

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

| <b>Unit Name:</b>   |   |
|---|---|
| <b>Multiplying Fractions by Whole Numbers</b>   |   |
| <b>Common Core State Standards:</b>   |   |
| <b>4.NF.4</b> Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.  |   |
| a. Understand a fraction $a/b$ as a multiple of $1/b$ .   |   |
| b. Understand a multiple of $a/b$ as a multiple of $1/b$ , and use this understanding to multiply a fraction by a whole number.   |   |
| c. Solve word problems involving multiplication of fraction by a whole number, e.g., by using visual models and equations to represent the problem.   |   |
| <b>Essential Vocabulary:</b>  |   |
| <ul style="list-style-type: none"><li>● Operations</li><li>● Fraction</li><li>● Unit fraction</li><li>● Multiple/multiply</li><li>● Equivalent</li><li>● factor</li></ul>   | <ul style="list-style-type: none"><li>● Reason</li><li>● Denominator</li><li>● Numerator</li><li>● Decomposing</li><li>● Whole number</li></ul> |
| <b>Unit Overview:</b>   |   |
| In this unit, students will apply their understanding of adding fractions and extend their understanding by multiplying fractions. Just as students see repeated addition as multiplication students will develop understanding that all fractions are made up of repeated unit fractions ( $7/5 = 1/5 + 1/5 + 1/5 + 1/5 + 1/5 + 1/5 + 1/5$ or $7/5 = 7 \times 1/5$ ). Students are expected to use and create visual fraction models to multiply fractions by whole numbers. |   |
| <b>Strategies/Skills:</b>   |   |
| Students will build on their understanding of fractions from 3 <sup>rd</sup> grade to make sense of larger fractions when adding, subtracting and equivalence. They are expected to use a variety of models to support their reasoning about numbers.   |   |
| <ul style="list-style-type: none"><li>● Area model</li><li>● Number line</li><li>● Collection/set models</li></ul>  |   |

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### **Video Support:**

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

- <http://tinyurl.com/WCPSSAcademicsYouTube>
  - [Multiply Fraction by Whole Number 1](#)
  - [Multiply Fraction by Whole Number 2](#)

Video support can be found on LearnZillion.

- <http://learnzillion.com>
  - Multiply fractions by whole numbers: using repeated addition  
<https://learnzillion.com/student/lessons/122-multiply-fractions-by-whole-numbers-using-repeated-addition>
  - Multiply fractions by whole numbers: using models  
<https://learnzillion.com/student/lessons/126-multiply-fractions-by-whole-numbers-using-models>
  - Represent a fraction as the sum of unit fractions using number line  
<https://learnzillion.com/student/lessons/2971-represent-a-fraction-as-the-sum-of-unit-fractions-using-number-line>
  - Represent a fraction as the sum of the unit fraction using area model  
<https://learnzillion.com/student/lessons/3026-represent-a-fraction-as-the-sum-of-unit-fractions-using-an-area-model>
  - Estimate products in multiplication of whole numbers and fractions  
<https://learnzillion.com/student/lessons/2927-estimate-products-in-multiplication-of-whole-numbers-and-fractions>
  - Use a number line for multiplication of fractions and whole numbers  
<https://learnzillion.com/student/lessons/2938-use-a-number-line-for-multiplication-of-fractions-and-whole-numbers>
  - Use a fraction model for multiplication of fractions and whole numbers  
<https://learnzillion.com/student/lessons/2939-use-a-fraction-model-for-multiplication-of-fractions-and-whole-numbers>
  - Use repeated addition for multiplication of fractions and whole numbers  
<https://learnzillion.com/student/lessons/3076-use-repeated-addition-for-multiplication-of-fractions-and-whole-numbers>

### **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 Additional Resources](#)

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### **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.

- 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?