**3rd Grade Unit 8 Mathematics**

Dear Parents,

The Common Core State Standards (CCSS), also known in Georgia as the Common Core Georgia Performance Standards (CCGPS), present a balanced approach to mathematics that stresses understanding, fluency, and real world application equally. Know that your child is not learning math the way many of us did in school, so hopefully being more informed about this curriculum will assist you when you help your child at home.

Below you will find the standards from Unit Eight in bold print and underlined. Following each standard is an explanation with student examples. Please contact your child’s teacher if you have any questions.

**MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.**

This standard calls for students to determine elapsed time, including elapsed time embedded within word problems. Students can use number line diagrams to determine elapsed time. On the number line, students should be given the opportunity to determine the intervals and size of jumps on their number line. Students could use pre-determined number lines (intervals every 5 or 15 minutes) or open number lines (intervals determined by students).

Example:

Tonya wakes up at 6:45 a.m. It takes her 5 minutes to shower, 15 minutes to get dressed, and 15 minutes to eat breakfast. What time will she be ready for school?



**MD.2 Measure and estimate liquid volumes and masses of objects using standardunits of grams (g), kilograms (kg), and liters (l).[[1]](#footnote-1) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[[2]](#footnote-2)**

This standard asks for students to reason about the units of mass and liquid volume. Students need multiple opportunities weighing objects and filling containers to help them develop a basic understanding of the size and weight of a liter, a gram, and a kilogram. Milliliters may also be used to show amounts that are less than a liter. Word problems should only be one-step and include the same units.

Example:

Students identify 5 things that weigh about one gram. They record their findings with words and pictures. (Students can repeat this for 5 grams and 10 grams.) This activity helps develop gram benchmarks. One large paperclip weighs about one gram. A box of large paperclips (100 clips) weighs about 100 grams so 10 boxes would weigh one kilogram.

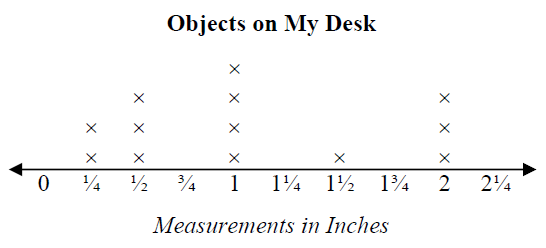
Foundational understandings to help with measurement concepts:

* Understand that larger units can be subdivided into equivalent units (partition).
* Understand that the same unit can be repeated to determine the measure (iteration).
* Understand the relationship between the size of a unit and the number of units needed (compensatory principle).

**MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters.**

Students in second grade measured length in whole units using both metric and standard units. It is important to work with students on how to read and use a standard ruler including details about halves and quarter marks on the ruler. Students should connect their understanding of fractions to measuring to one-half and one-quarter inch. Third graders need many opportunities measuring the length of various objects in their environment to the nearest quarter of an inch. Students can then display their data using a line plot.

Example: Have students select about 10-12 objects of varying lengths (less than about 4 inches) from around the room and in desks. Have students measure these objects to the nearest ½ or ¼ of an inch, and display the data collected on a line plot. How many objects measured ¼? ½? etc.



**MD.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.**

Students develop an understanding of the concept of perimeter by walking around the perimeter of a room, using rubber bands to represent the perimeter of a plane figure on a geoboard, or tracing around a shape on an interactive whiteboard. They find the perimeter of objects; use addition to find perimeters; and recognize the patterns that exist when finding the sum of the lengths and widths of rectangles.

Students use geoboards, tiles, and graph paper to find all the possible rectangles that have a given perimeter (e.g., find the rectangles with a perimeter of 14 cm.) They record all the possibilities using dot or graph paper, compile the possibilities into an organized list or a table, and determine whether they have all the possible rectangles. Given a perimeter and a length or width, students use objects or pictures to find the missing length or width. They justify and communicate their solutions using words, diagrams, pictures, numbers, and an interactive whiteboard.

Example:

Students use geoboards, tiles, graph paper, or technology to find all the possible rectangles with a given area of 12 square units. They record all the possibilities using dot or graph paper, compile the possibilities into a table, and determine whether they have all the possible rectangles. Students then investigate the perimeter of the rectangles with an area of 12.

The patterns in the chart allow the students to identify the factors of 12, connect the results to the commutative property, and discuss the differences in perimeters of rectangles with the same area. This chart can also be used to investigate rectangles with the same perimeter. It is important to include squares as a special rectangle in the investigation.



1. [↑](#footnote-ref-1)
2. [↑](#footnote-ref-2)