Kansas College and Career Ready Standards

Standards Guide for Parents
5th Grade

Mathematics

This guide provides a summary of what your child will learn by the end of fifth grade in mathematics in the state of Kansas. This guide will also give some examples of the mathematics in fifth grade so you can assist your child. To view the standards in their entirety, please go to: http://community.ksde.org/Default.aspx?tabid=5276 .

The Mathematics Standards are divided into two sections. The first section is the same for every grade level from Prekindergarten to 12th Grade and is described below. They address *how* mathematics is to be taught and *how* the students are to engage with the mathematics. The second section outlines the content to be taught at each grade level. They are *what* students will learn.

Standards for Mathematical Practice   5th

1. Making sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning.

Your child will be taught skills that will encourage critical thinking and problem solving. Some examples include:

➢ Students in the 5th grade are making sense of the mathematics involving measurement using fractions and decimals.
➢ Teachers will expect students to demonstrate and explain the relationship between multiplication and volume.
➢ Students are expected to use various methods and tools in order to solve problems. They are expected to be able to explain why.
➢ Students should use appropriate terminology when referring to expressions, fractions, geometric figures, and coordinate grids.
➢ Students use properties of operations as strategies to add, subtract, multiply and divide with whole numbers, fractions, and decimals.
➢ Students will use many visual models to explain the patterns they see in the equivalence of fractions and/or decimals. They will also use these models to further explore computation of fractions and decimals and the links to whole number operations.

Content Standards for Mathematics   5th

The specific skills and content your child will be taught come from the content standards. The domains are listed with <u>some</u> examples of the mathematics at the 5th grade level.

Operations and Algebraic Thinking:
➢ Use parentheses, brackets and braces in equations and understand the impact of them.
➢ Generate numerical patterns following given rules and plot the coordinates on a grid.

Number and Operations in Base Ten:
➢ Begin working on powers of 10 and using that notation.
➢ Use the properties of operations and place value understanding to fluently compute.

Number and Operations – Fractions
➢ Use equivalent fractions as a strategy to add and subtract fractions.
➢ Solve real world problems involving multiplication of fractions and mixed numbers.
➢ Begin division with fractions but the divisor or the dividend is a whole number.

Measurement and Data:
➢ Relate volume to the operations of multiplication and addition and solve real world problems involving volume.
➢ Convert within a measurement system and solve real world problems.
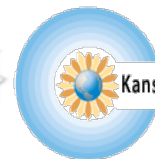
Geometry:
➢ Classify two-dimensional shapes based on their properties and attributes.

Kansas Additions:
Algebraic Patterning – look for patterns in shapes and numbers and be able to describe them.
Probability and Statistics – examine information and create line plots, and bar and circle graphs.

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5th grade students are expected to perform all operations with decimals up to the hundredths place. You can help you child more fully develop these skills by asking them doing some of the following activities:

- ❖ Ask your child to calculate the total bill at a restaurant. Then ask for your child to round to the nearest dollar amount. Ask how they know they are correct.
- ❖ Once you have the total for the bill. Ask your child how much each person would need to pay if we were to equally divide the bill among all the people at the table.

Target Number

5th grade students are expected to be able to use parentheses, brackets and braces appropriately. Play the Target Number game and then have your child write the equation that made their answer correct.

- ✓ Get a deck of cards and draw out two. This will be the target number. (Example: 43)
- ✓ Now draw 5 cards from the deck and lay them face up. (8, 3, 5, 2, 5)
- ✓ Try to use as many cards as you can to get to the target number.
- ✓ Once you have the equation, then you will need to write it down using the parentheses, brackets and braces correctly.
- ✓ Example: $3 + \{[8 \times (5 + 5)] \div 2\}$. Do the parentheses first, $3 + \{[8 \times 10] \div 2\}$, then the brackets, $3 + \{80 \div 2\}$, and finally $3 + 40 = 43$. Used all the cards so I get 5 pts.

Converting Measures within the Same System

Students are to convert measurements within the same system. This is a real life skill in cooking and construction. Try these activities:

- ❖ In real life we frequently convert measures into larger or smaller units. When you are using a recipe that needs to be halved or doubled, ask your child to help you out with the conversions. Have discussions about what makes it easier to convert the measurements.
- ❖ When working on a project that involves measurement with a ruler or tape measure have your child measure all the people in the house in inches and then convert that to feet and inches. Discuss what needed to happen in order to make it work.

Volume

5th graders will be working with volume. They will be expected to see the relationship between area and volume. This understanding helps them build the formula for volume.
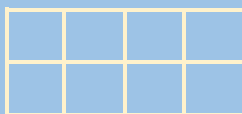
This shape has an **area** of 8 square units. If I decide this is the bottom of a box and I put cubes on each square, I now have a 3-D shape. What would be the cubic volume of this shape? 8 cubic units. Why? What if I put on another layer of 8 cubes? What is my volume now?