

SWALLOW SCHOOL DISTRICT CURRICULUM GUIDE

Curriculum Area: Math

Course Length: Full Year

Grade: 6th

Date Last Approved: September 2023

Stage 1: Desired Results

Course Description and Purpose:

In Grade 6, instructional time focuses on four critical areas: connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; writing, interpreting, and using expressions and equations; and developing understanding of statistical thinking.

Enduring Understanding(s):

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.

Essential Question(s):

1. How do you use ratio and rate reasoning to solve real world and mathematical problems?
2. How do you understand the relationship between multiplication concepts as they relate to the division of fractions?
3. How can you solve multi step arithmetic problems using whole numbers, fractions, mixed numbers, and decimals?
4. What is the relationship between positive and negative numbers and their opposites, and how can we represent rational numbers and ordered pairs using visual models?
5. How do you write and solve equations that correspond to given situations or represent a given mathematical relationship?
6. How can you solve and graph inequalities?
7. How can we use variables to represent two quantities that are dependent upon each other?
8. How can you use surface area, area, perimeter and volume in real world situations?
9. How can we use data to interpret events in the physical world and in our society?

Learning Targets:

1. Ratios and Proportional Relationships
2. The Number System
3. Expressions and Equations
4. Geometry
5. Statistics and Probability
6. Problem Solving - student uses the mathematical practices in solving problems.

Stage 2: Learning Plan

I. Numerical Expressions and Factors

- A. Identify factors of a number.
- B. Explain order of operations.
- C. Solve a problem using factors.
- D. Model different types of multiples of numbers.
- E. Solve problems and build equations using powers and exponents.

Standards: Wisconsin Math Standards: M.6.NS.A, M.6.NS.B, M.6.NS.C

Learning Targets Addressed:

Target 2

Target 3

Target 6

Key Unit Resources

- Big Ideas
- IXL

Assessment Map:

Type	Level	Assessment Detail
Practice	Knowledge	<ul style="list-style-type: none">• Daily classwork & activities
Formative	Skill/Product	<ul style="list-style-type: none">• Formative Checks• Homework
Summative	Product/Reasoning	<ul style="list-style-type: none">• Chapter Quiz and Test

II. Fractions and decimals

- A. Identify a fraction and a decimal.
- B. Add, subtract, multiply, and divide fractions and decimals.
- C. Evaluate expressions involving fractions and decimals using the order of operations.
- D. Solve a problem using fractions and decimals.

Standards: Wisconsin Math Standards: M.6.NS.A, M.6.NS.B, M.6.NS.C

Learning Targets Addressed:

Target 2

Target 3

Target 6

Key Unit Resources

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III. Ratios and Rates

- A. Write and interpret ratios.
- B. Name ratios equivalent to a given ratio.
- C. Solve a problem using ratios.
- D. Convert units of measure using ratio reasoning.

Standards: Wisconsin Math Standards: M.6.RP.A

Learning Targets Addressed:

- Target 1
- Target 6

Key Unit Resources

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IV. Percents

- A. Write fractions and decimals as percents.
- B. Write percents as fractions and as decimals.
- C. Order fractions, decimals, and percents.
- D. Solve percent problems.

Standards: Wisconsin Math Standards: M.6.RP.A, M.6.NS.A, M.6.NS.B, M.6.NS.C

Learning Targets Addressed:

- Target 1
- Target 2
- Target 6

Key Unit Resources

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V. Algebraic Expressions and Properties

- A. Identify parts of an algebraic expression.
- B. Write algebraic expressions.
- C. Solve a problem using algebraic expressions.
- D. Interpret algebraic expressions in real-life problems.

Standards: Wisconsin Math Standards: M.6.EE.A, M.6.EE.B, M.6.EE.C

Learning Targets Addressed:

Target 3

Target 6

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VI. Equations

- A. Identify key words and phrases.
- B. Write word sentences as equations.
- C. Solve equations using properties of equality.
- D. Model different types of equations to solve real-life problems.

Standards: Wisconsin Math Standards: M.6.EE.A, M.6.EE.B, M.6.EE.C

Learning Targets Addressed:

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Target 6

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VII. Area, Surface Area, and Volume

- A. Explain how to find areas of figures.
- B. Explain how to find surface areas and volumes of solids.
- C. Describe and draw three-dimensional figures.
- D. Apply units of measurement to solve real-life problems.

Standards: Wisconsin Math Standards: M.6.G.A

Learning Targets Addressed:

- Target 4
- Target 6

Key Unit Resources

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VIII. Integers, Number Lines, and the Coordinate Plane

- A. Write integers to represent quantities.
- B. Describe quantities.
- C. Order and compare quantities.
- D. Apply integers to model real-life problems.

Standards: Wisconsin Math Standards: M.6.EE.A, M.6.EE.B, M.6.EE.C, M.6.NS.A, M.6.NS.B, M.6.NS.C

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IX. Statistical Measures

- A. Construct a data set.
- B. Explain how a data set can be interpreted.
- C. Find and interpret the measures of center and the measures of variation for a data set.
- D. Compare the measures of center and the measures of variation for data sets.

Standards: Wisconsin Math Standards: M.6.SP.A**Learning Targets Addressed:**

Target 5

Target 6

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X. Data Displays

- A. Construct a data display.
- B. Interpret data in a data display.
- C. Choose the appropriate measures of center and variation to describe a data set.
- D. Compare data sets.

Standards: Wisconsin Math Standards: M.6.SP.B**Learning Targets Addressed:**

Target 5

Target 6

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XI. Adding and Subtracting Rational Numbers

- A. Represent rational numbers on a number line.
- B. Explain the rules for adding and subtracting integers using absolute value.
- C. Apply addition and subtraction with rational numbers to model real-life problems.
- D. Solve problems involving addition and subtraction of rational numbers.

Standards: Wisconsin Math Standards: Wisconsin Math Standards: M.6.EE.A, M.6.EE.B, M.6.EE.C, M.6.NS.A, M.6.NS.B, M.6.NS.C

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XII. Multiplying and Dividing Rational Numbers

- A. Explain the rules for multiplying integers.
- B. Explain the rules for dividing integers.
- C. Evaluate expressions involving rational numbers.
- D. Solve real-life problems involving multiplication and division of rational numbers.

Standards: Wisconsin Math Standards: M.6.EE.A, M.6.EE.B, M.6.EE.C, M.6.NS.A, M.6.NS.B, M.6.NS.C

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XIII. Expressions

- A. Identify parts of an algebraic expression.
- B. Write algebraic expressions.
- C. Solve problems using algebraic expressions.
- D. Interpret algebraic expressions in real-life problems.

Standards: Wisconsin Math Standards: M.6.EE.A, M.6.EE.B, M.6.EE.C,**Learning Targets Addressed:**

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XIV. Ratios and Proportions

- A. Write and interpret ratios.
- B. Describe ratio relationships and proportional relationships.
- C. Represent equivalent ratios.
- D. Model ratio relationships and proportional relationships to solve real-life problems.

Standards: Wisconsin Math Standards: M.6.RP.A**Learning Targets Addressed:**

Target 1

Target 6

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XV. Percents

A. Rewrite fractions, decimals, and percents.

B. Compare and order fractions, decimals, and percents.

C. Use the percent proportion or percent equation to find a percent, a part, or a whole.

D. Apply percents to solve real-life problems.

Standards: Wisconsin Math Standards: M.6.RP.A, M.6.EE.A, M.6.EE.B, M.6.EE.C, M.6.NS.A, M.6.NS.B, M.6.NS.C

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