

Dear Parents,

We will begin our next unit of study in math soon. The information below will serve as an overview of the unit as you work to support your child at home. If you have any questions, please feel free to contact me. I appreciate your on-going support.

Sincerely,

Your Child's Teacher

Unit Name: Multiplication and Division

Common Core State Standards:

3.OA.2-Interpret whole-number quotients of whole numbers

3.OA.3-Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

3.OA.5-Apply properties of operations as strategies to multiply and divide. *Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)*

3.OA.6 - Understand division as an unknown factor problem. For example, find 32 divided by 8 by finding the number that makes 32 when multiplied by 8.

3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding

3.NBT.3-Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.

Essential Vocabulary:

- Product
- Factor
- Multiples
- Division
- Dividend
- Array
- Equal Groups
- Quotient
- Distributive Property
- Associative Property
- Commutative Property
- Square Number
- Decompose
- Estimation
- Rounding
- Compatible Number
- Front-end Estimation
- Input
- Output

Unit Overview:

The main focus of this unit is to have students become flexible thinkers when dealing with multiplication and division problems. At the end of the unit students should be able to solve multiplication and division problems using different strategies. Students will choose which operation (multiplication or division) to use when solving single step or multi-step problems. Estimation will help students when deciding the reasonableness of their answers. Working with multiples of ten will help students understand the connections between more difficult problems. For example $4 \times 6 = 24$ and $4 \times 60 = 240$. Although students will learn the concepts behind the commutative, associative and distributive properties they will not be required to use the actual terms.

Wake County Public Schools, Unit Overview for Parents

This document should not replace on-going communication between teachers & parents.

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Strategies/Skills:

- Drawing multiplication and division models
- Tables
- Arrays

Video Support:

Video support can be found on The WCPSS Academics YouTube Channel.

- <http://tinyurl.com/WCPSSAcademicsYouTube>
 - [ES 3 Math Whole Number Area as Multiplication](#)
 - [ES 3 Math Whole Number Multiplication Using the Number Line](#)
 - [ES 3 Math Whole Number Partition Model as Division](#)
 - [ES 3 Math Whole Number Multiplication Using Equal Groups](#)

Video support can be found on Learn Zillion.

- <https://learnzillion.com>
- Multiply by Multiples of Ten Using Arrays
 - [multiply-by-multiples-of-10-using-arrays](#)
- Solving Problems using Different Multiplication and Division Strategies
 - [solve-division-problems-by-drawing-pictures](#)
 - [divide-using-a-sharing-model](#)
 - [solve-word-problems-using-the-idea-of-equal-groups](#)
 - [solve-word-problems-about-equal-groups-by-drawing-a-model](#)
 - [solve-equal-groups-problems-using-arrays](#)
 - [find-the-missing-quotient-in-a-division-problem](#)
 - [understand-the-commutative-property-by-naming-arrays](#)
 - [understand-the-commutative-property-of-multiplication-in-word-problems](#)
 - [understand-multiplication-and-division-relationships](#)
 - [commutative-and-associative-properties-to-solve-3-factor-word-problems](#)
 - [interpret-division-as-an-unknown-factor-problem-using-arrays](#)
 - [solving-twostep-word-problems-using-a-model](#)
 - [estimate-solutions-to-twostep-word-problems](#)

Additional Resources:

If you have limited/no internet access, please contact your child's teacher for hard copies of the resources listed in this document.

- NCDPI Unpacking Document: [3rd Grade Unpacking Document](#)