

Sanborn Regional School District
Middle School Course Syllabus and Competencies

Course Title: **Integrated Math 1**

Grade: **6**

Course Description:

This is the first course of a three-part program in middle school integrated mathematics called Mathscope. In this standards-based program, students will spiral through topics in number sense, data and statistics, algebra, and geometry. Students will be expected to think mathematically, to write and reflect on what they are learning in the classroom, and to use acquired math skills to interpret situations and solve real-world problems.

Text/Major Resources:

MathScope: Seeing and Thinking Mathematically, Course 1, by Glencoe (2005)

Texas Instruments TI-73 Graphing Calculator Technology

Manipulatives

Math Lab

Other handouts and resources as provided by the teacher

Core Course Competencies:

1. Students will understand how to use data to answer questions about the world around them
 - Conduct surveys to collect and analyze data
 - Make and interpret frequency graphs, single and double bar graphs, and broken-line graphs
 - Find and use mean, median, mode, and range for a given data set.
 - Compare data to make recommendations
 - Use the results of sampling to make a hypothesis
 - Describe probabilities
 - Calculate theoretical and experimental probabilities
2. Students will understand how our current number system is like ancient number systems
 - Identify and use different properties of our number system
 - Compare place value in our number system to that on the abacus
 - Explore number systems that use powers of numbers other than 10
3. Students will understand how to compute with numbers that are not whole numbers
 - Understand the basic properties and operations of whole numbers
 - Identify factors, multiples, and prime numbers within the whole number set
 - Understand how fractional parts relate to each other and the whole
 - Add and subtract with fractions
 - Multiply and divide with fractions
4. Students will make connections between math and the real world
 - Use different ways to represent three-dimensional structures
 - Understand the properties of three dimensional shapes
 - Use two-dimensional shapes to make three-dimensional structures
5. Students will use their own number sense to solve fraction, decimal, percent, and integer problems
 - Understand how money relates to our decimal system
 - Use computational strategies for addition, subtraction, multiplication, and division of decimals
 - Calculate percents to interpret data
 - Understand how negative numbers complete the integer set
6. Students will understand how math relates to patterns
 - Identify patterns in different places (drawing, numbers, stories, etc)
 - Begin to use the language of algebra by giving the rules for patterns using variables and expressions
 - Plot points in a coordinate grid and turn number rules into graphs

Essential Questions:

- How can we use data to answer questions about the world around us?
- How is our current number system like an ancient number system?
- How can you compute with numbers that are not whole numbers?
- How can you describe houses from around the world?
- How can you use your own number sense to solve fraction, decimal, percent, and integer problems?
- How does math relate to patterns?
- What problem solving strategies could you use to answer an open response question?

Instructional Practices

Lecture, Demonstrations, Research, Independent Learner, Reading, Writing, Education By Design, Essential Questions, Class Discussions, Cooperative Learning, Investigations, Constructed Response Questions, Test-Taking Strategies, Differentiated Instruction, and Other Practices as Needed

Assessment Strategies

Do Nows, Class Participation, Portfolios/Notebooks, Quizzes & Tests, Presentations, Projects & Labs, Homework & Classwork, Midterm & Final Exam, NWEA Map Goal Area Assessments, NECAP, Reading and Writing Assignments, Writing Portfolios & Journals, and Other Strategies as Needed.

SRMS

Mission and Expectations

The faculty and staff of the Sanborn Regional Middle School have a commitment to recognize and nurture each student's abilities within the context of the educational setting. Through reflection, reinforcement and challenge we anchor within the student a sense of his/her ability, success, and dignity.

We believe this goal is best served when a holistic approach is used.

Students

Recognize student ability
Nurture student ability
Help students recognize their strengths and needs
Help students recognize their success
Help students behave with dignity

Classroom Lessons and Activities

Ask students to reflect on their learning
Create experiences that reinforce skills
Offer opportunities for students to be challenged

Classroom Climate

Create a safe classroom climate
Develop clear and coherent expectations
Provide a consistent system for expectations, behavior, and assessment

Communications

Develop partnerships with community
Develop partnerships with parents

GRADEQUICK: Parents and students may access grades and course information on EDLINE:

<https://www.edline.net/index.page>

All student grades are updated every two weeks.