Unit 1 Reveal Grade 4

Content Area: **Math**
Course(s): **Math**
Time Period: **September**
Length: **2 weeks**
Status: **Published**

Unit Overview

UNIT 1 PLANNER
Math Is...

PACING: 8 days

LESSON		MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY
Unit Opener	Let's Shake	Explore the number of handshakes of a group of people.				
						Math Terms
1-1	Math Is Mine	Students discuss their strengths in math. They describe their math story.	Students use *am* and *is* to identify their own and others' strengths in math.	Students describe their feelings and attitudes toward mathematics.	1-1	
1-2	Math Is Exploring and Thinking	Students discuss approaches for understanding a problem and strategies for solving it. Students make sense of quantities in the problem and look for connections among quantities.	Students describe approaches and strategies for solving a problem and describe connections among quantities using *can* and *could*.	Students recognize when they feel frustration during math class.	1-2	dimensions rectangular
1-3	Math Is in My World	Students consider different ways to use mathematics to represent a real-world situation.	Students discuss ways to explain and show real-world phenomena with mathematical models using the term *problem*.	Students show appreciation for the different perspectives of their classmates.	1-3	model
1-4	Math Is Explaining and Sharing	Students construct arguments to support their thinking. Students respond to the ideas and arguments of others.	Students discuss ways to construct arguments to support their thinking and respond to ideas and arguments of others using the term *thinking*.	Students practice showing respect for classmates as they share ideas and thinking.	1-4	estimate exact
1-5	Math Is Finding Patterns	Students describe strategies for uncovering patterns and for using patterns to solve problems.	Students discuss strategies for uncovering patterns and solving problems and identify strategies derived from repeated reasoning using the word *relationship*.	Students practice self-control as they learn to take turns when sharing ideas with a partner or in a group.	1-5	
1-6	Math Is Ours	Students discuss and decide on classroom norms of interaction for a productive math learning environment.	Students use pronouns such as *we* to think about behaviors and mindsets that contribute to a productive learning environment.	Students make decisions about classroom norms for working productively with classmates.	1-6	
Unit Review Fluency Practice						

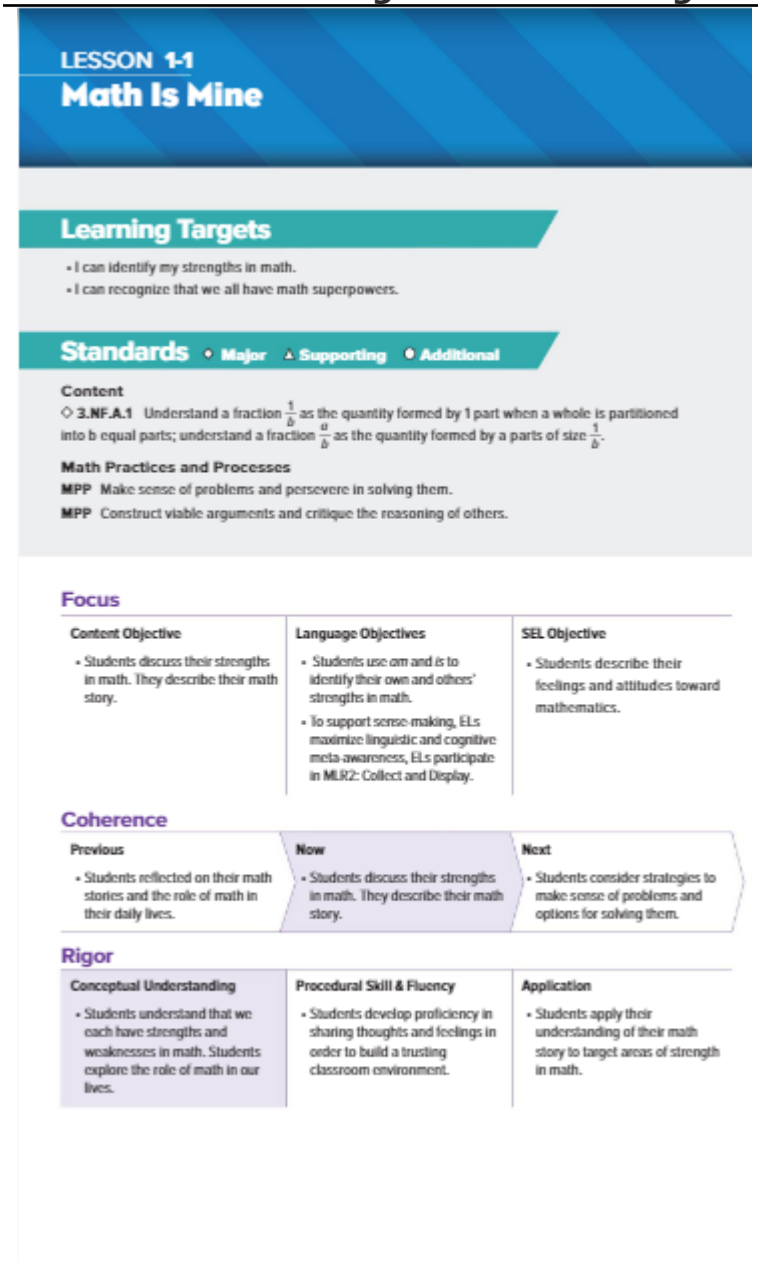
Enduring Understandings

See Above

Essential Questions

See Above

Instructional Strategies and Learning Activities



LESSON 1-1

Math Is Mine

Learning Targets

- I can identify my strengths in math.
- I can recognize that we all have math superpowers.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **3.NF.A.1** Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.

Math Practices and Processes

MPP Make sense of problems and persevere in solving them.

MPP Construct viable arguments and critique the reasoning of others.

Focus

Content Objective

- Students discuss their strengths in math. They describe their math story.

Language Objectives

- Students use *am* and *is* to identify their own and others' strengths in math.
- To support sense-making, ELs maximize linguistic and cognitive meta-awareness, ELs participate in MLR2: Collect and Display.

SEL Objective

- Students describe their feelings and attitudes toward mathematics.

Coherence

Previous

- Students reflected on their math stories and the role of math in their daily lives.

Now

- Students discuss their strengths in math. They describe their math story.

Next

- Students consider strategies to make sense of problems and options for solving them.

Rigor

Conceptual Understanding

- Students understand that we each have strengths and weaknesses in math. Students explore the role of math in our lives.

Procedural Skill & Fluency

- Students develop proficiency in sharing thoughts and feelings in order to build a trusting classroom environment.

Application

- Students apply their understanding of their math story to target areas of strength in math.

LESSON 1-2

Math Is Exploring and Thinking

Learning Targets

- I can make sense of a problem and represent it in different ways.
- I can explain different ways to think about numbers.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **3.NF.A.1** Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.

Math Practices and Processes

MPP Make sense of problems and persevere in solving them.

MPP Reason abstractly and quantitatively.

Focus

Content Objectives	Language Objectives	SEL Objective
• Students discuss approaches for understanding a problem and strategies for solving it. • Students make sense of quantities in the problem and look for connections among quantities.	• Students describe approaches and strategies for solving a problem and describe connections among quantities using *can* and *could*. • To support sense making, ELs participate in MLR6: Three Reads.	• Students recognize when they feel frustration during math class.

Coherence

Previous	Now	Next
• Students considered their own and others' math stories. They reflected on the mindsets that help them be effective doers of math.	• Students discuss and refine the problem solving process, focusing on making sense of a problem and determining a solution strategy. They relate ways to represent quantities.	• Students discuss strategies for constructing arguments to support their ideas and solutions.

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students demonstrate understanding of the problem solving process, with a focus on making sense of a problem and determining a solution plan.	• Students build proficiency with the problem-solving process.	• Students apply their understanding of the problem-solving process as they solve real-world problems.

LESSON 1-3

Math Is in My World

Learning Targets

- I can represent a real-world situation using mathematics.
- I can explain tools I can use to solve a problem.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **3.NF.A.3** Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

Math Practices and Processes

MPP Model with mathematics.

MPP Use appropriate tools strategically.

Focus

Content Objective	Language Objectives	SEL Objective
• Students consider different ways to use mathematics to represent a real-world situation.	• Students discuss ways to explain and show real-world phenomena with mathematical models using the term *problem*. • To optimize output, ELs participate in MLR5: Co-craft Questions and Problems.	• Students show appreciation for the different perspectives of their classmates.

Coherence

Previous	Now	Next
• Students discussed the problem-solving process. They related ways to represent quantities.	• Students consider models to represent real-world situations and problems. They choose tools that are appropriate for solving a given problem.	• Students refine their skill in constructing arguments and in critiquing the reasoning of their classmates.

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students demonstrate understanding of how real-world situations and problems can be modeled with mathematics.	• Students build proficiency with modeling with mathematics.	• Students apply their understanding of modeling with mathematics to solve problems.

LESSON 1-4

Math Is Explaining and Sharing

Learning Targets

- I can construct an argument to explain my thinking.
- I can explain my thinking with clear and appropriate terms.

Standards ◇ Major △ Supporting ○ Additional

Content

◇ **3.OA.A.2** Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.

Math Practices and Processes

MPP Construct arguments and critique the reasoning of others.

MPP Attend to precision.

Focus

Content Objectives

- Students construct arguments to support their thinking.
- Students respond to the ideas and arguments of others.

Language Objectives

- Students discuss ways to construct arguments to support their thinking and respond to ideas and arguments of others using the term *thinking*.
- To maximize meta-awareness, ELs participate in MLR5, Critique, Correct, Clarify.

SEL Objective

- Students practice showing respects for classmates as they share ideas and thinking.

Coherence

Previous

- Students considered models to represent real-world situations and problems. They chose appropriate tools for solving a given problem.

Now

- Students refine their skill in constructing arguments and in critiquing the reasoning of their classmates.

Next

- Students analyze and generate patterns.

Rigor

Conceptual Understanding

- Students demonstrate understanding of the importance of supporting their solutions and ideas with viable arguments and responding constructively to the arguments.

Procedural Skill & Fluency

- Students build proficiency with building viable arguments.

Application

- Students apply their understanding of argumentations to evaluate the reasonableness of the arguments of others.

LESSON 1-5

Math Is Finding Patterns

Learning Targets

- I can use patterns to develop efficient strategies to solve problems.
- I can explain why patterns are useful to solve problems.

Standards ◇ Major ▲ Supporting ○ Additional

Content

◇ **3.NF.A.3** Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Look for and express regularity in repeated reasoning.

Focus

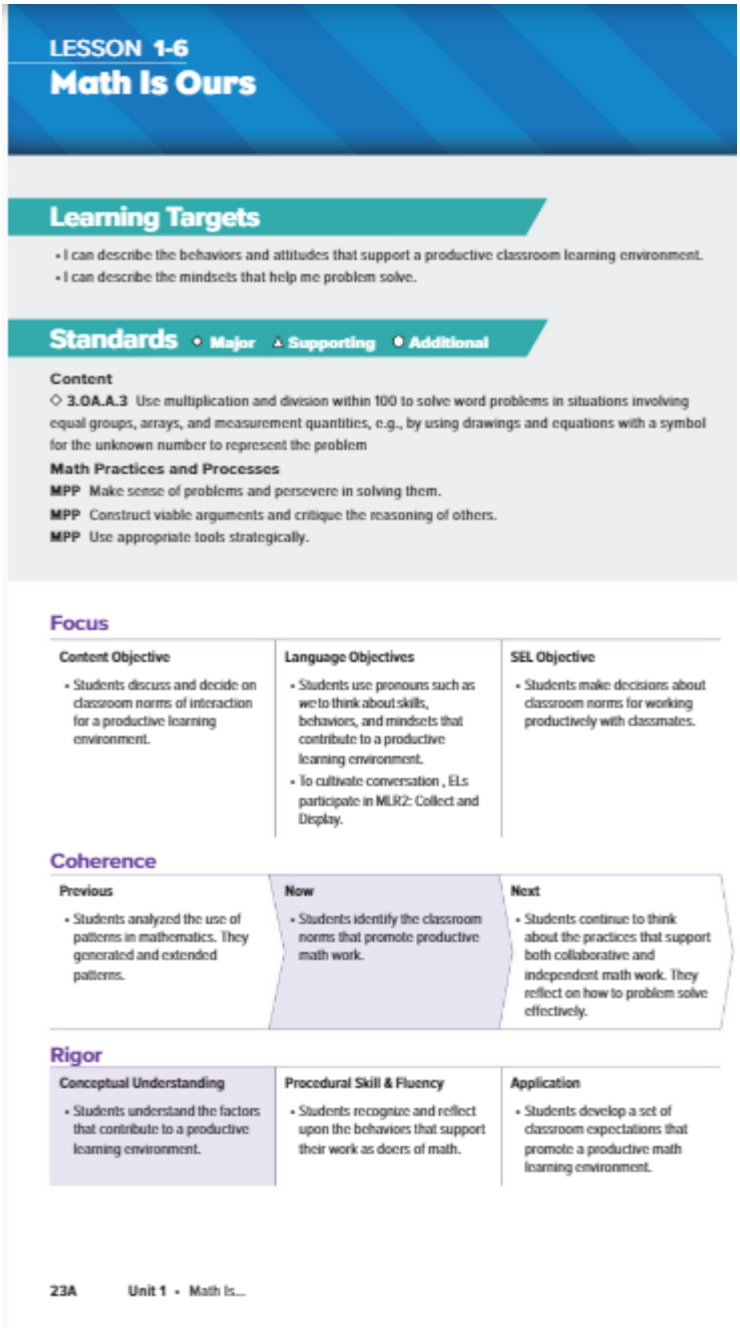
Content Objectives	Language Objectives	SEL Objective
• Students describe strategies for uncovering patterns and for using patterns to solve problems. • Students explore efficient strategies derived from repeated reasoning.	• Students discuss strategies for uncovering patterns and solving problems and identify strategies derived from repeated reasoning using the word *relationship*. • To maximize meta-awareness, ELs participate in MLR2: Collect and Display.	• Students practice self-control as they learn to take turns when sharing ideas with a partner or in a group.

Coherence

Previous	Now	Next
• Students refined their skill in constructing arguments and in critiquing the reasoning of their classmates.	• Students analyze patterns to solve problems.	• Students determine classroom norms for a productive math learning environment.

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students demonstrate understanding of patterns.	• Students build proficiency with analyzing patterns.	• Students apply their understanding of patterns to solve problems.



LESSON 1-6

Math Is Ours

Learning Targets

- I can describe the behaviors and attitudes that support a productive classroom learning environment.
- I can describe the mindsets that help me problem solve.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **3.OA.A.3** Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem

Math Practices and Processes

MPP Make sense of problems and persevere in solving them.

MPP Construct viable arguments and critique the reasoning of others.

MPP Use appropriate tools strategically.

Focus

Content Objective	Language Objectives	SEL Objective
• Students discuss and decide on classroom norms of interaction for a productive learning environment.	• Students use pronouns such as we to think about skills, behaviors, and mindsets that contribute to a productive learning environment. • To cultivate conversation, ELs participate in MLR2: Collect and Display.	• Students make decisions about classroom norms for working productively with classmates.

Coherence

Previous	Now	Next
• Students analyzed the use of patterns in mathematics. They generated and extended patterns.	• Students identify the classroom norms that promote productive math work.	• Students continue to think about the practices that support both collaborative and independent math work. They reflect on how to problem solve effectively.

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students understand the factors that contribute to a productive learning environment.	• Students recognize and reflect upon the behaviors that support their work as doers of math.	• Students develop a set of classroom expectations that promote a productive math learning environment.

Integration of Career Readiness, Life Literacies and Key Skills

9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
9.1.2.CR.2	List ways to give back, including making donations, volunteering, and starting a business.
9.1.2. FI.1	Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).

9.4.2.CT.2	Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
9.1.2.FP.1	Explain how emotions influence whether a person spends or saves.
9.1.2.FP.3	Identify the factors that influence people to spend or save (e.g., commercials, family, culture, society).
9.4.2.DC.3	Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4).
9.1.2.PB.1	Determine various ways to save and places in the local community that help people save and accumulate money over time.
9.1.2.PB.2	Explain why an individual would choose to save money.
9.4.2.DC.6	Identify respectful and responsible ways to communicate in digital environments.
9.4.2.DC.7	Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
9.4.2.TL.2	Create a document using a word processing application.
9.4.2.TL.5	Describe the difference between real and virtual experiences.
9.4.2.TL.6	Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
9.4.2.TL.7	Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).

Technology and Design Integration

8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
8.1.2.DA.3	Identify and describe patterns in data visualizations.
8.1.2.DA.4	Make predictions based on data using charts or graphs.
8.1.2.AP.4	Break down a task into a sequence of steps.
8.1.2.AP.5	Describe a program’s sequence of events, goals, and expected outcomes.
8.2.2.ITH.4	Identify how various tools reduce work and improve daily tasks.

Interdisciplinary Connections

LA.RI.4	Reading Informational Text
LA.RI.4.1	Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.
LA.RI.4.3	Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
LA.RI.4.4	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.
LA.RI.4.5	Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
LA.RI.4.6	Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

LA.RI.4.8	Explain how an author uses reasons and evidence to support particular points in a text.
LA.RI.4.9	Integrate and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) information from two texts on the same topic in order to write or speak about the subject knowledgeably.
LA.SL.4	Speaking and Listening
LA.SL.4.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
LA.SL.4.2	Paraphrase portions of a text read aloud or information presented in diverse media and formats (e.g., visually, quantitatively, and orally).
LA.SL.4.3	Identify the reasons and evidence a speaker provides to support particular points.
LA.SL.4.4	Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

Differentiation

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

- **Definitions of Differentiation Components**:

    - Content – the specific information that is to be taught in the lesson/unit/course of instruction.
    - Process – how the student will acquire the content information.
    - Product – how the student will demonstrate understanding of the content.
    - Learning Environment – the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:



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Modifications and Accommodations

Refer to QSAC EXCEL SMALL SPED ACCOMMOCATIONS spreadsheet in this discipline.

Modifications and Accommodations used in this unit:

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

DRA

Additional Benchmarks used in this unit:

Reveal Unit assessments

Formative Assessments

Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

Teacher observation

Checklists

Questioning and Discussion

Quizzes

Summative Assessments

summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

End of Unit assessments

Instructional Materials

See above

Standards

MA.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MA.4.NF.A.1	Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.