

5th Grade Math Overview 2022 - 2023

This document is designed provide parents/guardians/community an overview of the curriculum taught in the FBISD classroom. This document supports families in understanding the learning goals for the course and how students will demonstrate what they know and are able to do. The overview offers suggestions or possibilities to reinforce learning at home.

Included at the end of this document, you will find:

- A [glossary](#) of curriculum components
- The content area [instructional model](#)
- [Parent resources](#) for this content area

To advance to a particular grading period, click on a link below.

- [Grading Period 1](#)
- [Grading Period 2](#)
- [Grading Period 3](#)
- [Grading Period 4](#)

At Home Connections

The following are suggestions for reinforcing numeracy development at home. These ideas can be used throughout the school year. You will find additional ideas to reinforce learning at home within each unit below.

- *Practice multiplication facts with real world objects. i.e. how many tires on the 5 cars in front of us?*
- *When grocery shopping, have students round prices to the nearest dollar. Estimate the total grocery bill.*
- *Create a budget with your child. Discuss deposits and withdrawals.*
- *Measure objects around the house to determine the area and perimeter.*
- *When cooking using a recipe, have your child determine how much if of an ingredient if you doubled or tripled the recipe.*

Process Standards

The process standards describe ways in which students are expected to engage in the content. The process standards weave the other knowledge and skills together so that students may be successful problem solvers and use knowledge learned efficiently and effectively in daily life.

5.1A apply mathematics to problems arising in everyday life, society, and the workplace

5.1B use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution

5.1C select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems

5.1D communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate

5.1E create and use representations to organize, record, and communicate mathematical ideas

5.1F analyze mathematical relationships to connect and communicate mathematical ideas

5.1G display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication

Grading Period 1

Unit 1: Compare & Order Decimals

Estimated Date Range: 8/10/22 – 8/30/22

Estimated Time Frame: 15 days

Unit Overview:

In this unit, students will strengthen their understanding about the numbers 0-10. They will continue to read, write and represent them concretely, and compose and decompose these numbers in order to build an understanding that numbers can be represented in multiple ways. Students' ability to compose and decompose to make 10 is a foundational skill for future mathematics understanding. The primary focus here is to build their understanding of addition as the act of joining groups of objects and subtraction as the act of separating a group of objects. Students will work with larger and larger numbers as they progress to future grade levels and build from adding and subtracting whole numbers to adding, subtracting, multiplying and dividing whole numbers, decimals and fractions.

At home connections:

- Use positive affirmations to build a growth mindset towards math.
- Recognize that math happens every day. i.e. how many pages did you read in a book, dozen eggs is 12, telling time, etc.
- Provide your child with a number and ask them to represent the value of a digit.
- Find examples of numbers to the tenths place, hundredths place, and thousandths place in the real world. Create a chart to show the examples and explain how the numbers are used.
- Have your child compare and order prices from ads in the newspaper. Discuss what makes a number greater or less than another number and how they know.

Concepts within Unit #1 Link to TEKS	Success Criteria for this concept
Concept #1: Launching Mathematical Mindsets	In this concept, we are Launching Mathematical Mindsets using You Cubed resources along with supports for setting up Math Workshop in the classroom. The focus is on students getting used to classroom routines while engaging in math related activities that promote sense making, perseverance, and teamwork.
Concept #2: Representing Decimals 5.2A, 5.2C	<ul style="list-style-type: none"> • Use concrete and pictorial models to represent the value of a digit to the thousandths. • Use expanded notation to represent the value of a digit to the thousandths. • Use numerals to represent the value of a digit to the thousandths. • Use place value understandings to round decimals to the tenths place. • Use place value understandings to round decimals to the hundredths place.
Concept #3: Comparing and Ordering Decimals 5.2B, 5.2A	<ul style="list-style-type: none"> • Identify between two decimals which is greater using place value understanding. • Identify between two decimals which is less using place value understanding. • Represent the comparison of two decimals with symbols. • Justify the comparison of decimals. • Justify the order of a set of decimals.

Unit 2: Addition & Subtraction of Positive Rational Numbers

Estimated Date Range: 8/31/22 – 10/7/22

Estimated Time Frame: 18 days

Unit Overview:

In this unit, students will perform addition and subtraction using whole numbers, decimals, and fractions. The addition and subtraction of positive rational numbers includes whole numbers, decimals, and fractions, including improper fractions and mixed numbers. Fourth grade students added and subtracted fractions with like denominators and decimals to the hundredths place. Students will represent problems that involve operations with fractions, not just solve. Fractions may not have the same denominator so students will need to use strategies such as decomposing and composing fractions not just finding a common denominator.

At home connections:

- Use sport statistics to determine who has a better batting average or 3-point shooting percentage.
- Provide your child with recipes and have them add the total amount of dry ingredients or liquid ingredients.
- Have your child write their own story problem using numbers from ads in the newspaper.

Concepts within Unit #2 Link to TEKS	Success Criteria for this concept
Concept #1: Adding & Subtracting Decimals 5.3K, 5.3A	<ul style="list-style-type: none"> • Estimate using number lines. • Explain how to use benchmark decimals to estimate solutions. • Add whole numbers and decimals using various strategies. • Subtract whole numbers and decimals using various strategies.
Concept #2: Adding & Subtracting Fractions 5.3K, 5.3A, 5.3H, 5.4A	<ul style="list-style-type: none"> • Add fractions with unequal denominators using concrete models. • Subtract fractions with unequal denominators using concrete models. • Add fractions with unequal denominators using pictorial models. • Subtract fractions with unequal denominators using pictorial models. • Estimate using benchmark fractions. • Explain how to use benchmark fractions to estimate solutions. • Use concrete and pictorial models to represent factors of whole numbers up to 50. • Identify if a number is prime or composite. • Add fractions with unequal denominators. • Subtract fractions with unequal denominators.
Concept #3: Adding & Subtracting Positive Rational Numbers 5.3K, 5.3A	<ul style="list-style-type: none"> • Estimate using benchmark fractions and decimals. • Explain how to use benchmark fractions and decimals to estimate solutions. • Add fractions and decimals using various strategies. • Subtract fractions and decimals using various strategies. • Explain the process taken to add a decimal and fraction.

Grading Period 2

Unit 3: Multiplication & Division of Whole Numbers

Estimated Date Range: 10/11/22 – 11/4/22

Estimated Time Frame: 18 days

Unit Overview:

In this unit, students will multiply and divide whole numbers. Students will extend their knowledge of multiplication and division to larger place values. The focus will be for students to understand the standard algorithm so they can make connections when multiplying and dividing decimals later in the year. By the end of this unit, students will be proficient in writing and solving equations for one and two-step multiplication and division problems.

At home connections:

- Have your child practice skip counting to learn their multiplication facts.
- Students create their own story problems that would require multiplication or division to solve.
- Discuss scenarios such as planning a party or a vacation. Determine what steps need to happen to figure out the total cost and what operations would be required for each step.

Concepts within Unit #3 Link to TEKS	Success Criteria for this Concept
Concept #1: Multiplying and Dividing Whole Numbers 5.3B, 5.3C, 5.3A	<ul style="list-style-type: none"> • Represent a product using an equation with a variable. • Multiply a 3-digit by a 2-digit number using the standard algorithm. • Represent problems involving multiplication using strip diagrams or equations. • Represent a quotient using an equation with a variable. • Divide a 4-digit dividend by a 2-digit divisor using various strategies. • Divide a 4-digit dividend by a 2-digit divisor using standard algorithm. • Represent problems involving division using strip diagrams or equations. • Represent multi-step problems with strip diagrams and/or number lines. • Represent multi-step problems with equations using a letter standing for the unknown. • Solve multi-step problems using equations when the letter isolated on one side of the equal sign. • Explain how an equation or representation matches the problem situation. • Estimate to predict a solution and determine reasonableness of a solution.

Unit 4: Expressions and Equations

Estimated Date Range: 11/7/22 – 12/7/22

Estimated Time Frame: 18 days

Unit Overview:

In this unit, students will focus on the foundational understanding of representing multi-step problem situations involving whole numbers and all four operations using equations and a letter standing for an unknown quantity. Students will also solidify their operations with whole numbers from fourth grade while developing the understanding simplifying numeric expressions involving up to two levels of grouping symbols.

At home connections:

- Recognize that math happens every day. E.g., How many pages did you read in a book, dozen eggs is 12, telling time, etc.
- Discuss situations that require an order to complete them and the importance of the order. E.g., getting dressed

- Discuss story problems with your child and have them determine the operations needed to solve.

Concepts within Unit #4 Link to TEKS	Success Criteria for this Concept
Concept #1: Simplifying Numeric Expressions 5.4F, 5.4E	<ul style="list-style-type: none"> • Describe the meaning of parentheses and brackets in a numeric expression. • Explain the order in which to simplify a numeric expression. • Simplify expressions without grouping symbols. • Simplify expressions with grouping symbols.
Concept #2: Writing and Solving Equations 5.4B, 5.3C, 5.3B, 5.4F, 5.4E	<ul style="list-style-type: none"> • Represent a multi-step problem with strip diagrams. • Represent a multi-step problem with a number line. • Represent a multi-step problem with a letter standing for the unknown. • Solve a multi-step problem using equations. • Explain how an equation or representation matches the problem.

Unit 5: Algebraic Reasoning

Estimated Date Range: 12/8/22 – 1/20/23

Estimated Time Frame: 18 days (GP2 – 7 days and GP3 – 11 days)

Unit Overview:

In this unit, students will graph ordered pairs of numbers in the first quadrant of the coordinate plane, recognize the difference between additive and multiplicative patterns in a table or graph, and create and analyze data using a scatter plot. In previous grades, students represented problems using input-output tables and numerical expressions to generate a number pattern that follows a given rule. Students in future grades will graph ordered pairs in all four quadrants of the coordinate plane and continue to analyze data in a variety of graphical representations.

At home connections:

- Have your child find locations on a map.
- Use cardinal directions to explain how to get to a location.
- Ask your child to describe the process for graphing ordered pairs.

Concepts within Unit #5 Link to TEKS	Success Criteria for this Concept
Concept #1: Graphing on a Coordinate Plane 5.8C, 5.8A, 5.8B, 5.9B	<ul style="list-style-type: none"> • Describe the key attributes of the coordinate plane, including the x- and y-axes and the origin. • Describe the location of a coordinate in reference to the origin. • Describe the process for graphing ordered pairs. • Explain how to move along a coordinate plane to get from one point to another. • Plot ordered pairs in the first quadrant of the coordinate plane. • Plot ordered pairs generated from number patterns and input-output tables. • Interpret real-world data represented in coordinate grids. • Interpret real-world data to create a scatterplot. • Draw conclusions and make predictions using information from a scatterplot. • Generate questions using information from a scatterplot.

Grading Period 3

Unit 5: Algebraic Reasoning (Continued)

Estimated Date Range: 12/8/22 – 1/20/23
Estimated Time Frame: 18 days (GP2 – 7 days and GP3 – 11 days)

Unit Overview:

In this unit, students will graph ordered pairs of numbers in the first quadrant of the coordinate plane, recognize the difference between additive and multiplicative patterns in a table or graph, and create and analyze data using a scatter plot. In previous grades, students represented problems using input-output tables and numerical expressions to generate a number pattern that follows a given rule. Students in future grades will graph ordered pairs in all four quadrants of the coordinate plane and continue to analyze data in a variety of graphical representations.

At home connections:

- Ask your child how to determine the difference between additive and multiplicative patterns.
- Discuss the relationship between two sets of data on a scatterplot. i.e. outside temperature and ice cream sales

Concepts within Unit #5 Link to TEKS	Success Criteria for this Concept
Concept #2: Additive and Multiplicative Relationships 5.4C, 5.8C, 5.4D, 5.9B	<ul style="list-style-type: none"> • Generate a numerical pattern when given a rule in the form $y = x + a$ and graph the results. • Generate a numerical pattern when given a rule in the form $y = ax$ and graph the results. • Describe the difference between additive and multiplicative patterns. • Graph in the first quadrant of the coordinate plane. • Interpret real-world data to create a scatterplot. • Draw conclusions and make predictions using information from a scatterplot. • Generate questions using information from a scatterplot.

Unit 6: Multiplication & Division of Fractions/Decimals

Estimated Date Range: 1/23/23 – 2/24/23
Estimated Time Frame: 23 days

Unit Overview:

In this unit, students will apply their understanding of multiplication and division with whole numbers to fractions and decimals. They will use models and representations to develop a conceptual understanding of multiplying two numbers less than one. They will also be introduced to writing a remainder as a decimal.

At home connections:

- Have your child make fractions using real world objects. E.g., What is the fraction of Fridays in the month of August?
- Students create their own story problems that would require multiplication or division to solve using money.

Concepts within Unit #6 Link to TEKS	Success Criteria for this Concept
Concept #1: Multiplying and Dividing Fractions 5.3L, 5.3I, 5.3J	<ul style="list-style-type: none"> • Represent a fraction using concrete objects and pictorial models. • Use concrete objects and pictorial models to: <ul style="list-style-type: none"> • Multiply a whole number and a fraction • Divide a unit fraction by a whole number • Divide a whole number by a unit fraction

<p>Concept #2: Multiplying and Dividing Decimals 5.3E, 5.3G, 5.4F, 5.4C, 5.3D, 5.3F, 5.3A</p>	<ul style="list-style-type: none"> • Represent a decimal using concrete objects and pictorial models. • Use concrete objects and pictorial models to: <ul style="list-style-type: none"> • Multiply a decimal and a whole number • Multiply a decimal and decimal • Divide a decimal by a whole number • Multiply a decimal and a whole number using the standard algorithm. • Multiply a decimal by a decimal using the standard algorithm. • Divide a decimal by a whole number using the standard algorithm.
<p>Unit 7: Geometry & Measurement Estimated Date Range: 2/27/23 – 4/12/23 Estimated Time Frame: 26 days (GP3 – 10 days and GP4 – 16 days)</p>	
<p>Unit Overview: In this unit, students will build on their knowledge of shape attributes. They will use markings to label the attributes and sort them based on their properties. Students need to recall the shapes based on their names. Students will build the foundational understanding of volume of rectangular prisms. Concrete models will be used to determine the area of a layer and then how many layers it will take to fill the rectangular prism. Students will also solve for area and perimeter and explain how they connect to volume. This will build to calculating surface area of shapes in future grades. Students will build off their knowledge of customary and metric units of measure to be able to convert within customary or metric measurements.</p> <p>At home connections:</p> <ul style="list-style-type: none"> • Go on a scavenger hunt outside and find geometric shapes. Have your child name them and describe their attributes. • Find two geometric shapes in your house and have your child describe the similarities and differences between them. 	
<p>Concepts within Unit # 7 Link to TEKS</p>	<p>Success Criteria for this Concept</p>
<p>Concept #1: Classifying Two-Dimensional Figures 5.5A</p>	<ul style="list-style-type: none"> • Label shapes using markings for: <ul style="list-style-type: none"> ○ Congruent lines ○ Congruent angles ○ Parallel lines ○ Right angles • Name polygons based on the number of sides. • Name polygons based on the attributes of their sides Name a polygon based on their angle measure. • Name a polygon with the most specific name and explain how I know. • Sort polygons into graphic organizers using attributes and properties when given a picture. • Sort polygons into a graphic organizer using attributes and properties when given a name. • Explain why and how I sorted by shapes using formal geometric language. • Describe the relationship between polygons within the graphic organizer.
<p>Concept #2: Understanding Volume 5.4G, 5.6A, 5.6B</p>	<ul style="list-style-type: none"> • Represent volume using concrete objects and pictorial models. • Fill rectangular prisms with cubes to determine the volume. • Use the base of figures and the number of layers to determine the volume.

Grading Period 4	
Unit 7: Geometry & Measurement (Continued) Estimated Date Range: 2/27/23 – 4/12/23 Estimated Time Frame: 26 days (GP3 – 10 days and GP4 – 16 days) Note: Includes 2 days for Re-engagement and Assessment	
Concepts within Unit # 7 Link to TEKS	Success Criteria for this Concept
Concept #3: Area, Perimeter, and Volume 5.4H, 5.4G, 5.6A, 5.6B	<ul style="list-style-type: none"> Describe perimeter and solve problems involving perimeter. Describe area and solve problems involving area. Explain the difference between perimeter and area. Describe volume and solve problems involving volume. Explain the connection between area and perimeter and solve problems as it relates to volume.
Concept #4: Conversions 5.7A	<ul style="list-style-type: none"> Identify units of measure being used. Describe the relationship between two units of measure Represent conversions using tables. Convert between units of measure within the same system.
Unit 8: Data Analysis and Personal Financial Literacy Estimated Date Range: 4/13/23 – 5/5/23 Estimated Time Frame: 17 days	
<p>Unit Overview: In this unit, students will represent data using different types of graphs. The data can be categorical or numerical. Students build on prior knowledge of graphs and now include data with whole numbers, decimals, or fractions. Students are also expected to solve one- and two-step problems involving data. In addition to data analysis, students will also define various types of tax and explain the difference between gross and net income. Students will continue to learn about financial matter, such as borrowing, saving, spending, and budgeting.</p> <p>At home connections:</p> <ul style="list-style-type: none"> Create a survey and have your child graph the results found. Ask them questions based on the information displayed in the graph. Have your child create a budget for the month and keep track of their credits and debits. 	
Concepts within Unit # 8 Link to TEKS	Success Criteria for this Concept
Concept #1: Data Analysis 5.9C, 5.9A	<ul style="list-style-type: none"> Collect and sort data using a frequency table. Explain a frequency table, bar graph, stem-and-leaf, dot plot, and scatterplot is and why you use them. Answer questions using information from graphs. Generate questions using information from graphs.
Concept #2: Personal Financial Literacy 5.10A, 5.10B, 5.10C, 5.10D, 5.10E, 5.10F	<ul style="list-style-type: none"> Define income tax, property tax, sales tax, and property tax Identify gross income and net income. Explain the difference between gross income and net income. Identify different methods of payment including checks, credit card, debit card, and electronic payments. Explain the advantages and disadvantages of different methods of payment. Balance a simple budget.

Unit 9: Essential Understanding of 5th Grade

Estimated Date Range: 5/8/23 – 5/25/23

Estimated Time Frame: 14 days

Unit Overview:

In this unit, students will review fifth grade skills to solidify their understanding so they are successful sixth graders. They will focus primarily on numeracy, computational skills, and algebraic reasoning.

At home connections:

- Have your child tell you their favorite thing they learned this year in math and why.

Concepts within Unit # 9 Link to TEKS	Success Criteria for this Concept
Concept #1: Multi-Step Problems with Positive Rational Numbers 5.4F, 5.4B, 5.3K, 5.3C, 5.3B, 5.4F, 5.4E	<ul style="list-style-type: none"> • Represent a multi-step problem with a letter standing for the unknown. • Solve a multi-step problem using equations. • Explain how an equation or representation matches the problem.

Glossary of Curriculum Components

Overview– The content in this document provides an overview of the pacing and concepts covered in a subject for the year.

TEKS – Texas Essential Knowledge and Skills (TEKS) are the state standards for what students should know and be able to do.

Unit Overview – The unit overview provides a brief description of the concepts covered in each unit.

Concept – A subtopic of the main topic of the unit.

Success Criteria—a description of what it looks like to be successful in this concept.

Competency—Standards-Based Grading communicates students’ understanding of the Texas Essentials Knowledge and Skills (TEKS). Using the TEKS, teachers developed grade-level competencies to communicate student progress in the Standards-Based gradebook. The competencies are the same for each grade-level content area (i.e. 1st grade math) across the district. Teachers report students’ progress on the competencies using learning progressions.

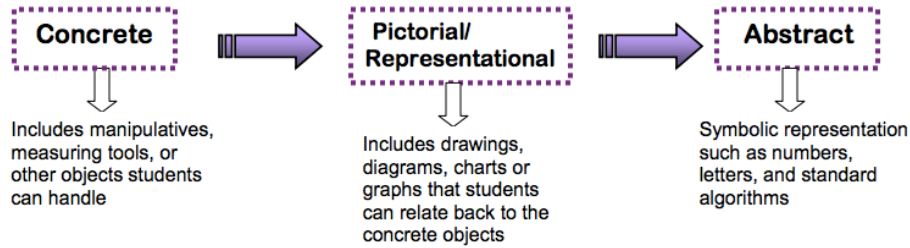
Parent Resources

The following resources provide parents with ideas to support students’ understanding. For sites that are password protected, your child will receive log-in information through their campus.

Resource	How it supports parent and students
Great Minds Eureka Math	This is the textbook for elementary school math. Click on the link for directions on accessing the textbook.
Didax Virtual Manipulatives Math Learning Center Math Apps	These online resources provide access to virtual manipulatives.
Parent Resources from youcubed.org	This resource from youcubed.org includes articles for parents on ways to support their students in learning and understanding mathematics.
Student Resources from youcubed.org	This resource from youcubed.org includes videos concerning growth mindset in mathematics
Math: Why Doesn't Yours Look Like Mine?	This resource provides an explanation of why math looks different now as opposed to how parents learned mathematics and how to support students in learning mathematics.
Math4Texas	This resource breaks down grade level standards, provides example questions, vocabulary, and links to online resources for students aligned to the standards.
Prodigy Math	Prodigy Math is an online program that supports the development of elementary math skills through games and online practice. This resource is aligned to the TEKS and is computer adaptive, so it will adapt to the academic needs of the user.

Instructional Model

The structures, guidelines or model in which students engage in a particular content that ensures understanding of that content.



The instructional model for mathematics is the Concrete-Representational-Abstract Model (CRA). The CRA model allows students to access mathematics content first through a concrete approach (“doing” stage) then representational (“seeing” stage) and then finally abstract (“symbolic” stage). The CRA model allows students to conceptually develop concepts so they have a deeper understanding of the mathematics and are able to apply and transfer their understanding across concepts and contents. The CRA model is implemented in grades K-12 in FBISD.