Fifth Grade
Trailblazers Unit 4

"Division and Data"

**North Carolina Standard Course of Study**
**http://www.ncpublicschools.org/curriculum/mathematics/scos/2003/k-8/27grade5**

**MTB Correlation to NCSCOS**
**http://www.kendallhunt.com/uploads/2/CORR-NC-MTB2.pdf**

**Unit Activities**

- Students find areas of figures drawn on *Centimeter Grid Paper*. They discover strategies for finding the area of shapes with straight sides and for estimating the area of shapes with curved sides.
- Students model division problems with base-ten pieces. Estimation is stressed.
- Students solve division problems using a paper-and-pencil method called the forgiving method.
- Students learn to find 10% of a number and use 10% as a standard for error analysis.
- Students review methods for finding the mean value for a set of data. They compare mean and median.
- Students look for the relationship between the number of drops on a paper towel and the area of the spot they create. They use the data to solve problems involving ratios.
- Through reading, students are introduced to George Washington Carver as he sets up his lab at Tuskegee Institute. He and his students improvise lab equipment to measure length, area, volume, time and mass.
- Students solve multi-step word problems.
- Students take a short-item test that assesses skills and concepts studied in the first four units.

**Unit Vocabulary**

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| area | length | square centimeter | width | dividend |
| quotient | divisor | remainder | forgiving division method | ten percent (10%) |
| average | mean | numerical expression | best-fit line | fixed variables |
| manipulated variable | responding variable | variable | standard unit | graduated cylinder |

Fifth grade glossary link: http://www.kendallhut.com/uploads/2/MTB_Gr5_Glossary.pdf

**Unit Manipulatives/Supplies**

| | | | | |
|---|---|---|---|---|
| ruler | scissors | glue | calculator | base-ten pieces |
| 80 connecting cubes or square-inch tiles | eyedropper | paper towels (4/group) | pattern blocks | |

**Unit Assessment Indicators**

- Can students measure area?
- Can students find the median and mean of a data set?
- Can students divide with 1-digit divisors using paper and pencil?
- Can students estimate quotients?
- Can students interpret remainders?
- Can students divide numbers with ending zeros mentally>
- Can students draw and interpret best-fit lines?
- Can students collect, organize, graph, and analyze data?
- Do students demonstrate fluency with the multiplication and division facts for the square numbers?

**Unit Literature**

*George Washington Carver* by Gene Adair
*George Washington Carver: Botanist* by Andy Carter and Carol Saller

**Unit Software**

*The Factory Deluxe* promotes spatial reasoning and practices finding area.
*Graph Master* allows student to collect data and create their own graphs.
*How the West Was One + Three X Four* provides practice in the order of operations.
*Ice Cream Truck* develops problem solving, money skills, and arithmetic operations.
*Math Mysteries: Advanced Whole Numbers* is a series of structured multi-step word problems dealing with whole numbers.
*Mighty Math Calculating Crew* poses short answer questions about number operations.
*Mighty Math Number Heroes* poses short answer questions about fractions, number operations, polygons, and probability.

**Websites**

Math Playground – Finding area and perimeter
http://www.mathplayground.com/InteractiveGeometry.html

Gamequarium Division Games
http://www.gamequarium.com/division.html

Division by 1-digit numbers
http://www.aaaknow.com/g5_49bx1.htm

Division with a remainder
http://www.aaaknow.com/g5_41_x2.htm

Rainforest Math – Click on Level E and choose "area" located on the third row of the menu.
http://www.rainforestmaths.com/

**You Can Help Your Child**

- Encourage your child to show you how he or she is learning division.
- Talk about measuring area in your home. For example, you might discuss the number of square feet in different rooms in your home.
- Ask your child to tell you more about the lab *Spreading Out.*
- Ask your child to explain how to divide using the forgiving method
- Ask your child to find the area of their bedroom in square inches.
- Help your child study the multiplication and division facts at home. In this unit, we work with the square numbers (2 X 2, 3 X 3, 4 X 4, etc.). Use the *Triangle Flash Cards* to help review the facts.