into 100s, 10s, and 1s. On the right, the standard algorithm is shown: $74 + 38 = 112$.

There are 50 girls and 80 boys in the after-school program. How many children are in the after-school program?



The image shows the addition of 50 and 80. On the left is the standard algorithm: $50 + 80 = 130$. On the right is a place value chart with columns for hundreds, tens, and ones. The number 50 is represented by 5 dots in the tens column. The number 80 is represented by 8 dots in the tens column. A blue circle highlights the 13 dots in the tens column, with an arrow pointing to a 1 dot in the hundreds column. Below the chart is the equation $100 + 30 + 0$.

Students will have to look for partners of 10 ones or 10 tens to solve, using the associative property to group the numbers. (Associative Property- It doesn't matter how you group the numbers when you add)

Maya bought an outfit for \$29, a book sack for \$15, a binder for \$11, and a pair of shoes for \$25. How much did Melissa spend? Show your work.

Possible strategies students may use:

$$29 + 15 + 11 + 25$$

$$40 + 40 = \$80$$

or

$$29 + 11 + 15 + 25$$

$$1 \wedge 10 \quad 5 \wedge 20$$

$$29 + 1 + 10 + 15 + 5 + 20$$

$$30 + 10 + 20 + 20 = \$80$$