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 Three.  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. ☺

**MGSE2.MD.1  Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.**
This standard calls for students to measure the length of objects in both customary (inches and feet) and metric (centimeters and meters). Students should have ample experiences choosing objects, identifying the appropriate tool and unit, and then measuring the object. The teacher should allow students to determine which tools and units to use.

Foundational understandings to help with measure 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).
- Understand the measuring of two-dimensional space (area) using non-standard units.

**MGSE2.MD.2  Measure the length of an object twice, using length units of different measurements; describe how the two measurements relate to the size of the unit chosen. Understand the relative size of units in different systems of measurement. *For example, an inch is longer than a centimeter.* (Students are not expected to convert between systems of measurement.)**
This standard calls for students to measure an object using two units of different lengths.

Example: A student measures the length of their desk and finds that it is 3 feet and 36 inches. Students should explore the idea that the length of the desk is larger in inches than in feet, since inches are smaller units than feet. This concept is referred to as the compensatory principle. Note: this standard does not specify whether the units have to be within the same system.

**MGSE2.MD.3  Estimate lengths using units of inches, feet, centimeters, and meters.**
This standard calls for students to estimate the lengths of objects using inches, feet, centimeters, and meters. Students should make estimates after seeing a benchmark unit, such as the length of one inch, before making their estimate.

Example: Look at your ruler to see how long one inch is. Now, estimate the length of this paper in inches.

**MGSE2.MD.4  Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.**
This standard calls for students to determine the difference in length between two objects. Students should choose objects, identify appropriate tools and units, measure both objects, and then determine the differences in lengths.

**MGSE2.MD.5  Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.**
This standard applies the concept of length to solve addition and subtraction word problems with numbers within 100. Students should use the same unit in these problems.

Example: In P.E. class Kate jumped 14 inches. Mary jumped 23 inches. How much farther did Mary jump than Kate? Write an equation and then solve the problem.

**Student 1**

My equation is 14 + ___ = 23 since I am trying to find out the difference between Kate and Mary's jumps. I used place value blocks and counted out 14. Then I added blocks until I got to 23. I needed to add 9 blocks. Mary jumped 9 more inches than Kate.
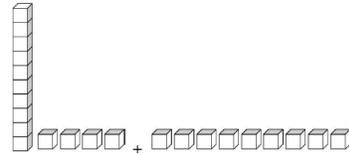
**Student 2**

My equation is 23 – 14 = ___. I drew a number line. I started at 23. I moved back to 14 and counted how far I moved. I moved back 9 spots. Mary jumped 9 more inches than Kate.
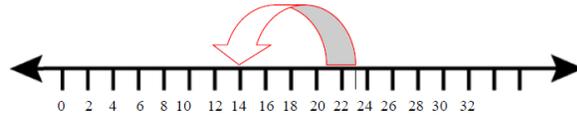
**MGSE2.MD.6  Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.**
This standard calls for students to create number lines using numbers within 100 to solve addition and subtraction problems. Students should create the number line with evenly spaced points corresponding to the numbers.

**MGSE2.MD.7  Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.**
This standard calls for students to tell (orally and in writing) and write time after reading analog and digital clocks. Time should be to 5 minute intervals, and students should also use the terms a.m. and p.m. Teachers should help students make the connection between skip counting by 5s and telling time on an analog clock.

**MGSE2.MD.9  Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.**
This standard calls for students to represent the length of several objects by making a line plot. Students should round their lengths to the nearest whole unit.

Example:  Measure objects in your desk to the nearest inch, display data collected on a line plot. How many objects measured 2 inches?  3 inches?  Which length had the most number of objects?  How do you know?
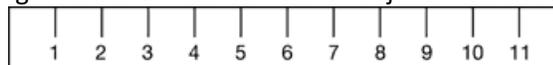
**MGSE.MD.10  Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. This standard continues throughout the second grade year.**
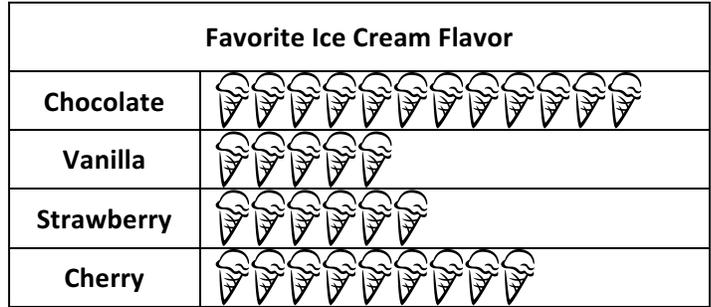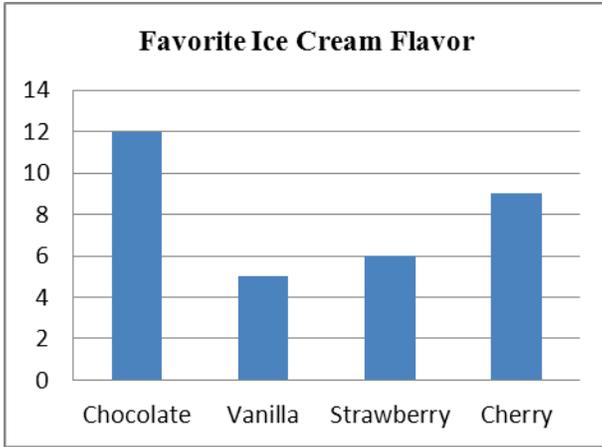
This standard calls for students to work with categorical data by organizing, representing and interpreting data. Students should have experiences posing a question with 4 possible responses and then work with the data that they collect.

Example:  Students pose a question and the 4 possible responses. Which is your favorite flavor of ice cream:  Chocolate, vanilla, strawberry, or cherry?

Students collect their data by using tallies or another way of keeping track.  Students organize their data by totaling each category in a chart or table. Picture and bar graphs are introduced in 2nd Grade.

| Flavor | Number of People |
|---|---|
| Chocolate | 12 |
| Vanilla | 5 |
| Strawberry | 6 |
| Cherry | 9 |

Students display their data using a picture graph or bar graph using a single unit scale.

**Favorite Ice Cream Flavor**

| Favorite Ice Cream Flavor | |
|---|---|
| Chocolate | 🍦🍦🍦🍦🍦🍦🍦🍦🍦🍦🍦🍦 |
| Vanilla | 🍦🍦🍦🍦🍦 |
| Strawberry | 🍦🍦🍦🍦🍦🍦 |
| Cherry | 🍦🍦🍦🍦🍦🍦🍦🍦🍦 |

🍦 represents 1 student

*(Adapted from Henry County Schools)*