

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 ongoing support. For additional information or electronic access to this letter, please visit [www.wcpss.net/mathhelp](http://www.wcpss.net/mathhelp)

Sincerely,  
Your Child's Teacher

**Unit Name:** Building Mathematical Community & Understanding Equal Groups

**North Carolina Content State Standards:**

**NC.3.OA.1**

For products of whole numbers with two factors up to and including 10:

- Interpret the factors as representing the number of equal groups and the number of objects in each group.
- Illustrate and explain strategies including arrays, repeated addition, decomposing a factor, and applying the commutative and associative properties.

**NC.3.OA.3**

Represent, interpret, and solve one-step problems involving multiplication and division

- Solve multiplication word problems with factors up to and including 10. Represent the problem using arrays, pictures, and/or equations with a symbol for the unknown number to represent the problem.
- Solve division word problems with a divisor and quotient up to and including 10. Represent the problem using arrays, pictures, ~~and/or equations with a symbol for the unknown number to represent the problem.~~ (strikeout means not covered in this unit)

**Supporting Standards within this Unit:**

**NC.3.OA.2**

For whole-number quotients of whole numbers with a one-digit divisor and a one-digit quotient:

- Interpret the divisor and quotient in a division equation as representing the number of equal groups and the number of objects in each group.
- Illustrate and explain strategies including arrays, repeated addition, and decomposing a factor.

**NC.3.OA.9**

- Interpret patterns of multiplication on a hundreds board and/or a multiplication table.

**Math Language:**

- |                  |                 |                                          |                      |
|------------------|-----------------|------------------------------------------|----------------------|
| • Equal Groups   | • Skip Count    | • Repeated Addition                      | • Patterns           |
| • Multiplication | • Factors       | • Multiplication Equation                | • Product            |
| • Array          | • Related Facts | • Commutative Property of Multiplication | • Numerical Patterns |

**Unit Overview:**

This unit will focus on beginning multiplication and division concepts. In third grade students are formally introduced to multiplication as an operation as they interact with real world story

problems. To help students understand the concepts of multiplication and division, they will learn different strategies, including equal groups, skip counting, repeated addition, arrays, and the Commutative Property of Multiplication. Through discussions about multiplication and division, students will gain a better understanding of place value and the base ten system. This unit will serve to develop our classroom mathematics community by establishing routines. Students will have opportunities to engage in discourse (mathematical talk), which includes sharing their thinking, listening to the ideas of others, and asking questions to clarify their own understanding. We will build a respectful community that allows for productive struggle while understanding the concepts of multiplication and division.

Additionally, this unit will help foster a growth mindset in which all students can be mathematicians and learn mathematics at the highest levels. People with a fixed mindset think you are either smart or not. Those with a growth mindset believe you learn and develop abilities by perseverance, dedication, and hard work. We believe in helping students develop a growth mindset and becoming great mathematicians.

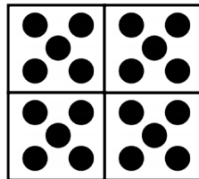
### **Skills/Strategies:**

Students will be able to:

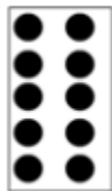
- Write a multiplication equation to represent story problems
- Use pictures, arrays, equal groups, and repeated addition to model story problems
- Identify patterns of multiplication.
- Multiplication symbol ( $\times$ ) means “groups of”
  - o  $4 \times 2$  means 4 groups of 2

Examples of Strategies:

- Equal Groups
  - o Sentence Frame: I have \_\_\_\_ equal groups of \_\_\_\_ counters. There are \_\_\_\_ total counters. I can skip count \_\_\_\_, \_\_\_\_, \_\_\_\_.



- o I have 4 equal groups of 5 counters. There are 20 total counters. I can skip count 5, 10, 15, 20.
- Array
  - o My array shows \_\_\_\_ rows and \_\_\_\_ columns.



- o My array shows 6 rows and 2 columns. I have 6 groups of 2 dots. I'm going to skip count by 2 six times: 2, 4, 6, 8, 10, 12.
- Repeated Addition
  - o I have 4 groups of apples. There are 3 apples in each group.
  - o  $3 + 3 + 3 + 3 = 12$
- Related Fact

- o If I know  $2 \times 4$  is 8, then I know  $4 \times 2$  is 8. This is because of the Commutative Property of Multiplication.

### **Video Support:**

Video support can be found on The WCPSS Academics YouTube Channel (<http://tinyurl.com/WCPSSAcademicsYouTube>).

- [ES 3 Math Whole Number Multiplication Arrays](#)
- [ES 3 Math Whole Number Multiplication Using Equal Groups](#)
- [ES 3 Math Multiply by multiple of 10s with base ten blocks](#)
- [ES 3 Math ID patterns on a multiplication chart](#)
- [ES 3 Math Solve word problems with the idea of equal groups](#)
- [ES 3 Math Understanding the commutative property of multiplication in word problems](#)

### **Additional Resources:**

- [NCDPI Additional Resources](#)

### **Questions to Ask When Helping Your Child with Math Homework**

Keep in mind that homework in elementary schools is designed as practice. If your child is having problems, please let the classroom teacher know. When helping your child with his/her math homework, you don't have to know all the answers! Instead, we encourage you to ask probing questions so your child can work through the challenges independently. Some examples may include the following:

- What is the problem you're working on?
- What do the directions say?
- What do you already know that can help you solve the problem?
- What have you done so far and where are you stuck?
- Where can we find help in your notes?
- Are there manipulatives, pictures, or models that would help?
- Can you explain what you did in class today?
- Did your teacher work examples that you could use?
- Can you go onto another problem & come back to this one later?
- Can you mark this problem so you can ask the teacher for an explanation tomorrow?