



# MATH NEWS



Grade 2, Module 4, Topic B

December 2013

## 2<sup>nd</sup> 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 Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Module 4 of Eureka Math (Engage New York) covers Addition and Subtraction within 200 with Word Problems to 100. This newsletter will discuss Module 4, Topic B.

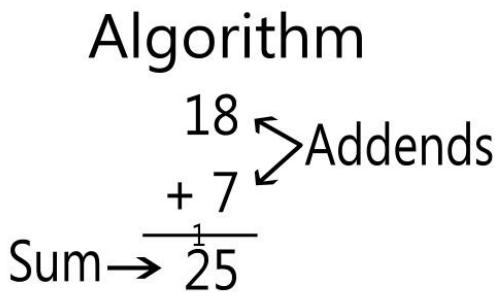
### Topic B. Strategies for Composing a Ten

#### Words to know

- algorithm
- addends

#### Things to remember!!

Be sure to line up the digits in the one's, ten's, and hundred's place when writing an addition problem vertically.



## OBJECTIVE OF TOPIC B

- 1 Use manipulatives to represent the composition of 10 ones as 1 ten with two-digit addends.
- 2 Relate addition using manipulatives to a written vertical method.
- 3 Use math drawings to represent the composition and relate drawings to a written method.
- 4 Use math drawings to represent the composition when adding a two-digit to a three-digit addend.

## Focus Area of Topic B

### Strategies for Composing a Ten

Throughout this module students will be applying the strategies that they learned to add and subtract in Module 4, such as the arrow way, number bonds, and counting on. Students apply their understanding of place value strategies to the addition algorithm, moving from horizontal (number sentence) to vertical notation. Their understanding of vertical addition starts with concrete work with number disks, moving to pictorial place value chart drawings, and ending with abstract calculation.

$$\begin{array}{r} 10\ 10\ 1\ 1\ 1\ 23 \\ 10\ 1\ 1\ 1\ 1\ 1 \\ \hline + 11 \end{array}$$

Consistent use of number disks on a place value chart strengthens students' place value understanding and helps them to model the standard addition algorithm including the composition of a ten. This will also be denoted in the algorithm as shown below.

$$\begin{array}{r} 10\ 10\ 1\ 1\ 1\ 36 \\ 10\ 1\ 1\ 1\ 1\ 1 \\ \hline + 17 \\ \hline 53 \end{array}$$

Finally, students move to a more abstract chip model. As their understanding between their drawings and the algorithm deepens, they move to this more abstract approach in which place value disks are replaced with circles and dots.

$$\begin{array}{r} 121 \quad H \quad T \quad O \\ + 17 \\ \hline 138 \end{array}$$