Grade 4 - Unit 3

Our class is beginning Unit 3: Whole Number Concepts, Estimation, and Computation with Multiplication and Division. In this unit, students will deepen their understanding of multiplication and division through a series of investigations based on the context of Muffles’ Truffles shop. In the first investigation Muffles makes truffles and packages them in boxes of ten. Students will be presented with different amounts of truffles and asked to figure out how many boxes are needed and how many leftover truffles there will be. This investigation gives students an opportunity to explore place value. In the following investigations students will use arrays to explore big ideas in multiplication, and will work with open arrays to solve problems. Students will solve problems to understand the relationship between multiplication and division.

Some examples of the work your child will be doing are:

* Students will solve problems by using partial products and benchmark numbers.
* Example: Students will be shown a “string” (list) of multiplication problems and will use mental math to determine the answer.

1. 10 x 10
2. 12 x 10 can be thought of as (10X 10) + (2 x 10) = 100 + 20 = 120
3. 12 x 9 can be thought of as (10 x 9) + (2 x 9 ) = 90 + 18 = 108

OR it can be thought of as 12 x 10 = 120, and 12 x 9 is one less group of 12,

so 120 – 12 = 108.

* Students will connect place value patterns to multiplication and division using benchmark numbers (specifically multiples of 10).
* Example: 5 x 40 = 5 x (4 x 10), therefore (5 x 4) x 10 = 20 x 10
* Students will see the relationship between multiplication and division.
* Example: 5 x 7 = 35 and 35 ÷ 5 = 7
* Students will use the commutative property to find efficient ways to multiply.
* Example: 5 x 7 = 7 x 5
* Students will use the associative property to find efficient ways to multiply.
* Example: (4 x 5) x 5 = 4 x (5 x 5)
* Students will use the distributive property – using partial products - to find efficient ways to multiply.
* Example: 5 x 12 = 5 x (10 + 2), therefore (5 x 10) + (5 x 2) = 50 + 10 = 60
* Students will use partial products and the open array model to solve multiplication problems.
* Example: 4 x 28 = 4 x (20 + 8)

20 8

4

(4 x 20) + (4 x 8) = 80 + 32 = 112

Students will also represent this vertically:

28

X 4

80

32

112

Here is how you can help your child while our class is working on this unit:

* Practice multiplication and division facts for automaticity and fluency
* Reinforce strategies that help your child think flexibly about numbers. Encourage them to think about how to compose, decompose, and group numbers to find efficient ways to solve problems. Encourage your child to break bigger problems into smaller problems.
* Play “Target Tic Tac Toe” when it comes home after it has been taught in the classroom.
* Play Multiplication War, Salute the General, and other multiplication games with your child to. (See Fun Fact Fluency on the Fairfield district website http://fairfieldschools.org/downloads/curriculum/K-6-Math-Fluency-Packet.pdf)

If you have any questions, please contact your child’s teacher or the Math Science Teacher.

For additional information, take a look at the Fairfield Public School Parent Guide at <http://fairfieldpublicschoolsk5math.wikispaces.com/home>