Marietta City Schools
District Unit Planner

Fifth Grade

Unit Name	**_Unit 4:_** _Building Fraction Understanding_	**Unit Duration (Days)**	_3-4 Weeks_

[GA K-12 Standards](#)

In this unit, students will compare and order fractions, and add and subtract fractions with unlike denominators. They will use reasoning and build on strategies learned in previous grades for generating equivalent fractions. Students will extend their understanding of linear representations and use number lines to solve problems with dot plots showing measurements with ½, ¼, , and ⅛ . Students will also ask and answer statistical questions using the statistical reasoning framework which includes collecting, organizing, and interpreting data.

5.NR.3: Describe fractions and perform operations with fractions to solve real-life, mathematical problems using part whole strategies and visual models.
- **5.NR.3.2** Compare and order up to three fractions with different numerators and/or different denominators by flexibly using a variety of tools and strategies.
- **5.NR.3.3** Model and solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators.

5.MDR.7: Solve problems involving customary measurements, metric measurements, and time and analyze graphical displays of data to answer relevant questions.
- **5.MDR.7.2** Ask questions and answer them based on gathered information, observations, and **appropriate graphical displays** to solve problems relevant to everyday life.
  *This part of the standard relates to the linear representations, number lines and dot plots part of 5.NR.3.

5.MP.1-8 Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals. _(It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.)_
- **5.MP.1** Make sense of problems and persevere in solving them.
- **5.MP.2** Reason abstractly and quantitatively.
- **5.MP.3** Construct viable arguments and critique the reasoning of others.
- **5.MP.4** Model with mathematics.
- **5.MP.5** Use appropriate tools strategically.
- **5.MP.6** Attend to precision.
- **5.MP.7** Look for and make use of structure.
- **5.MP.8** Look for and express regularity in repeated reasoning.

The [Framework for Statistical Reasoning](#) and the [Mathematical Modeling Framework](#) should be taught throughout the units. The [K-12 Mathematical Practices](#) should be evidenced at some

point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.

Essential Questions/ I Can Statements

(5.NR.3)How are equivalent fractions helpful when solving problems?
(5.NR.3.2) How can a fraction be greater than 1?
(5.NR.3.2) How do I know if a fraction is greater or less than another fraction?
(5.NR.3.2) How does the numerator help me compare fractions?
(5.NR.3.2) How does the denominator help me compare fractions?
(5.NR.3.3) How does a model help me add and subtract fractions and mixed numbers?
(5.NR.3.3) What are some strategies for adding and subtracting fractions and mixed numbers?
(5.MDR.7.2) How can I represent and analyze fractional data points on a dot plot?

Tier II Vocabulary Words- High Frequency Multiple Meaning	**Tier III Vocabulary Words-** Subject/ Content Related Words
addition/ add, common denominator, reasonableness, greater than, less than	benchmark fraction, denominator, difference, estimate, equivalent fraction, fraction greater than 1, fraction less than 1, mixed number, subtraction/subtract, unit fraction, unlike denominator, Dot plot = line plot K-12 Mathematics Glossary

Assessments

Formative Assessment(s):
MCS K-5 Activity & Assessment Collection
5.NR.3.2
5.NR.3.3
5.MDR.7.2
Unit 4 Summative Assessment

Performance Assessment:
Savvas Topic Performance Task TE pp. 327-328 (Students will use a real-life scenario involving tying knots to add and subtract fractions).

It is the responsibility of each schools' grade level PLC to identify appropriate instructional lessons and resources, based on data and student needs, using the suggested pacing duration. The following learning tasks have been vetted to align to the standards included in this unit. The GA Dept. of Education strongly recommends that any additional tasks, resources, and/or assessments used for instruction should be vetted using the Quality Assurance Rubric, to ensure alignment to the state standards.

Objective or Content	**Learning Experiences**	**Differentiation Considerations**

5.NR.3 Describe fractions and perform operations with fractions to solve real-life, mathematical problems using part whole strategies and visual models	**GA DOE Learning Plans**	**MCS Curriculum Resources**	**GADOE Intervention Tasks**
	½ as a Benchmark *In this learning plan, students will compare fractions with like and unlike denominators. They will use the benchmark fraction 1/2 as a reference for reasoning about the size of each fraction. (Suggested Timeframe: 2-3 days)* ● Teacher Guidance ● Student Reproducibles **Linear Fraction** *In this learning plan, students will apply their understanding of fraction comparisons using benchmark fractions to order fraction numbers using an appropriate model.(Suggested Timeframe: 1-2 days)* ● Teacher Guidance ● Student Reproducibles **Using Number Sense to Explore Sums of Fractions** *In this learning plan, students build on their understanding of number sense with fractions to determine size of fractions. Students will use different representations to explore the sums of fractions with unlike denominators including fractions greater than one. (Suggested Timeframe: 1-2 days)* ● Teacher Guidance ● Student Reproducibles **Using Benchmarks to Find Sums and Differences** *In this learning plan, students will use benchmark fractions to estimate the sums and differences and to determine reasonableness of their answers. Students will continue to build their knowledge of adding and subtracting fractions with unlike denominators by using equivalent fractions and visual fraction diagrams. Students will not be taught an algorithm for adding and subtracting fractions with unlike denominators. Instead, they will be provided opportunities to discover an algorithm for adding and subtracting fractions with unlike denominators. (Suggested Timeframe: 1-2 days)* ● Teacher Guidance	**SAVVAS enVision Topic 7: Use Equivalent Fractions to Add and Subtract Fractions** *Students develop an understanding of how to add and subtract fractions and mixed numbers with unlike denominators by using equivalent fractions.* ● Lesson 7-1: Estimate Sums and Differences of Fractions ● Lesson 7-2: Find Common Denominators ● Lesson 7-3: Add fractions with unlike denominators using equivalent fractions with a common denominator. ● Lesson 7-4: Subtract fractions with unlike denominators. ● Lesson 7-5: Add and subtract fractions with unlike denominators. ● Lesson 7-7: Add mixed numbers using models. ● Lesson 7-8: Add mixed numbers using equivalent fractions and a common denominator. ● Lesson 7-9: Use models to subtract mixed numbers. ● Lesson 7-10: Find common denominators to subtract mixed numbers. ● Lesson 7-11: Add and subtract mixed numbers with unlike denominators. **MIP Module 13: Adding & Subtracting Fractions with Unlike Denominators** *The key ideas focused on in this module include: generating common denominators and using them to find equivalent fractions, using strategies, including common denominators, to add and subtract fractions, including mixed numbers.* ● Pattern Block Fractions p. 144 ● Exploring Addition with the Area Model p. 145 ● Exploring Addition with a Number Line p. 149 ● Adding by Finding Common Denominators p. 151 ● Count Around the Circle with Fractions p. 155 ● Mixed Number Addition p. 156 ● Using the Area Model to Subtract p.158 ● Exploring Subtracting Mixed Numbers p. 159	Non-Unit Fractions : Determine "closeness to 1" or distance from 1 for a variety of fractions

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	● Student Reproducibles
	
	Using Equivalent Fractions and Representations to Add and Subtract Fractions with Unlike Denominators
	In this learning plan, students will build their knowledge of adding and subtracting fractions with unlike denominators by using equivalent fractions and visual fraction models. Students will not be taught an algorithm for adding and subtracting fractions with unlike denominators. Instead, they will be provided opportunities to discover an algorithm for adding and subtracting fractions with unlike denominators. (Suggested Timeframe: 2-3 days)
	    ● Teacher Guidance
	    ● Student Reproducibles
		● Subtracting Using Common Denominators p. 161	

5.MDR.7.2 Ask questions and answer them based on gathered information, observations, and **appropriate graphical displays** to solve problems relevant to everyday life.
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	Fractions All Around Us
	Also includes 5.MDR.7
	In this learning plan, students will compare and order fractions, and add and subtract fractions with unlike denominators. They will use reasoning and build on strategies learned in previous grades for generating equivalent fractions. Students will extend their understanding of linear representations and use number lines to solve problems with line plots showing measurements with 1 2 ,1 4 , and 1 8 . Students will also ask and answer statistical questions using the statistical reasoning framework which includes collecting, organizing, and interpreting data. (Suggested Timeframe: 1-2 days)
	    ● Teacher Guidance
	    ● Student Reproducibles
		SAVVAS enVision TOpic 10: Represent and Interpret Data
		    ● Lesson 10-1: Analyze Line Plots
		    ● Lesson 10-2: Make Line Plots
		    ● Lesson 10-3: Solve Word Problems Using Measurement Data
		    ● Lesson 10-4: Problem Solving: Critique Reasoning
		
		MIP Module 12: Representing and Interpreting Data
		The key ideas focused on in this module include: making line plots with units in halves, fourths, and eighths and solving multistep problems about the data shown on the line plots.
		    ● Ruler Review p. 234
		    ● The Science Project p.236
		    ● Exploring Redistributing Fractions p.239	

Content Resources	

MCS Links:
    ● MCS Math Curriculum Map
    ● MCS Math Instructional Framework
	Additional Resources:
	    ● Savvas Pick a Project -10C Giant Sequoias (TE page 428)
	    ● Savvas Pick a Project - 10D Plant Leaves (TE page 428)
	    ● Add and Subtract Fractions and Mixed Numbers A
	    ● Add and Subtract Fractions and Mixed Numbers B

GA DOE Links:	
• *Access all GADOE Curriculum Resources at the following site: GaDOE Inspire.*	• Fraction Splat Series • Fraction Word Problems A • Fraction Word Problems B • Fraction Word Problems C • Fraction Addition Problems game • Fraction Subtraction Problems game • Solve Problems with Line Plots • Create your own line plot cm • Create your own line plot inches • Plotting Fractions