MATH TODAY

Grade 2, Module 6, Topic B

2nd Grade Math

Module 6: Foundations of Multiplication and division.

Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts taught in the Engage New York material which correlates with the California Common Core Standards. Module 6 of the Engage New York material covers the Foundations of Multiplication and Division. This newsletter will discuss Module 6, Topic B.

Topic B. Arrays and equal groups.

Words to know

- Arrays
- Column
- Row
- Repeated addition
- Equal groups
- Horizontal line
- Vertical line
- Square tile

Things to remember!!!

An array is made of horizontal rows and vertical columns. It can be written in a repeated addition form.

3 + 3 + 3 + 3 = 12 4 + 4 + 4 = 12

Home and School Conection Activities:

Using any number of small objects, challenge your student to sort them into equal groups.

Practice skip-counting by 2s. This will help as students work with odd and even numbers in this module.

Focus Area– Topic B

Arrays and equal groups

In **Lesson 5**, students compose arrays either one row or one column at a time and count to find the total, using the scattered sets from Topic A. For example, they might arrange 6 bears, to compose a 3 by 2 array of 6 bears (shown below). They count to find the total, noticing that each row contains the same number of units. Thus, for 2 rows of 3, a student might observe: "There are 2 equal groups of 3." This is foundational to the spatial structuring students will need to discern a row or column as a single entity, or unit, when working with tiled arrays without gaps and overlaps in Topic C.

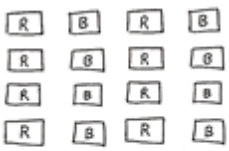
In **Lesson 6**, students decompose one array by both rows and columns.

Note: This Application Problem includes drawing a simple array in preparation for the Concept Development.

Sam is organizing her greeting cards. She has 8 red cards and 8 blue cards. She puts the red ones in 2 columns and the blue ones in 2 columns to make an array.

a. Draw a picture of Sam's greeting cards in the array.

b. Write a statement about Sam's array.



8 + 8 = 16

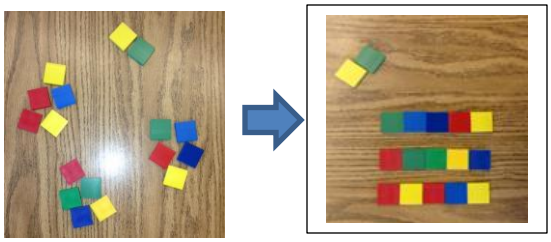
Sam has 16 cards.

In **Lesson 7**, students move to the pictorial as they use math drawings to represent arrays and relate the drawings to repeated addition. For example, students are asked to draw an array with 4 rows of 3 or 3 rows of 4 on their personal white boards then use their marker to draw horizontal lines to see the rows within the array (shown below). When counting rows containing 3 or 4 objects, students apply repeated addition strategies once again, adding from left to right to find the sum (e.g., 4 + 4 + 4 = 12, such that 4 plus 4 equals 8 and 8 plus 4 equals 12). Additionally, when representing arrays with rows of 2 or 5, students may add to find the total, and naturally point out a connection to skip-counting by twos or fives (2.NBT.2); however, the focus is on establishing a strong connection between the array and repeated addition.

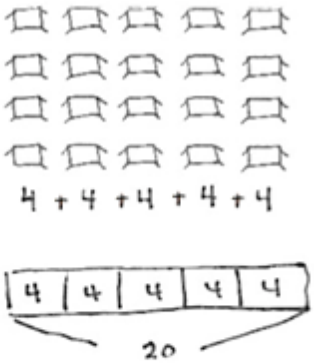
3 + 3 + 3 + 3 = 12

4 + 4 + 4 = 12

In **Lesson 8**, students work with square tiles to create arrays with gaps, composing the arrays from part to whole, either one row or one column at a time. They draw the individual, separated tiles as a foundational step for Topic C where they will be working with square tiles without gaps. As usual, students relate the arrays to repeated addition.



In **Lesson 9**, students apply this work to word problems involving repeated addition (shown at right), interpreting array situations as either rows or columns and using the RDW process, e.g., "**Miss Tam arranges desks into 4 rows of 5. How many desks are in her classroom?** " In addition to drawing objects, students may also represent the situation via more abstract tape diagrams, just as they did in the final lesson of Topic A.



There are 20 desks in Miss Tam's room.