

Math Curriculum

(revised 2015-2016 school year)

I. Introduction

- A. Foundational statements key to all curriculum strands include the school's:
1. philosophy of education, as articulated in the CSI publication *The Beginning of Wisdom*;
 2. statement of purpose;
 3. principles of instruction;
 4. mission statement.

B. The purpose of teaching math at Sioux Center Christian School is to develop in each student an understanding of and appreciation for the mathematical structure in God's creation, and to use that knowledge and appreciation in ways that help restore creation and promote justice.

C. The math curriculum should be integrated into other subject areas whenever possible for it to be the most beneficial to students.

II. Biblical Truths Related to Math

- A. All of creation is a structured unity held together by God's unchangeable laws.
- B. Math is a gift from God that allows us to better understand creation and glorify God.
- C. As stewards of the gift of math, we must learn to use math skills responsibly, with discernment, as God's agents of reconciliation.

III. Philosophy

From the beginning, Scripture reveals that God created all things perfectly. All creation is a structured unity held together by God, who has embedded unchangeable laws into His creation. We do not have to worry about placing order into reality; it is already there. We search out, experience, and respond to this created order.

However, because of the Fall, the world is no longer in perfect harmony as God intended. While sin affects all things, God does not allow human disobedience to turn His creation into chaos. He did not abandon creation, but redeemed it. As caretakers of God's creation, our task is to restore a correct perspective on creation through the lens of God's Word.

Math is a special science that explores the patterns and characteristics of created order. It deals with two distinct aspects of God's creation and structure: the numerical and the spatial. Our task is to guide students toward an understanding of God's creation and their role in it. Students must have knowledge (facts), understanding (application), and discernment. Math concepts should be systematically developed on a level consistent with the student's capabilities and readiness. As students gain knowledge, they develop a greater understanding of the characteristics and connections between math and their world. Math instruction should lead students to recognize math as an integral part of the structure of God's creation. Our ultimate goal is to direct students to a responsible understanding of their participation and task in God's created order.

IV. Math Standards for TK-8 Students

Sioux Center Christian School aligns to the Iowa Core math standards.

These standards inform our content and student expectations in each grade level and are located in our scope and sequence.

As a school, SCCS adopts the following overarching anchor standards for math. These standards guide our instruction in all applicable grade levels.

1. Students will count in sequence and understand cardinality, which is a skill that each person uses every day throughout their lives. Understanding numbers reveals the beauty and order of God's creation. It is the groundwork upon which addition, subtraction, and other mathematical operations are built.
(counting and cardinality standard)
2. Students will perform mathematical operations and use algebraic thinking to solve problems and foster an attitude of deeper thinking to understand God's consistency and dependability.
(operations and algebraic thinking standard)
3. Students will use whole numbers, fractions, and their related operations to gather information, analyze, and develop new insights about God's

creation.

(numbers and operations standard)

4. Students will use measurement to explore their world, gathering, analyzing, and interpreting data in order to better serve God and others.
(measurement and data standard)
5. Students will be able to recognize shapes, manipulate those shapes, and define their various attributes, enabling them to better understand and enjoy the beauty and order of God's creation.
(geometry standard)
6. Students will be able to identify the relationships between numbers and understand what those numbers represent, comparing various things to better appreciate attributes of God's creation.
(ratios and proportional relationships standard)
7. Students will be able to apply prior basic knowledge of math facts to solve multi-level math questions using both rational and irrational numbers. The students will use basic knowledge of the number system to make decisions that honor God.
(the number system standard)
8. Students will be able to read, write, and use expressions and equations. They will use what they know about expressions and equations in God's world to help them solve known and unknown variables.
(expressions and equations standard)
9. Students will understand the relationships between two quantitative variables. Students need to be able to discern if there is a positive, negative, or neutral relationship between the data. Understanding and interpreting graphs and tables statistically is an essential skill, helping Christians to make wise and stewardly choices in life.
(statistics and probability standard)
10. Students will understand the basic concepts of input and output. They need to be able to analyze whether it provides a linear or non-linear function graph and understand how the slope of a function explains the relationship between input and output of data. All of life is about giving (input) and receiving (output) to various degrees. Christians are busy with measuring giving versus receiving, which sometimes, but not always, can be measured mathematically. The results of these findings can help us make wise decisions concerning the future.
(functions standard)

Aligning to the Iowa Core for math also means focusing on these key concepts and standards for mathematical practice:

The key concepts for math instruction include:

1. Counting and Cardinality (K)
2. Operations and Algebraic Thinking (K-5)
3. Number and Operations
 - in Base 10 (K-5)
 - Fractions (3-5)
4. Measurement and Data (K-5)
5. Geometry (K-8)
6. Ratios and Proportional Relationships (6-7)
7. The Number System (6-8)
8. Expressions and Equations (6-8)
9. Statistics and Probability (6-8)
10. Functions (8)

Standards for Mathematical Practice:

1. Make 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.

