Grade 3: Cluster 4
Multiplying and Dividing Numbers

Dear _____

Focus of the Unit

In this unit students represent story problems that involve multiplication and division (equal groups) with a variety of models including arrays, pictures, repeated addition/subtraction, and equations. In the first unit of grade 3 students were considering equal groups. In this next unit these ideas expand to include numbers and symbols to describe both multiplication and division. Students represent multiplication and division story contexts with equations that use a symbol to represent unknown information. Students encounter multiplication contexts in which the group size is unknown. These familiar equal group stories with missing information illustrate the relationship between multiplication and division. See below:

Kaneka has 16 marbles a container.
Her container has 2 sections.
Each section holds 8 marbles.

- If we did not know how many sections there were in the container we would be trying to figure out how many groups of 8 we could make or 16 = ___ x 8 This can also be expressed as a division 16 ÷ 8 = __.
- If we did not know how many marble there were in each section we would be trying to determine the size of the 2 groups given 16 marbles or 16 = 2 x __ This could also be expressed as division 16 ÷ 2 = __.

Building off past mathematics

In grade 2 students explored arrangements of objects into equal rows and columns (arrays) and used fluency within 20 to determine totals. While students were working with equal sized groups and repeatedly adding them, they were not yet multiplying. In this unit we will continue to expand these ideas and solidify students' thinking of these equal groups as a unit as they multiply and divide.

Strategies that students will learn:

When dividing, students can consider the division as a multiplication story with missing information. Students use story contexts to support visualizing the action that happens when we

divide and when we multiply. In addition to visualizing, students are using arrays and physical objects to act out multiplication and division contexts.

Ideas for home support:
Make an adjustment to “story time” before bed and ask your child to tell you a math story! Be specific and ask your child to tell you a division or multiplication story. Developing stories for math equations is a challenging task that develops students in various ways. As students think of stories that accurately depict situations, they:

- Make sense of division and multiplication.
- Translate stories into numbers and words, which deepens understanding.
- Explain their thinking in words as they tell stories.
- Have fun giving mom and dad a little after dinner math snack!

Thank you for serving as partners in your child’s success as a mathematician!

Grade 3 Math Team