

Dear Parents,

We want to make sure that you have an understanding of the mathematics your child will be learning this year. Below you will find the standards we will be learning in Unit Two. Each standard is in bold print and underlined and below it is an explanation with student examples. Your child is not learning math the way we did when we were in school, so hopefully this will assist you when you help your child at home. Please let your teacher know if you have any questions.

**MGSE4.OA.1** Interpret a multiplication equation as a comparison, e.g., interpret  $35 = 5 \times 7$  as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

A *multiplicative comparison* is a situation in which one quantity is multiplied by a specified number to get another quantity (e.g., “ $a$  is  $n$  times as much as  $b$ ”). Students should be able to identify and verbalize which quantity is being multiplied and which number tells how many times.

Students should be given opportunities to write and identify equations and statements for multiplicative comparisons.

Examples:

$5 \times 8 = 40$ : Sally is five years old. Her mom is eight times older. How old is Sally’s Mom?

$5 \times 5 = 25$ : Sally has five times as many pencils as Mary. If Sally has 5 pencils, how many does Mary have?

**MGSE4.OA.2** Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

This standard calls for students to translate comparative situations into equations with an unknown and solve.

Examples:

- **Unknown Product:** A blue scarf costs \$3. A red scarf costs 6 times as much. How much does the red scarf cost? ( $3 \times 6 = p$ )
- **Group Size Unknown:** A book costs \$18. That is 3 times more than a DVD. How much does a DVD cost? ( $18 \div p = 3$  or  $3 \times p = 18$ )
- **Number of Groups Unknown:** A red scarf costs \$18. A blue scarf costs \$6. How many times as much does the red scarf cost compared to the blue scarf? ( $18 \div 6 = p$  or  $6 \times p = 18$ )

**MGSE4.OA.3** Solve multistep word problems posed with whole numbers and having whole-number answers using multiplication. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

**MGSE4.NBT.5** Multiply a whole number of up to four digits by a one-digit whole number, using strategies based on place value and the properties of operations.

Example.  $5 \times 700 = 3,500$      $5 \times 7$  hundreds = 35 hundreds, which is equal to 3,500