Year-at-a-Glance (YAG) --- Grade 2 --- Mathematics

The **Year at a Glance (YAG)** lays out all of the long term learning targets a student is expected master by the end of the year by bundling and sequencing them into the right units. On this YAG you will also see the Minnesota Standards and Benchmarks that align to the learning targets.

Learning Targets: Learning Targets are "student friendly" versions of the benchmarks. The Learning Targets should be posted in the classroom and used with students to describe the learning of the day. **Please note:** Because the language of the learning targets has been modified to be accessible to students they do not fully reflect the depth and rigor of the benchmarks. For this reason it is important to consult the standards and benchmarks when planning instruction.

Standards: Standards and benchmarks set the expectations for achievement in mathematics for K-12 students in Minnesota. The standards represent a connected body of mathematical knowledge students learn through the processes of problem solving, reasoning, communication, making connections, and representation. The standards are grouped by strands: 1) Number and Operation; 2) Algebra; 3) Geometry and Measurement; 4) Data Analysis and Probability.

Benchmarks: The benchmarks provide specific details about the mathematical understanding and skills that students must meet to satisfy the standards. They are designed to inform and guide schools and teachers in developing curriculum and instruction.

First Semester	Second Semester
Unit 1: Number & Operation I 8 ½ weeks Approximate Dates: August 29, 2016 – October 31, 2016 **Unit 2: Number & Operation II** 8 ½ weeks Approximate Dates: November 7, 2016 – January 24, 2017	**Unit 3: Number & Operation III** 6 weeks Approximate Dates: January 31, 2017 – March 15, 2017 **Unit 4: Algebraic Thinking** 6 Weeks Approximate Dates: March 20, 2017 – May 5, 2017 **Unit 5: Geometry and Measurement** 4 ½ weeks Approximate Dates: May 8, 2017 – June 7, 2016

First Semester

Unit 1: Number & Operation I

8 ½ weeks, Approximate Dates: August 29, 2016 – October 31, 2016

Learning Targets

Unit Long Learning Targets

1.1 I can skip count by 2's, 5's, and 10's starting with any number. I can count quantities forward and backward in groups of 2's, 5's, and 10's. (2.2.1.1)
1.2 I can extend a repeating number pattern. (2.2.1.1)
1.3 I can use number patterns to solve problems. (2.2.1.1)
1.4 I can compose and decompose numbers to 20 automatically, and apply to problem solving. (2.1.2.1 and 2.1.2.2)
1.6 I can describe and represent whole numbers up to 100 using tens and ones in multiple ways. (2.1.1.1 and 2.1.1.2)
1.7 I can compare and order whole numbers up to 100. (2.1.1.5)
1.8 I can use mental strategies based on place value to add and subtract two-digit problems using a decomposing, jumping, or compensation strategy with problems.

Learning Targets Addressed Through Routines

Number & Operation

1.5 I can identify ten more and ten less than a two-digit number.

Algebra Connection

6.1: I can write an equation to represent a story problem using a box to represent the unknown. (2.2.2.1)
6.2A: I can apply strategies to solve Join Result Unknown, Join Change Unknown and Separate Unknown problems (2.1.2.5)
6.3A: I can demonstrate an accurate understanding of equal sign meaning "same as."

Data and Graphing Connection

7.1 I can solve problems using data from a pictograph or tally chart with a scale of 2, 5 or 10. (2.1.2.6)

Geometry & Measurement

8.1 I can identify pennies, nickels, dimes and quarters. (2.3.3.2)
8.2 I can count groups of nickels, groups of dimes, and groups of quarters. (2.3.3.2)
8.3 I can tell time to the half hour and hour. (2.3.3.1)

Standards

Strand	Standard	No.	Benchmark
Algebra	Recognize, create, describe, and use patterns and rules to solve real-world and mathematical problems.	2.2.1.1	Identify, create and describe simple number patterns involving repeated addition or subtraction, skip counting and arrays of objects such as counters or tiles. Use patterns to solve problems in various contexts.
Algebra	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.	2.2.2.1	Understand how to interpret number sentences involving addition, subtraction and unknowns represented by letters. Use objects and number lines and create real-world situations to represent number sentences.
Number & Operation	Demonstrate mastery of addition and subtraction basic facts; add and subtract one- and two-digit numbers in real-world and mathematical problems.	2.1.2.1	Use strategies to generate addition and subtraction facts including making tens, fact families, doubles plus or minus one, counting on, counting back, and the commutative and associative properties. Use the relationship between addition and subtraction to generate basic facts.
		2.1.2.5	Solve real-world and mathematical addition and subtraction problems involving whole numbers with up to 2 digits.
		2.1.2.2	Demonstrate fluency with basic addition facts and related subtraction facts.
		2.1.2.6	Use addition and subtraction to create and obtain information from tables, bar graphs and tally charts.
Number & Operation	Compare and represent whole numbers up to 1000 with an emphasis on place value and equality.	2.1.1.1	Read, write and represent whole numbers up to 1000. Representations may include numerals, addition, subtraction, multiplication, words, pictures, tally marks, number lines and manipulatives, such as bundles of sticks and base 10 blocks.
		2.1.1.2	Use place value to describe whole numbers between 10 and 1000 in terms of hundreds, tens and ones. Know that 100 is 10 tens, and 1000 is 10 hundreds.
		2.1.1.5	Compare and order whole numbers up to 1000.
Geometry & Measure.	Use time and money in real-world and mathematical situations.	2.3.3.2	Identify pennies, nickels, dimes and quarters. Find the value of a group of coins and determine combinations of coins that equal a given amount.
		2.3.3.1	Tell time to the quarter-hour and distinguish between a.m. and p.m.

First Semester

Unit 2: Number & Operation II

8 ½ weeks, Approximate Dates: November 7, 2016 – January 24, 2017

Learning Targets

Unit Long Learning Targets

2.1 I can compose and decompose numbers up to 100 in multiple ways. (2.1.1.2)
2.2 I can identify ten more and ten less than a three-digit number. (2.1.1.3)
2.3 I can use mental strategies based on place value to add and subtract two-digit problems using a decomposing, jumping, or compensation strategy on or through a decade. (2.1.2.4)
2.4 I can read, write and represent numbers up to 1000. (2.1.1.1)
8.1 I can identify pennies, nickels, dimes and quarters. (2.3.3.2)
8.2 I can count groups of nickels, groups of dimes, and groups of quarters. (2.3.3.2)

Learning Targets Addressed Through Routines

Algebra Connection

6.1: I can write an equation to represent a story problem using a box to represent the unknown. (2.2.2.1)
6.2A: I can apply strategies to solve Separate Change Unknown, and Compare problems (2.1.2.5)
6.3A: I can demonstrate an accurate understanding of equal sign meaning "same as."

Data and Graphing Connection

7.1 I can solve problems using data from a pictograph or tally chart with a scale of 2, 5 or 10. (2.1.2.6)

Geometry & Measurement

5.2 I can compare units when comparing length. (2.3.2.1)
8.3 I can tell time to the half hour and hour. (2.3.3.1)

Standards

Strand	Standard	No.	Benchmark
Algebra	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.	2.2.2.1	Understand how to interpret number sentences involving addition, subtraction and unknowns represented by letters. Use objects and number lines and create real-world situations to represent number sentences.
Number & Operation	Demonstrate mastery of addition and subtraction basic facts; add and subtract one- and two-digit numbers in real-world and mathematical problems.	2.1.2.4	Use mental strategies and algorithms based on knowledge of place value and equality to add and subtract two-digit numbers. Strategies may include decomposition, expanded notation, and partial sums and differences.
		2.1.2.5	Solve real-world and mathematical addition and subtraction problems involving whole numbers with up to 2 digits.
		2.1.2.6	Use addition and subtraction to create and obtain information from tables, bar graphs and tally charts.
	Compare and represent whole numbers up to 1000 with an emphasis on place value and equality.	2.1.1.1	Read, write and represent whole numbers up to 1000. Representations may include numerals, addition, subtraction, multiplication, words, pictures, tally marks, number lines and manipulatives, such as bundles of sticks and base 10 blocks.
		2.1.1.2	Use place value to describe whole numbers between 10 and 1000 in terms of hundreds, tens and ones. Know that 100 is 10 tens, and 1000 is 10 hundreds.
		2.1.1.3	Find 10 more or 10 less than a given three-digit number. Find 100 more or 100 less than a given three-digit number.
Geom.& Measurement	Use time and money in real-world and mathematical situations.	2.3.3.2	Identify pennies, nickels, dimes and quarters. Find the value of a group of coins and determine combinations of coins that equal a given amount.
		2.3.3.1	Tell time to the quarter-hour and distinguish between a.m. and p.m.

Second Semester

Unit 3: Number & Operation III

6 weeks, Approximate Dates: January 31, 2017 – March 15, 2017

Learning Targets

Unit Long Learning Targets

3.1 I can read, write, describe and represent whole numbers up to 1000 using hundreds, tens, and ones in multiple ways. (2.1.1.1, 2.1.1.2)
3.3 I can compose and decompose any three-digit number in multiple ways. (2.1.1.2)
3.4 I can round to the nearest 10 and to the nearest 100. (2.1.1.4)
3.5 I can round numbers to estimate sums and differences up to 100. (2.1.2.3)
3.6 I can use mental strategies based on place value to add and subtract two- and three-digit problems using a decomposing, jumping, or compensation strategy on or through a decade or century. (2.1.2.4)
3.7 I can compare and order whole numbers up to 1,000 (2.1.1.5)

Learning Targets Addressed Through Routines

Algebra Connection:
6.1B: I can write an equation to represent a story problem using a letter to represent the unknown, and solve that equation. (2.2.1.1)
6.2C: I can apply strategies to solve Join Start Unknown and Separate Start Unknown problems. (2.1.2.5)
6.3: I can demonstrate an accurate understanding of the equal sign meaning "same as." (2.2.2.2)

Data and Graphing Connection:
7.3 I can solve problems using data from a table or bar graph that require comparing numbers to 1000. (2.1.2.6)

Geometry & Measurement
5.2. I can compare units when comparing length. (2.3.2.1)
8.1 I can identify pennies, nickels, dimes and quarters. (2.3.3.2)
8.2 I can count groups of nickels, groups of dimes, and groups of quarters. (2.3.3.2)

Standards

Strand	Strand / Standard	No.	Benchmark
Algebra	Recognize, create, describe, and use patterns and rules to solve real-world and mathematical problems.	2.2.1.1	Identify, create and describe simple number patterns involving repeated addition or subtraction, skip counting and arrays of objects such as counters or tiles. Use patterns to solve problems in various contexts.
Algebra	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.	2.2.2.2	Use number sentences involving addition, subtraction, and unknowns to represent given problem situations. Use number sense and properties of addition and subtraction to find values for the unknowns that make the number sentences true.
Number & Operation	Demonstrate mastery of addition and subtraction basic facts; add and subtract one- and two-digit numbers in real-world and mathematical problems.	2.1.2.3	Estimate sums and differences up to 100.
		2.1.2.4	Use mental strategies and algorithms based on knowledge of place value and equality to add and subtract two-digit numbers. Strategies may include decomposition, expanded notation, and partial sums and differences.
		2.1.2.5	Solve real-world and mathematical addition and subtraction problems involving whole numbers with up to 2 digits.
		2.1.2.6	Use addition and subtraction to create and obtain information from tables, bar graphs and tally charts.
Number & Operation	Compare and represent whole numbers up to 1000 with an emphasis on place value and equality.	2.1.1.1	Read, write and represent whole numbers up to 1000. Representations may include numerals, addition, subtraction, multiplication, words, pictures, tally marks, number lines and manipulatives, such as bundles of sticks and base 10 blocks.
		2.1.1.2	Use place value to describe whole numbers between 10 and 1000 in terms of hundreds, tens and ones. Know that 100 is 10 tens, and 1000 is 10 hundreds.
		2.1.1.3	Find 10 more or 10 less than a given three-digit number. Find 100 more or 100 less than a given three-digit number.
		2.1.1.4	Round numbers up to the nearest 10 and 100 and round numbers down to the nearest 10 and 100.

Second Semester

Unit 4: Algebraic Thinking

6 Weeks

Approximate Dates: March 20, 2017 – May 5, 2017

Learning Targets

Unit Long Learning Targets

4.1 I can solve story problems about grouping and sharing collection. *(Gr 3 Foundational study)*
4.2 I can create, extend and analyze a repeating, growing or shrinking pattern. I can organize my thinking in a t-chart. (2.2.1.1)
4.3 I can apply algebraic thinking to solve addition and subtraction equations.

Learning Targets Addressed Through Routines

Algebra Connections
6.2 I can apply strategies to solve problems with the unknown in different locations in the problem. (2.1.2.5)
6.3B I can explain why equations are true or false using relational thinking. (2.2.2.2)
6.4 I can both write an equation to represent a story problem, and write a story problem to represent a given equation. (2.2.2.2)

Data Analysis and Graphing
7. 4 I can determine the difference or sum of two quantities on a graph, chart, or table. (2.1.2.6)

Geometry & Measurement
5.2 I can compare units when comparing length. (2.3.2.1)
8.7 I can tell time to the quarter hour. (2.3.3.1) I can distinguish between a.m. and p.m. (2.3.3.1)

Standards

Strand / Standard		No.	Benchmark
Algebra	Recognize, create, describe, and use patterns and rules to solve real-world and mathematical problems.	2.2.1.1	Identify, create and describe simple number patterns involving repeated addition or subtraction, skip counting and arrays of objects such as counters or tiles. Use patterns to solve problems in various contexts.
Algebra	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.	2.2.2.2	Use number sentences involving addition, subtraction, and unknowns to represent given problem situations. Use number sense and properties of addition and subtraction to find values for the unknowns that make the number sentences true.
Number & Operations	Demonstrate mastery of addition and subtraction basic facts; add and subtract one- and two-digit numbers in real-world and mathematical problems.	2.1.2.5	Solve real-world and mathematical addition and subtraction problems involving whole numbers with up to 2 digits.
		2.1.2.6	Use addition and subtraction to create and obtain information from tables, bar graphs and tally charts.
Geometry & Measurement	Use time and money in real-world and mathematical situations.	2.3.3.1	Tell time to the quarter-hour and distinguish between a.m. and p.m.
Geometry & Measurement	Use time and money in real-world and mathematical situations.	2.3.3.2	Identify pennies, nickels, dimes and quarters. Find the value of a group of coins and determine combinations of coins that equal a given amount.

Second Semester

Unit 5: Geometry and Measurement
4 ½ weeks
Approximate Dates: May 8, 2017 – June 7, 2016

Learning Targets

Unit Long Term Learning Targets:

5.1 I can accurately measure to the nearest centimeter or inch. (2.3.2.2)
5.2 I can compare units when measuring length. (2.3.2.1)
5.3 I can identify and name two-dimensional and three-dimensional objects (2.3.1.2)
5.4 I can compare and contrast two-and three-dimensional shapes according to their attributes. (2.3.1.1)

Learning Targeted addressed through routines:

Algebra Connections
6.2D I can apply strategies to solve multi-step problems. (2.1.2.5)
6.3B I can explain why equations are true or false using relational thinking. (2.2.2.2)
6.4 I can both write an equation to represent a story problem, and write a story problem to represent a given equation. (2.2.2.2)

Data and Graphing Connections
7.5 I can solve comparison problems using units of measurement for length from a chart, table, or graph. (2.1.2.6)

Geometry & Measurement
8.6 I can find the value of a group of coins and determine combinations of coins that equal a given amount. (2.3.3.2)
8.7 I can tell time to the quarter hour. I can distinguish between a.m. and p.m. (2.3.3.1)

Standards

Strand	Standard	No.	Benchmark
Geometry & Measurement	Identify, describe and compare basic shapes according to their geometric attributes.	2.3.1.1	Describe, compare, and classify two- and three-dimensional figures according to number and shape of faces, and the number of sides, edges and vertices (corners).
		2.3.1.2	Identify and name basic two- and three-dimensional shapes, such as squares, circles, triangles, rectangles, trapezoids, hexagons, cubes, rectangular prisms, cones, cylinders and spheres.
	Understand length as a measurable attribute; use tools to measure length.	2.3.2.1	Understand the relationship between the size of the unit of measurement and the number of units needed to measure the length of an object.
		2.3.2.2	Demonstrate an understanding of the relationship between length and the numbers on a ruler by using a ruler to measure lengths to the nearest centimeter or inch.
	Use time and money in real-world and mathematical situations.	2.3.3.1	Tell time to the quarter-hour and distinguish between a.m. and p.m.
		2.3.3.2	Identify pennies, nickels, dimes and quarters. Find the value of a group of coins and determine combinations of coins that equal a given amount.
Algebra	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.	2.2.2.2	Use number sentences involving addition, subtraction, and unknowns to represent given problem situations. Use number sense and properties of addition and subtraction to find values for the unknowns that make the number sentences true.
Number & Operation	Demonstrate mastery of addition and subtraction basic facts; add and subtract one- and two-digit numbers in real-world and mathematical problems.	2.1.2.5	Solve real-world and mathematical addition and subtraction problems involving whole numbers with up to 2 digits.
		2.1.2.6	Use addition and subtraction to create and obtain information from tables, bar graphs and tally charts.