Math Connections for Parents

Multiplication and Division with O, 1, 6-9 and Multiples of 10

Welcome to Third Grade Module 3! Newark City Schools is using the EngageNY curriculum, which is aligned with Ohio's New Learning Standards. In Module 2, students will continue to build fact fluency with single digit facts in multiplication and division, and will add new factors to their study. Students will also explore multiples of 10, and use place value to see how a known fact like 2 x 3 is similar to 2 x 30.

Important Words and Concepts

- Even, odd numbers
- Multiple: for example, multiples of 10 would be 20, 30, 40, 50, 60, etc.
- Multiplier: the factor representing the number of units
- Product: the answer from multiplying two numbers together
- Factors: numbers that are multiplied together
- Divide: making equal groups from a total to show a specific number (e.g. $15 \div 3 = 5$)
- Quotient: answer when one number is divided by another
- Parentheses: symbols ( ) around a fact or numbers
- Distribute: (e.g. $12 \times 3 = (10 \times 3) + (2 \times 3)$)
- Unknown: the missing factor or quantity in multiplication or division

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KEY STANDARDS

- Represent and solve problems involving multiplication and division, in word problems and unknown whole numbers (e.g. $8 \times ? = 48$)
- Understand properties of multiplication and division
- Multiply and divide within 100
- Solve problems involving four operations (+, -, x, ÷) and identify and explain patterns in arithmetic
- Use place value understanding to perform multi-digit multiplication (with multiples of 10, e.g. 9 x 80, 5 x 60)

Multiplication and Division within 100

Fluency of multiplication and division facts, up to 100 will continue to be stressed in third grade. By the end of grade 3, students are expected to know from memory all products of two one-digit numbers.   They also should see the relationship between multiplication and division (i.e. knowing that 8 X 5 = 40, so you also know $40 \div 5 = 8$). Work with your child at home on mastering these basic math facts.

Newark City Schools

"*Committed to Excellence. One Student at a Time.*"

For more resources, please visit www.newarkcityschools.org → Parent Math Academy K-5

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Graphics and Strategies you may see…

Commutative Property

If you know 5 x 3 = 15, then you also know 3 x 5 = 15

Associative Property

3 x 5 x 2 can be found by this property:

3 x 5 = 15, then 15 x 2 = 30   or

5 x 2 = 10, then 3 x 10 = 30

Distributive Property

8 x 7 can be found with this property:

8 x (5 + 2) = (8 x 5) + (8 x 2)

40 + 16 = 56

2 × 3 ones = 6 ones

2 × 3 = 6
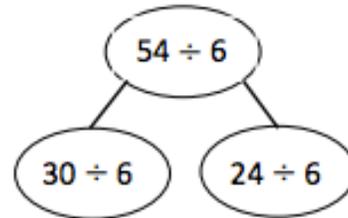
2 × 3 tens = 6 tens

2 × 30 = 60

Students learn to relate similar one-digit facts to similar facts in the **place value** family

For **division**, students use facts they already know to solve harder problems:

54 ÷ 6
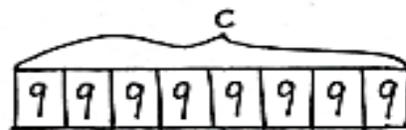
30 ÷ 6   24 ÷ 6

54 ÷ 6 =
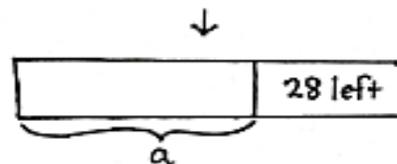
30 ÷ 6 and 24 ÷ 6

5   +   4 =

9

Tape Diagrams can help us model and solve word problems:

Asmir buys 8 boxes of 9 candles for his dad's birthday. After putting some candles on the cake, there are 28 candles left.
How many candles does Asmir use?

c

9 9 9 9 9 9 9 9

28 left

8 × 9 = c
c = 72

72 − 28 = a
a = 44
Asmir used 44 candles.

a

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