Cartersville Elementary School

Family Math Newsletter

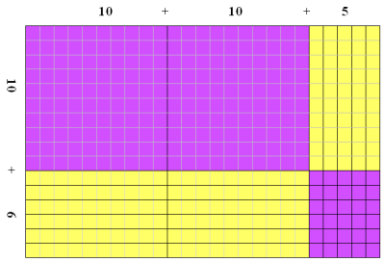
Grade 4, Unit 2 – Using multiplication and division strategies with larger numbers

The Mathematics Involved

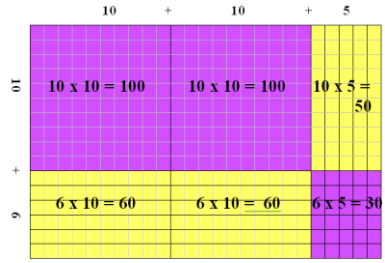
In third grade students used the area model to represent multiplication and division of small numbers. In fourth grade, this work continues with larger numbers. The strategies used in fourth grade allow students to understand and to explain their method.

As student understanding matures, their models will change as shown below. Multiply 25 x 16.

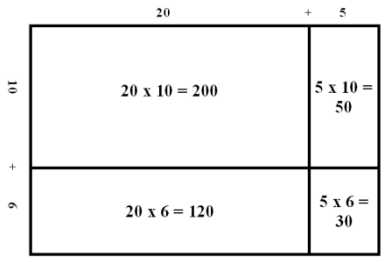
1. Students use base 10 blocks to create an area model.



2. Students represent the model created above and record the product for each part of the model.



3. Students make a rough sketch of the model above and record the product for each section of the model.



4. Students create a frame in which to compute the product.

	20	+	5
10	200		50
+			
6	120		30

In all situations, students add the partial products to find the final product as shown below.

200 + 50 + 120 + 30 = 400

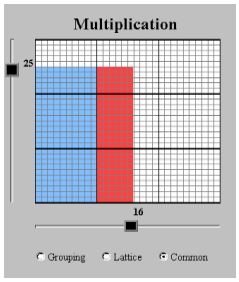
The models shown leads to solving problems using partial products. Partial products are used to solve the two problems below.

25 x 16 =	
20 x 10 =	200
20 x 6 =	120
5 x 10 =	50
5 x 6 =	+30
25 x 16 =	400

127 x 4 =	
100 x 4 =	400
20 x 4 =	80
7 x 4 =	+28
127 x 4 =	508

Resources

- Create area models of multiplication at the National Library of Virtual Manipulatives (NLVM) at: ***http://bit.ly/1cKX9jR***
- Create area models of division problems at NLVM: ***http://bit.ly/17b63VR***
- **Students can take home base 10 blocks – ask their teacher!**



Helping Your Child at Home

Play a game with your child to work with multiplication of two-digit numbers.

Multiplication Match

Materials – Paper, pencil, playing cards (numbers 2 – 9; four of each card)

Object – To get the greatest product of two 2-digit numbers

Directions –

1. Each player draws 4 cards and forms two 2-digit numbers.
2. Players create a four-box frame for each match on their paper and use it to multiply the two numbers.

If my cards were 2, 9, 3, 6, I would make 92 and 63. My frame for this match is shown. I would add my partial products to find my final product of 5,796.

	90	+	2
60	5400		120
+			
3	270		6

3. The player with the larger product wins one point for the round. The winner is the player with the most wins after three rounds.