

Minnesota Academic Standards Mathematics K-5

K *Number & Operation*

- Understand the relationship between quantities and whole numbers up to 31.
- Use objects and pictures to represent situations involving combining and separating.

Algebra

- Recognize, create, complete and extend patterns.

Geometry & Measurement

- Recognize and sort basic two- and three-dimensional shapes; use them to model real-world objects.
- Compare and order objects according to locations and measurable attributes.

Gr. 1 *Number & Operation*

- Count, compare and represent whole numbers up to 120, with an emphasis on groups of tens and ones.
- Use a variety of models and strategies to solve addition and subtraction problems in real-world and mathematical contexts.

Algebra

- Recognize and create patterns; use rules to describe patterns.
- Use number sentences involving addition and subtraction basic facts to represent and solve real-world and mathematical problems; create real-world situations corresponding to number sentences.

Geometry & Measurement

- Describe characteristics of basic shapes. Use basic shapes to compose and decompose other objects in various contexts.
- Use basic concepts of measurement in real-world and mathematical situations involving length, time and money.

Gr. 2 *Number & Operation*

- Compare and represent whole numbers up to 1,000 with an emphasis on place value and equality.
- Demonstrate mastery of addition and subtraction basic facts; add and subtract one- and two-digit numbers in real-world and mathematical problems.

Algebra

- Recognize, create, describe and use patterns and rules to solve real-world and mathematical problems.
- Use number sentences involving addition, subtraction and unknowns to represent and solve real-world and mathematical problems; create real-world situations corresponding to number sentences.

Geometry

- Understand length as a measurable attribute; use tools to measure length.
- Use time and money in real-world and mathematical situations.

Gr. 3 Number & Operation

- Compare and represent whole numbers up to 100,000 with an emphasis on place value and equality.
- Add and subtract multi-digit whole numbers; represent multiplication and division in various ways; solve real-world and mathematical problems using arithmetic.
- Understand meanings and uses of fractions in real-world and mathematical situations.

Algebra

- Use single-operation input-output rules to represent patterns and relationships and to solve real-world and mathematical problems.
- Use number sentences involving multiplication and division basic facts and unknowns to represent and solve real-world and mathematical problems; create real-world situation corresponding to number sentences.

Geometry & Measurement

- Use geometric attributes to describe and create shapes in various contexts.
- Understand perimeter as a measurable attribute of real-world and mathematical objects. Use various tools to measure distances.
- Use time, money and temperature to solve real-world and mathematical problems.

Data Analysis

- Collect, organize, display and interpret data. Use labels and a variety of scales and units in displays.

Gr. 4 Number and Operation

- Demonstrate mastery of multiplication and division basic facts; multiply multi-digit numbers; solve real-world and mathematical problems using arithmetic.
- Represent and compare fractions and decimals in real-world and mathematical situations; use place value to understand how decimals represent quantities.

Algebra

- Use input-output rules, tables and charts to represent patterns and relationships and to solve real-world and mathematical problems.
- Use number sentences involving multiplication, division and unknowns to represent and solve real-world and mathematical problems; create real-world situations corresponding to number sentences.

Geometry & Measurement

- Name, describe, classify and sketch polygons.
- Understand angle and area as measurable attributes of real-world and mathematical objects. Use various tools to measure angles and areas.
- Use translations, reflections and rotations to establish congruency and understand symmetries.

Data Analysis

- Collect, organize, display and interpret data, including data collected over a period of time and data represented by fractions and decimals.

Gr. 5 *Number and Operation*

- Divide multi-digit numbers; solve real-world and mathematical problems using arithmetic.
- Read, write, represent and compare fractions and decimals; recognize and write equivalent fractions; convert between fractions and decimals; use fractions and decimals in real-world and mathematical situations.
- Add and subtract fractions, mixed numbers and decimals to solve real-world and mathematical problems.

Algebra

- Recognize and represent patterns of change; use patterns, tables, graphs and rules to solve real-world and mathematical problems.
- Use properties of arithmetic to generate equivalent numerical expressions and evaluate expressions involving whole numbers
- Understand and interpret equations and inequalities involving variables and whole numbers and use them to represent and solve real-world and mathematical problems.

Geometry & Measurement

- Describe, classify, and draw representations of three-dimensional figures.
- Determine the area of triangles and quadrilaterals; determine the surface area and volume of rectangular prisms and various contexts.

Data Analysis

- Display and interpret data; determine mean, median and range.