HILLSBOROUGH TOWNSHIP SCHOOL DISTRICT

MATHEMATICS CURRICULUM

Grade 5

July, 2020

Course Overview
Grade 5

The fifth grade mathematics program emphasizes the following content clusters as they align with the grade five New Jersey Student Learning Standards (NJSLS) adopted by the state: operations and algebraic thinking; number and operations in base ten; number and operations – fractions; measurement and data; and geometry. The content is presented using a problem solving approach designed to develop critical thinking skills within real world situations. The New Jersey Standards for Mathematical Practice: make sense of problems and persevere in solving them; reason abstractly and quantitatively; construct viable arguments and critique the reasoning of others; model with mathematics; use appropriate tools strategically; attend to precision; look for and make use of structure; and look for and express regularity in repeated reasoning are embedded in the daily teaching and learning. Practice of basic skills is ongoing through a variety of routines and activities. Topics are revisited regularly and practice is distributed over time to facilitate full concept development. Program implementation and assessment offer enrichment and reinforcement based on individual student needs. The grade five mathematics program prepares students to take the New Jersey Student Learning Assessment (NJSLA) or any other next generation assessment developed. Successful completion of the fifth grade mathematics program prepares students for entry into the sixth grade mathematics program.

Unit Title: Unit 1 Area and Volume	**Time Frame/Pacing:** 23 Days

Essential Questions
- How does knowing the area of a figure help you find the volume of a rectangular prism?
- How can you relate volume to multiplication and addition?

Enduring Understandings
- Everyday objects have a variety of attributes, each of which can be measured in many ways.
- Use models to correctly identify volume.

Standards Taught and Assessed

■ Major Cluster

- **5.MD.C** Geometric measurements: Understand concepts of volume and relate volume to multiplication and to addition.
- **5.NF.B** Apply and extend previous understandings of multiplication and division.

□ Supporting Cluster

- **5.OA.A** Write and interpret numerical expressions.
- **5.MD.A** Convert like measurement units within a given measurement system.

◎ Additional Cluster

- **SMP3** Construct viable arguments and critique the reasoning of others.
- **SMP4** Model with mathematics.

Highlighted Interdisciplinary Connections
- **Computer Science & Design Thinking**
  - 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
- **Science**
  - 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints

Key: ■ Major Cluster   □ Supporting Cluster   ◎ Additional Cluster

of the problem.
- **English language Arts**
  - ○ SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.

Highlighted Career Ready Practices and 21st Century Themes and Skill
- 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
- **5.MD.C** - **5.NF.B**	- Extended time, scribe, speech to text, challenge questions - Specific accommodations/modifications per a student's IEP or 504 plan

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
☐ **5.OA.1** Write and interpret numerical expressions.	**SMP7** Look for and make use of structure.	Recognize grouping symbols and correctly solve equations.	Play a game that involves students solving numerical expressions.	Point to numerals on a number line and provide pictorial vocabulary cards illustrating the meaning of plus, times, minus, sum, product, quotient, and triple. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ▪ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

■ **5.NF.B** Apply and extend previous understandings of multiplication and division.	**SMP3** Construct viable arguments and critique the reasoning of others. **SMP6** Attend to precision. **SMP7** Look for and make use of structure. **SMP8** Look for and express regularity in repeated reasoning.	Write appropriate number sentences and find the correct areas of rectangles with whole-number and fractional side lengths. Draw tick marks to tile rectangles and count to find the number of tiles.	Using practice pages, explore and find areas of rectangles Using practice pages, discuss tiling patterns and use a pattern to find area	Provide a visual of a rectangle with some whole and partial square units on the inside. Label the key words students will hear and see during the lesson. Use a think-aloud to describe the number of sides of various shapes. Demonstrate measuring the side lengths of various shapes and report the measurements using paired sentences like these: The length of the side is ____ inches. Specific accommodations/modifications per a student's IEP or 504 plan
☐ **5.MD.A** Convert like measurement units within a given measurement system.	**SMP1** Make sense of problems and persevere in solving them. **SMP3** Construct viable arguments and critique the reasoning of others. **SMP6** Attend to precision.	Use words or pictures to show that either: -A strategy to multiply the dimensions in feet to get the area in square feet, or -Count sets of 4 small squares because 4 small squares equal 1 square foot. Show that a cubic inch is smaller than cubic foot.	Students complete an open response question to make sense of two different answers to an area problem with fractional side lengths.	Pre-teach and review vocabulary. Use a measurement tool to visually model how a unit of measurement is broken down into smaller units. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

| **5.MD.C** Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition | **SMP2** Reason abstractly and quantitatively.

SMP3 Construct viable arguments and critique the reasoning of others.

SMP5 Use appropriate tools strategically. | Have students pack their prisms with centimeter cubes to find the volume of rectangular prisms.

Use a strategy to break apart the model and apply a volume formula to prisms to estimate the volume of compound shapes.

Find the volume of various rectangular prism, regular and irregular, using the volume formula | Explore and compare volume measurements and volume units.
Pack prisms to measure volume
Use layers of cubes to measure volume
Estimate and find the volume of three-dimensional objects
Share and explain strategies for finding volume | Provide drawings or unit cubes to demonstrate their strategies for finding the volume of the prism.

Specific accommodations/modifications per a student's IEP or 504 plan |
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Key: ■ Major Cluster   ❑ Supporting Cluster   ◎ Additional Cluster

Benchmark Assessment • Benchmark 1	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan
Summative Assessment(s) **Common Assessment on Area and Volume** • **5.MD.C** • **5.NF.B** **Unit 1 Open Ended Response**	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan

Key: ▇ Major Cluster   ▢ Supporting Cluster   ◎ Additional Cluster

Unit Title: Unit 2 Place Value and Operations	Time Frame/Pacing: 23 Days

Essential Questions
- How do operations affect numbers?
- What patterns can we identify in the places of numbers?

Enduring Understandings
- Operations create relationships between numbers
- Understanding the meaning and the appropriate use of numerical operations promotes computational fluency

Standards Taught and Assessed

▩ Major Cluster

- 5.NBT.A Understand the place value system
- 5.NBT.B Perform operations with multi-digit whole numbers

▢ Supporting Cluster

- 5.MD.A Convert like measurement units within a given measurement system

◎ Additional Cluster

- SMP1 Make sense of problems and persevere in solving them
- SMP6 Attend to precision

Highlighted Interdisciplinary Connections
- **Computer Science & Design Thinking**
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
- **Science**
  - 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- **English language Arts**
  - SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5*

Key: ▩ Major Cluster   ▢ Supporting Cluster   ◎ Additional Cluster

topics and texts, building on others' ideas and expressing their own clearly.

Highlighted Career Ready Practices and 21st Century Themes and Skill
- 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment • **5.MD.A** • **5.NBT.A** • **5.NBT.B**	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
5.NBT.A Understand the place value system.	**SMP2** Reason abstractly and quantitatively. **SMP6** Attend to precision.	Write numbers in expanded form and identify values of digits and estimate their reasonableness. Some students will apply the *10 times* and *1/10 of* the relationships.	Using practice pages: • Represent place value • Estimate and solve with powers of 10 • Connect expanded form and exponential	Use everyday experiences, vocabulary terms, and concrete objects to help students actively understand and make connections between the terms value and worth. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster ☐ Supporting Cluster ◎ Additional Cluster

	SMP7 Look for and make use of structure.	Write numbers in standard notation based on exponential notation.	notation	
■ **5.NBT.B** Perform operations with multi-digit whole numbers	**SMP2** Reason abstractly and quantitatively. **SMP6** Attend to precision. **SMP7** Look for and make use of structure.	Solve multiplication problems with the standard algorithms. Solve division problems with multi-digit dividends. Interpret the remainders appropriately.	Using practice pages: Compare multiplication strategies Estimate and multiply using U.S. traditional multiplication Multiply using powers of 10 Use multiples to divide mentally Estimate and solve using partial-quotients division Model division problems and interpret remainders	Use think-alouds, models, and objects to help the students understand the terms multiple, partial, multiply, multiplication, divide, dividend, divisor, quotient, and remainder by connecting them to real-world contexts. To extend their work with US traditional multiplication and partial-quotients division, students should solve number stories and real-world applications. Specific accommodations/modifications per a student's IEP or 504 plan
▢ **5.MD.A1** Use measurement conversions to solve multi-step, real-world problems.	**SMP5** Use appropriate tools strategically. **SMP7** Look for and make use of structure.	Use U.S. customary unit conversions to solve problems.	Using practice pages, students solve unit conversion number stories	To familiarize students with US customary measurement units and measuring tools, display everyday measuring tools labeled by name and showing common conversions such as a yardstick and a measuring cup. To extend their work with unit conversions, students write unit conversion number stories and have partners solve each other's number stories.

Key: ■ Major Cluster ▢ Supporting Cluster ◎ Additional Cluster

				Specific accommodations/modifications per a student's IEP or 504 plan
Benchmark Assessment • Unit 2 Cumulative Assessment		**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan		
Summative Assessment(s) **Common Assessment on Place Value, Multiplication, and Division** • **5.MD.A** • **5.NBT.A** • **5.NBT.B**		**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan		

Key: ▪ Major Cluster ▫ Supporting Cluster ◎ Additional Cluster

Unit Title: Unit 3 Fraction Concepts, Addition, and Subtraction	**Time Frame/Pacing:** 23 days (6 flex days)

Essential Questions
- Why express quantities, measurements, and number relationships in different ways?

Enduring Understandings
- Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.

Standards Taught and Assessed

■ Major Cluster

- **5.NF.A** Use equivalent fractions as a strategy to add and subtract fractions.
- **5.NF.B3** Interpret a fraction as division of the numerator by the denominator

□ Supporting Cluster

- **5.NBT. B6** Find whole-number quotients of whole numbers with up to four-digit dividends and two digit divisors
- **5.OA.A2** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them
- **5.NF.B6** Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

◎ Additional Cluster

- **SMP5** Use appropriate tools strategically
- **SMP8** Look for and express regularity in repeated reasoning

Highlighted Interdisciplinary Connections
- **English language Arts**
  - SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.
- **Science**
  - 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Key: ■ Major Cluster   □ Supporting Cluster   ◎ Additional Cluster

- **Computer Science & Design Thinking**
  - 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.

Highlighted Career Ready Practices and 21st Century Themes and Skill
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
- 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
- **5.NF.A** - **5.NF.B3** - **5.NBT. B6**	- Extended time, scribe, speech to text, challenge questions - Specific accommodations/modifications per a student's IEP or 504 plan

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
■**5.NF.B3** Interpret a fraction as division of the numerator by the denominator	SMP2 Reason abstractly and quantitatively.	Use tools or drawings such as fraction circles pieces, number lines, pictures, or models to solve fair share stories.	Using practice pages: Model with fraction circle pieces Create other models and write division models for fair share stories	Introduce vocabulary terms to support students' understanding as well as include numerical representations and visual models.

Key: ■ Major Cluster   ◻ Supporting Cluster   ◎ Additional Cluster

	SMP3 Construct viable arguments and critique the reasoning of others.	Find correct solutions and write matching division numbers models with answers less than 1.	Interpret and connect fractions and division Renaming by making and breaking apart wholes Identify problem solving strategies to solve fraction number stories	Specific accommodations/modifications per a student's IEP or 504 plan
☐ **5.NBT.B6** Find whole-number quotients of whole numbers with up to four-digit dividends and two digit divisors	SMP6 Attend to precision. SMP7 Look for and make use of structure.	Solve division problems and interpret the remainder as a fraction Describe a rule that involves placing the largest two digits in the numerator and the smallest digit in the denominator for any three numbers. Explain that the rule works because the largest numerator has the largest quantity to be divided into equal shares or because a smaller denominator leads to larger equal shares.	Reporting remainders as fractions Interpreting remainders in division number stories Reengaging in the problem Revising work	Display a number of objects that do not divide evenly to reinforce the connection between the words remain and remainder. Partners do the same using another set of objects. To explore the connection between fractional remainders and decimals, students solve a number story in which the cost of an item is split four ways. Students think about how dollars are divided in everyday life and develop a strategy to report an answer as dollars and cents. Specific accommodations/modifications per a student's IEP or

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

				504 plan
■ **5.NF.A** Use equivalent fractions as a strategy to add and subtract fractions.	**SMP2** Reason abstractly and quantitatively. **SMP3** Construct viable arguments and critique the reasoning of others. **SMP4** Model with mathematics. **SMP5** Use appropriate tools strategically.	Use a fraction number line as a visual representation of fractions to solve simple comparison and renaming problems. Analyze fraction benchmarks to mentally estimate fraction sums to make an argument about reasonableness. Find the sums of addition fraction problems with unlike denominators by finding equivalent fractions to write appropriate number sentences.	Representing fractions on number lines to solve problems. Using benchmarks to estimate sums and differences of fractions Students will create reasonable estimates and make reasonable attempts at solving addition and subtraction problems using drawings, fraction circle pieces, or number lines. Solving fraction addition and subtraction number stories.	Students will use fraction circle manipulatives or etools. To extend their work with fraction addition, students use fraction circle pieces to find addition problems with a sum of one. They use equivalent fractions to verify that the sum is 1. Specific accommodations/modificat ions per a student's IEP or 504 plan
☐ **5.OA.A2** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	**SMP1** Make sense of problems and persevere in solving them.	Find fractions with like denominators that add to a specific sum and write a correct addition expression for each.	Using practice pages, break apart fractions	For experience writing fractions as sums of other fractions, students find sums of unit fractions and then write the non-unit fraction sums of unit fractions. Then reverse the procedure by displaying the non-unit fractions and

Key: ■ Major Cluster ☐ Supporting Cluster ◎ Additional Cluster

				have students write them as sums of unit fractions. To extend their work breaking apart and adding fractions, students write fractions as sums of other fractions using 1, 2, 3, 4 and 5 different denominators. Students check each others' answers. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

☐ **5.NF.B6** Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	**SMP1** Make sense of problems and persevere in solving them. **SMP2** Reason abstractly and quantitatively. **SMP3** Construct viable arguments and critique the reasoning of others. .	Use concrete representations or drawings to correctly solve fraction-of problems with whole number answers, with answers greater and less than 1, answers greater and less than 1.	Using practice page: Solve fraction-of problems with answers greater than 1 and answers less than 1	Support students with important vocabulary terms such as fraction of, through think alouds and visual representation To extend their work solving fraction-of problems, students interpret various representations of fraction-of problems. Specific accommodations/modifications per a student's IEP or 504 plan

Benchmark Assessment • N/A	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan
Summative Assessment(s) Common Assessment on Fractions • 5.NF.A • 5.NF.B Unit 3 Open Ended Response	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

Unit Title: Unit 4 Decimal Concepts; Coordinate Grids	Time frame/Pacing: 23 days

Essential Questions
- How does a digit's position affect its value?
- How do geometric relationships help to solve problems and/or make sense of phenomena?

Enduring Understandings
- Understanding place value can lead to number sense and efficient strategies for computing with numbers.
- Geometric relationships provide a means to make sense of a variety of phenomena.

Standards Taught and Assessed

■ Major Cluster

- **5.NBT.A** Understand the place value system
- **5.NBT.B** Perform operations with multi-digit whole numbers and with decimals to hundredths

▢ Supporting Cluster

- **5.G.A** Graph points on the coordinate plane to solve real-world and mathematical problems

◎ Additional Cluster

- **SMP2** Reason abstractly and quantitatively
- **SMP7** Look for and make use of structure

Highlighted Interdisciplinary Connections
- **English language Arts**
  - SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.
- **Science**
  - 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints

Key: ■ Major Cluster   ▢ Supporting Cluster   ◎ Additional Cluster

of the problem.
- **Computer Science & Design Thinking**
  - 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
- **Social Studies**
  - 6.1.5.GeoSV.1: Identify the maps or types of maps most appropriate for specific purposes, (e.g., to locate physical and/or human features in a community, to determine the shortest route from one town to another town, to compare the number of people living at two or more locations).
  - 6.1.5.GeoSV.2: Use maps to explain the impact of location and place on the relationships between places in New Jersey, the United States and other countries.

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Highlighted Career Ready Practices and 21st Century Themes and Skill
- 9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
- 5.NBT.A. - 5.NBT.B - 5.G.A	- Extended time, scribe, speech to text, challenge questions - Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
▪ 5.NBT.A Understand the place value system	SMP2 Reason abstractly and quantitatively. SMP6 Attend to precision. SMP7 Look for and make use of structure. SMP8 Look for and express regularity in repeated reasoning.	Write decimals to hundredths using numerals, word form, fractions, equivalent decimals to translate between standard and expanded form as sums of decimals. Compare decimals using the Decimal Place-Value Mat, expanded notation, or a thousandths grid. Round decimals using number lines, grids, or other rounding shortcuts. Shade hundredths grids to represent numbers and find decimal sums and differences.	Using practice pages: Extend place-value patterns to the thousandths place. Represent decimals in expanded form and on a thousandths grid. Round decimals using grids and number lines. Add and subtract decimals with grids.	To extend their work representing decimals to thousandths, students convert between metric units of length. Students measure the length of real world objects and record measurements in millimeters, centimeters, decimeters and meters. They describe the patterns they notice in their measurements. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ▪ Major Cluster   ▫ Supporting Cluster   ◎ Additional Cluster

☐ **5.G.A** Graph points on the coordinate plane to solve real-world and mathematical problems.	**SMP2** Reason abstractly and quantitatively. **SMP3** Construct viable arguments and critique the reasoning of others. **SMP4** Model with mathematics. **SMP6** Attend to precision. **SMP7** Look for and make use of structure.	Accurately plot and label points on a coordinate grid as well as create new sets of ordered pairs based on rules. Use a coordinate grid to locate specific locations on a map. Use data from a table to write ordered pairs and correctly plot and connect the points with a line on a coordinate grid. List and plot new coordinates with minimal errors and correctly describe changes to the coordinate and plotted image.	Using practice pages: Plot points on a coordinate grid Show routes on a coordinate grid Plot ordered pairs Graph data as ordered pairs and interpret the graphed data	Support students with vocabulary through using visual representations and think alouds. Allow students to explore coordinate grids with small groups or partners. To explore coordinate grids, students can create designs by plotting points with whole-number and decimal coordinates They can also use real-world applications with coordinate grids. An extension for interpreting graphs could be to have students work on examining graphs, identifying rules that could have produced the graphs, and create real-world contexts that could be modeled by the graphs. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths	SMP6 Attend to precision.	Use the decimal addition and subtraction algorithm to solve addition and subtraction problems to the tenths and hundredths including money amounts.	Using practice pages: Extend whole-number addition and subtraction algorithms to decimals Discuss decimal addition and subtraction strategies	To support students with decimal addition and subtraction, review algorithms to add whole numbers. To extend their work with adding and subtracting decimals, students time how long it takes for each group member to complete a simple task and then add the times together. They compare the sum to how long it takes the group to complete the task in sequence. Discuss why there might be differences in the two times. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

Benchmark Assessment • Mid-Year Assessment	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan
Summative Assessment(s) Common Assessment on Place value system and decimals • 5.NBT.A Common Assessment on decimal operations (+ and -) • 5.NBT.B Common Assessment on Coordinate Grid System • 5.G.A	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

Unit Title: Unit 5 Operations with Fractions	**Time frame/Pacing:** 22 Days

Essential Questions
- Why express quantities, measurements, and number relationships in different ways?
- How do operations affect numbers?

Enduring Understandings
- Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.
- The magnitude of numbers affects the outcome of operations on them

Standards Taught and Assessed

■ Major Cluster

- **5.NF.A** Use equivalent fractions as a strategy to add and subtract fractions
- **5.NF.B** Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

◎ Additional Cluster

- **SMP3** Construct viable arguments and critique the reasoning of others
- **SMP4** Model with mathematics

Highlighted Interdisciplinary Connections
- **English language Arts**
  - SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.
- **Science**
  - 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- **Computer Science & Design Thinking**
  - 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.

Highlighted Career Ready Practices and 21st Century Themes and Skill

Key: ■ Major Cluster ☐ Supporting Cluster ◎ Additional Cluster

- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
- 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
5.NF.A Use equivalent fractions as a strategy to add and subtract fractions. **5.NF.B** Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	- Extended time, scribe, speech to text, challenge questions - Specific accommodations/modifications per a student's IEP or 504 plan

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
▪ **5.NF.A** Use equivalent fractions as a strategy to add and subtract fractions	**SMP1** Make sense of problems and persevere in solving them. **SMP2** Reason abstractly and quantitatively. **SMP4** Model with mathematics.	Generate equivalent fractions by using the multiplication rule for equivalent fractions. Apply at least one of the strategies to identify a common denominator and add and subtract fractions with uncommon	Using practice pages: - Use equivalent fractions and multiples to find common denominators and use them to solve problems - Estimate sums of fractions and	To support students, use visual aids and think-alouds as well as guide them to create their own representations to show connections between the vocabulary terms. To extend students' understanding of

Key: ▪ Major Cluster ▫ Supporting Cluster ◎ Additional Cluster

		denominators.	mixed numbers	equivalent fractions and
	SMP6 Attend to precision.	Use renaming to solve fraction addition problems.	• Add and subtract fractions and mixed numbers	adding/subtracting fractions, have students solve challenging number stories by converting and performing operations with recipe measurements.
	SMP7 Look for and make use of structure.	Use drawings or fraction circle pieces to solve subtraction problems involving renaming the starting number or finding common denominators.		Specific accommodations/modificat ions per a student's IEP or 504 plan
■ **5.NF.B** Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	**SMP1** Make sense of problems and persevere in solving them. **SMP2** Reason abstractly and quantitatively. **SMP3** Construct viable arguments and critique the reasoning of others. **SMP4** Model with mathematics. **SMP6** Attend to precision.	Choose a strategy to solve fraction-of problems when the fraction is not a unit fraction with a whole number answer. Sketch and shade rectangles with fraction of fraction problems to find fraction products. Use the algorithm to multiply fractions. Area models, and pictures can be drawn to help explain understanding. Assess students' ability to	Using practice pages: Multiply fractions using an area model and the algorithm Explore multiplication with fractions equal to 1 Discuss real-world multiplication situations and create number stories Model, solve, and interpret fraction division problems	To support students' understanding of fraction-of problems, use counters and paper folding to model problems. To support students with the fraction multiplication algorithm, have students look for patterns in area models by counting the number of rows and columns to find a pattern to develop a rule for multiplication. To support students with fraction division further,

Key: ■ Major Cluster ☐ Supporting Cluster ◎ Additional Cluster

	SMP7 Look for and make use of structure. **SMP8** Look for and express regularity in repeated reasoning.	relate the multiplication rule for equivalent fractions to the Multiplicative Identity Property. Use visual models to accurately divide unit fractions by whole numbers and whole numbers by unit fractions.		students may use counters to help them separate a whole number into smaller groups. To extend students' understanding of multiplying and dividing fraction problems, students should solve multi step problems, using models and patterns to help them. Specific accommodations/modifications per a student's IEP or 504 plan

Benchmark Assessment	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)**
• Benchmark 2	• Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan

Summative Assessment(s)	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)**

Common Assessment on Adding and Subtracting Fractions
   • 5.NF.A
Common Assessment on Multiplying and Dividing Fractions
   • 5.NF.B
Unit 5 Opened Ended Response
	• Extended time, scribe, speech to text, challenge questions
	• Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster　　☐ Supporting Cluster　　◎ Additional Cluster

Unit Title: Unit 6 Multiplication and Division with Decimals and Measurement	**Time Frame/Pacing:** 22 days

Essential Questions
- How can we compare and contrast numbers?
- Why does "what" we measure influence "how" we measure?

Enduring Understandings
- Numeric fluency includes both the understanding of and the ability to appropriately use numbers.
- Measurements can be used to describe, compare, and make sense of phenomena.

Standards Taught and Assessed

▣ Major Cluster

- **5.NBT.A** Understand the place value system
- **5.NBT.B** Perform operations with multi-digit whole numbers and with decimals to hundredths

☐ Supporting Cluster

- **5.MD.B** Represent and interpret data
- **5.MD.C** Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition

◎ Additional Cluster

- **SMP6** Attend to precision
- **SMP7** Look for and make use of structure

Highlighted Interdisciplinary Connections
- **Computer Science & Design Thinking**
  - 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
  - 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim
- **Science**
  - 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints

Key: ▣ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

of the problem.
- **English language Arts**
  - o SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.

Highlighted Career Ready Practices and 21st Century Themes and Skill
- 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
- **5.NBT.A** - **5.NBT.B** - **5.MD.B** - **5.MD.C**	- Extended time, scribe, speech to text, challenge questions - Specific accommodations/modifications per a student's IEP or 504 plan

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
■**5.NBT.A** Understand the place value system	**SMP6** Attend to precision.	Multiply and divide decimals by powers of 10. Recognize which	Using practice pages: Multiply and divide decimals by powers of 10	To prepare for describing patterns when multiplying or dividing by powers of 10, students discuss

Key: ■ Major Cluster ☐ Supporting Cluster ◎ Additional Cluster

	SMP7 Look for and make use of structure.	conversions are needed to solve number stories and multiply and divide by powers of 10 to complete those conversions.		multiplying and dividing by 10. Explain that a flat represents 1, a long represents 1 tenth, and a cube represents 1 hundredth. Have students help you place 3 cubes in the hundredths column. Then, multiply 0.03 by 10, placing 30 cubes in the hundredths column. Follow up questions should be asked to guide thinking about representing numbers with fewer blocks. Emphasize that multiplying by 10 shifts digits one place to the left and dividing by 10 shifts digits one place to the right. Extend this activity by using a meterstick to show that 20 cm is the same as 200 mm. Stress the point that students converted from a larger unit (cm) to a smaller unit (mm) by multiplying. Repeat the process to convert 20 cm to meters. Stress that students converted from a smaller unit (cm) to larger unit (m) by dividing.

Key: ■ Major Cluster   ▢ Supporting Cluster   ◎ Additional Cluster

				To extend their work multiplying by powers of 10, students explore patterns in exponents when numbers are multiplied by more than one power of 10. Students describe what they notice and apply the pattern to rewrite expressions with powers of 10. Specific accommodations/modifications per a student's IEP or 504 plan
☐ **5.MD.B** Represent and interpret data	**SMP4** Model with mathematics. **SMP6** Attend to precision. **SMP7** Look for and make use of structure. **SMP8** Look for and express regularity in repeated reasoning.	Choose an appropriate scale, accurately place Xs on a line plot to represent data and interpret the plot to answer problems. Calculate data represented by a single stack of Xs placed over a fractional part of the scale of a line plot.	Using practice pages: Create and interpret a line plot with fractional data. Use line plots to solve comparison problems.	To prepare for using line plots to solve problems, students interpret the meaning of the Xs that appear on a line plot. Display a line plot, labeling whole numbers only. Students apply this skill to plot, organize, and compare real life data.

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

☐ **5.MD.C** Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	**SMP1** Make sense of problems and persevere in solving them. **SMP5** Use appropriate tools strategically. **SMP6** Attend to precision.	Describe a correct strategy for finding volume including dividing a shape into parts and applying a formula. Write explanations clearly describing the idea that both solid objects and water have volume and that the volume of displaced water will be equal to the volume of the object.	Using practice pages: Compare strategies for finding volume using real world applications. Use water displacement to find the volume of irregular shaped objects	To prepare for estimating the volume of a building, students review strategies for finding volume. Students will review how much packing material is needed to fill a box and will use mathematical models to solve similar problems. To prepare for measuring volume using displacement, students review the metric units used to measure liquid volume. Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

◼ **5.NBT.B** Perform operations with multi-digit whole numbers and with decimals to hundredths	**SMP3** Construct viable arguments and critique the reasoning of others. **SMP6** Attend to precision. **SMP7** Look for and make use of structure.	Make reasonable estimates for products when both factors are greater than 1 and for quotients when the dividend and divisor are both greater than 1. Solve decimal multiplication and division problems using the estimation strategy.	Using practice pages: Estimate decimal products and quotients Use powers of 10 to multiply decimals Divide decimals by whole numbers	Encourage students to use mental strategies or partial quotients division and use estimates to check that their answers make sense. To prepare for solving division problems with decimal divisors, have students review the connections between fractions and division, the multiplication rule for generating equivalent fractions, and the effects of multiplying decimals by 10 and 100. For experience interpreting decimals as data points, students order decimal times and create a line plot, which they use to answer questions about the data. Specific accommodations/modificat ions per a student's IEP or 504 plan

Key: ◼ Major Cluster ☐ Supporting Cluster ◎ Additional Cluster

Benchmark Assessment • Unit 6 Cumulative Assessment	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan

Summative Assessment(s)
Common Assessment on Decimal Operations
    • 5.NBT.A
    • 5.NBT.B
Common Assessment on Representing Data and Measurement
    • 5.MD.B
    • 5.MD.C
	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
	• Extended time, scribe, speech to text, challenge questions
	• Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

Unit Title: Unit 7 Mixed Number Multiplication, Geometry, and Graphs	Time Frame/Pacing: 22 days

Essential Questions
- How do mathematical ideas interconnect and build on one another to produce a coherent whole?
- How can we best represent and verify geometric/algebraic relationships?

Enduring Understandings
- Numeric fluency includes both the understanding of and the ability to appropriately use numbers.
- Coordinate geometry can be used to represent and verify geometric/algebraic relationships.

Standards Taught and Assessed

■ Major Cluster

- **5.NF.A** Apply and extend previous understandings of multiplication and division
- **5.NF.B** Apply and extend previous understandings of multiplication and division to multiply and divide fractions

▢ Supporting Cluster

- **5.OA.B** Analyze patterns and relationships
- **5.G.A** Graph points on the coordinate plane to solve real-world and mathematical problems
- **5.G.B** Classify two-dimensional figures into categories based on their properties

◎ Additional Cluster

- **SMP2** Reason abstractly and quantitatively
- **SMP8** Look for and express regularity in repeated reasoning

Highlighted Interdisciplinary Connections
- **Computer Science & Design Thinking**
  - 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
  - 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim
- **Science**

Key: ■ Major Cluster ▢ Supporting Cluster ◎ Additional Cluster

o 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- **English language Arts**
  - o SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.

Highlighted Career Ready Practices and 21st Century Themes and Skill
- 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
5.NF.A **5.NF.B** **5.G.A** **5.G.B** **5.OA.B**	- Extended time, scribe, speech to text, challenge questions - Specific accommodations/modifications per a student's IEP or 504 plan

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)

Key: ■ Major Cluster   □ Supporting Cluster   ◎ Additional Cluster

▪**5.NF.B** Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	**SMP1** Make sense of problems and persevere in solving them. **SMP2** Reason abstractly and quantitatively. **SMP4** Model with mathematics. **SMP7** Look for and make use of structure. **SMP8** Look for and express regularity in repeated reasoning.	Draw and use area models to multiply a mixed number by a whole number or a fraction. Rename factors as fractions and multiply using an algorithm. Find the area of rectangles with fractional side lengths; either by multiplying side lengths or using tiling strategy. Use fraction circle pieces, drawings, or the common denominator shortcut to compute fraction quotients	Using practice pages: Solving mixed number multiplication problems Multiplying mixed numbers as fractions Tiling rectangles to confirm area Solving area problems Exploring common denominators in fraction division Solving fraction division problems	To prepare students for multiplying mixed-numbers, students should first review area models for whole-number multiplication problems. Discussion should take place to help students understand how an area model represents the multiplication problem. Extend the discussion in preparation for students multiplying fractions greater than 1. Have students review the fraction multiplication algorithm. Students should then draw an area model that represents the product that they found using the algorithm. To extend students' understanding of multiplying mixed numbers, students should solve real-world application problems and explain their results. Specific accommodations/modifications per a student's IEP or 504 plan
☐**5.G.B** Classify two-dimensional figures in a hierarchy based on properties.	**SMP2** Reason abstractly and quantitatively.	Correctly classify the triangles in the hierarchy. Based on properties of quadrilaterals, correctly	Using practice pages: Making a triangle hierarchy Defining a hierarchy of quadrilaterals	To support students' understanding of a triangle hierarchy, students should first practice finding attributes of different shapes. Students should identify attributes

Key: ▪ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

		place examples in each category and generate at least one additional name for a quadrilateral when referencing the quadrilateral hierarchy.	Classifying quadrilaterals	that shapes have in common and then try and classify those shapes. To support students before looking at a quadrilateral hierarchy, students should identify and draw shapes that have specific attributes. Teacher prompting should occur to ask students to identify names of shapes with particular properties. Specific accommodations/modifications per a student's IEP or 504 plan
■**5.NF.A** Use equivalent fractions as a strategy to add and subtract fractions.	**SMP2** Reason abstractly and quantitatively.	Create line plots using fractional data and find differences in fractional data.	Use practice pages: Collecting and plotting fractional data Solving problems involving fractional data on line plots	To help students with exploring equivalent fractions on a ruler, have students review the markings on a ruler. To extend students' understanding of fractional measurements, students should measure six different objects using a different level of precision than a partner they are working with. Students should then plot their measurement data and compare it to their partner's. Specific accommodations/modifications per

Key: ■ Major Cluster   ▢ Supporting Cluster   ◎ Additional Cluster

				a student's IEP or 504 plan
☐ **5.OA.B** Analyze patterns and relationships	**SMP2** Reason abstractly and quantitatively. **SMP8** Look for and express regularity in repeated reasoning.	Use individual rules to fill in the columns of an in/out table and write corresponding rules that relate to the in/out number pattern.	Use practice pages: • Visualizing patterns and relationships	To help support students with finding rules, students should use in/out tables to determine rules. Using a simple sequence such as, 3,6,9,12, students should identify the next number in the sequence. When students know the pattern, they should identify a rule for the sequence. Afterwards, display an in/out table with one space left blank. Students should use a pattern to identify what the number would be. Then students should find the rule for the in/out table. To extend a student's understanding of rules, students should use data to form ordered pairs. Students should then graph the points to represent the data set and find the relationship between the x and y coordinates. Specific accommodations/modifications per a student's IEP or 504 plan
☐ **5.G.A** Graph points on the coordinate plane to solve	**SMP4** Model with mathematics.	Accurately complete the in/out table, graph the data, and answer	Use practice pages: Displaying data on a graph	To extend students' understanding of rules and tables, have students create a table of values, ordered

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

| real-world and mathematical problems. | SMP7 Look for and make use of structure.

SMP8 Look for and express regularity in repeated reasoning. | questions that correlate to an in/out table or that that relate to a real-world application.

Apply the rule to complete an in/out table and graph ordered pairs on a coordinate grid. Interpret coordinate values to solve problems. | Creating graphs from tables
Analyzing two rules
Analyzing a real world problem
Exploring a rule with two operations | pairs, and a graph to represent information from a real-world prompt such as types of races. Students should compare their graphs to their partners. Students' understanding of patterns, students should work backwards to identify a relationship between two terms, use the relationship to complete a table, and identify a pattern in the table's out column.

Specific accommodations/modifications per a student's IEP or 504 plan |

Benchmark Assessment • Benchmark 3	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan
Summative Assessment(s) Common Assessment on Multiplying Mixed Numbers • 5.NF.A • 5.NF.B Common Assessment on Geometry and Graphs • 5.G.B • 5.OA.B • 5.G.A Unit 7 Opened Constructed Response	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan

Key: ■ Major Cluster   □ Supporting Cluster   ◎ Additional Cluster

Unit Title: Unit 8 Applications of Measurement, Computation, and Graphing	**Time Frame/Pacing:** 22 days

Essential Questions
- How can different strategies be helpful when solving a problem?
- Why express quantities, measurements, and number relationships in different ways?

Enduring Understandings
- Measurement processes are used in everyday life to describe and quantify the world.
- Understanding place value can lead to number sense and efficient strategies for computing with numbers

Standards Taught and Assessed

■ Major Cluster

- **5.NBT.B** Perform operations with multi-digit whole numbers and with decimals to hundredths

▢ Supporting Cluster

- **5.MD.A** Convert like measurement units within a given measurement system
- **5.MD.C** Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition
- **5.G.A** Graph points on the coordinate plane to solve real-world mathematical problems

◎ Additional Cluster

- **SMP1** Make sense of problems and persevere in solving them
- **SMP4** Model with mathematics

Highlighted Interdisciplinary Connections
- **Computer Science & Design Thinking**
  - 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
  - 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
  - 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim
- **Science**
  - 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria

Key: ■ Major Cluster   ▢ Supporting Cluster   ◎ Additional Cluster

and constraints of the problem.
- **English language Arts**
  - SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.
- **Social Studies**
  - 6.1.5.CivicsPI.1: Describe ways in which people benefit from and are challenged by working together, including through government, workplaces, voluntary organizations, and families.
  - 6.1.5.CivicsPD.3: Explain how and why it is important that people from diverse cultures collaborate to find solutions to community, state, national, and global challenges.
  - 6.1.5.EconET.2: Use quantitative data to engage in cost benefit analyses of decisions that impact the individual and/or community.

Highlighted Career Ready Practices and 21st Century Themes and Skill
- 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.1.5.EG.3: Explain the impact of the economic system on one's personal financial goals.
- 9.1.5.FP.3: Analyze how spending choices and decision-making can result in positive or negative consequences
- 9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).

Social Emotional Learning Competencies
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety).
- 2.1.5.EH.4: Identify behaviors that help to deal with difficult situations that can occur at home, in school, and/or in the community and where to go for assistance.
- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.

Pre-Assessment	
• Not applicable	

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

Student Learning Objectives: We are learning to/that...	Student Strategies (Mathematical Practices)	Formative Assessment	Activities and Resources	Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)
☐ **5.MD.A** Convert like measurement units within a given measurement system	**SMP1** Make sense of problems and persevere in solving them. **SMP4** Model with mathematics. **SMP6** Attend to precision. **SMP7** Look for and make use of structure.	Accurately convert measurement units and multiply and divide multi-digit numbers and decimals to find reasonable answers to real-world situations. Correctly complete time conversions.	Using practice pages, find areas of different sized surfaces Using practice pages, solve real-world applications with measurement Using practice pages, solve unit conversions and multiplication problems	To prepare students for multi-step problems and converting measurements, have students solve a series of real world application problems. Examples include: heart rate, reading pages of a book, how exercise affects breathing Specific accommodations/modifications per a student's IEP or 504 plan
■ **5.NBT.B** Perform operations with multi-digit whole numbers and with decimals to hundredths	**SMP1** Make sense of problems and persevere in solving them. **SMP2** Reason abstractly and quantitatively. **SMP4** Model with mathematics. **SMP6** Attend to precision.	Visualize and draw rectangles to find the area of triangles and quadrilaterals. Round money amounts to the nearest whole dollar and accurately multiplies whole numbers to compute approximate total costs for various items.	Using practice pages, relate a rectangle to a non rectangular figure Using practice pages, planning how to spend money, make budget adjustments, calculate how to earn money, and explore debt.	Highlight the use of division at each step to convert the remaining time to a larger unit. To support students, use role play with play bills and think alouds using the words debt, owe, pay and borrow. To extend their work computing with large

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

	SMP7 Look for and make use of structure.	Determine what calculations and conversions are required to find the total number of work hours needed to earn $1,000,000 at a given wage.		numbers, students find the national debt of several countries. They compare the size of each country's debt to the U.S. national debt. Specific accommodations/modifications per a student's IEP or 504 plan
☐ **5.MD.C** Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	**SMP1** Make sense of problems and persevere in solving them. **SMP2** Reason abstractly and quantitatively. **SMP4** Model with mathematics.	Correctly calculate the area of the base and the volume of real world objects such as an aquarium	Using practice pages, solve real-world applications of finding the volume of three-dimensional objects	Help students understand the contexts used throughout the lesson by previewing key ideas and vocabulary. Specific accommodations/modifications per a student's IEP or

Key: ■ Major Cluster ☐ Supporting Cluster ◎ Additional Cluster

				504 plan
☐**5.G.A** Graph points on the coordinate plane to solve real-world and mathematical problems.	**SMP1** Make sense of problems and persevere in solving them. **SMP3** Construct viable arguments and critique the reasoning of others. **SMP4** Model with mathematics.	Accurately multiply whole numbers and decimals in relation to real-world situations and apply data to a graph.	Using practice pages, students will make conjectures, collect data based on conjectures, graph data on a coordinate grid, and compare graphs	Students will develop strategies from unit conversion tables to plot points with decimal coordinates. Students will use graphs to visualize real-world situations.. Specific accommodations/modifications per a student's IEP or 504 plan

Benchmark Assessment • End-of-Year Assessment	**Modifications/Accommodations (ELL, Special Education, Gifted, At-Risk of Failure, 504)** • Extended time, scribe, speech to text, challenge questions • Specific accommodations/modifications per a student's IEP or 504 plan
Summative Assessment(s) • Unit 8 Checking Progress	

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

Bibliography
Grade Five

Supplemental Materials/Resources:

Bell, J., Bell, M., Bretzlauf, J., Dillard, A., Hartfield, R., Isaacs, A., McBride, J., Moran, C. G., Pitvorec, K., Saecker, P., (2020). *Everyday mathematics: Student reference book. Fourth Edition*. McGraw Hill: Chicago.

Bell, M., Bell, J., Bretzlauf, J., Dillard, A., Flanders, J., Hartfield, R., Isaacs, A., Leslie, D. A., McBride, J., Pitvorec, K., Saecker, P., (2020). *Everyday mathematics: Teacher's manual. Fourth Edition*. McGraw Hill: Chicago.

Bell, M., Bretzlauf, J., Dillard, Hartfield, R., Isaacs, A., McBride, J., Pitvorec, K., Saecker, P., Willingham, N., (2020). *Everyday mathematics: Math masters. Fourth Edition*. McGraw Hill: Chicago

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Bell, J., Carroll, W .A., Dillard, A., Pitvorec, K., (2020). *Everyday mathematics: Assessment handbook. Fourth Edition*. McGraw Hill: Chicago.

Dyer, M., Rasala, S., Snook, K., Sconiers, S., (2020). *Everyday mathematics: 5-Minute Math, Grades 4-6*. McGraw Hill: Chicago.

Digital Resources:

McGraw Hill ConnectEd - all print materials are available online