Unit 3 Reveal Grade 2

Content Area: **Math**
Course(s): **Math**
Time Period: **November**
Length: **3 weeks**
Status: **Published**

Unit Overview

UNIT 3 PLANNER
Patterns within Numbers

PACING: 12 days

LESSON		MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY
Unit Opener	IGNITE Addition Patterns	Investigate an addition table, search for patterns, and students will explain what they find.				
						Math Terms
3-1	Counting Patterns	Students describe patterns when counting by 1s within 1,000.	Students discuss patterns when counting by 1s within 1,000 using *notice* and *counting*.	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	3-1	column pattern row
3-2	Patterns When Skip Counting by 5s	Students skip count by 5s within 1,000.	Students explain patterns when skip counting by 5s while answering simple *Wh-* questions and using the comparative adjective *quicker*.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	3-2	skip count
3-3	Patterns When Skip Counting by 10s and 100s	Students skip count by 10s and 100s within 1,000.	Students identify and describe patterns when skip counting by 10s and 100s using *notice*, *similar*, and *different*.	Students set learning goals and initiate work on tasks to accomplish their goals.	3-3	skip count
Math Probe	Counting by 1s, 5s, and 10s	Gather data on students' understanding of counting by 1s, 5s, and 10s.				
3-4	Understand Even and Odd Numbers	Students determine if the number of objects in a group is even or odd.	Students discuss if a number of objects in a group is even or odd using *because*.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	3-4	even odd
3-5	Addition Patterns	Students write an equation to express an even number as a sum of two equal addends.	Students explain why a sum is even or odd using *because*.	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	3-5	doubles near doubles
3-6	Patterns with Arrays	Students use skip counting to find the total number of objects in an array.	Students explain how to skip count to find the total number of objects in an array using the verb *arrange*.	Students exchange ideas for completing a mathematical task with a peer and reflect on the value of their similarities and differences.	3-6	array
3-7	Use Arrays to Add	Students use arrays to find the sum of equal addends.	Students explain how using arrays and repeated addition can help in finding the sum of equal addends using *can* and academic vocabulary such as *represent*, *repeated*, and *determine*.	Students identify and discuss the emotions experienced during math learning.	3-7	repeated addition
Unit Review **Fluency Practice**						
Unit Assessment **Performance Task**						

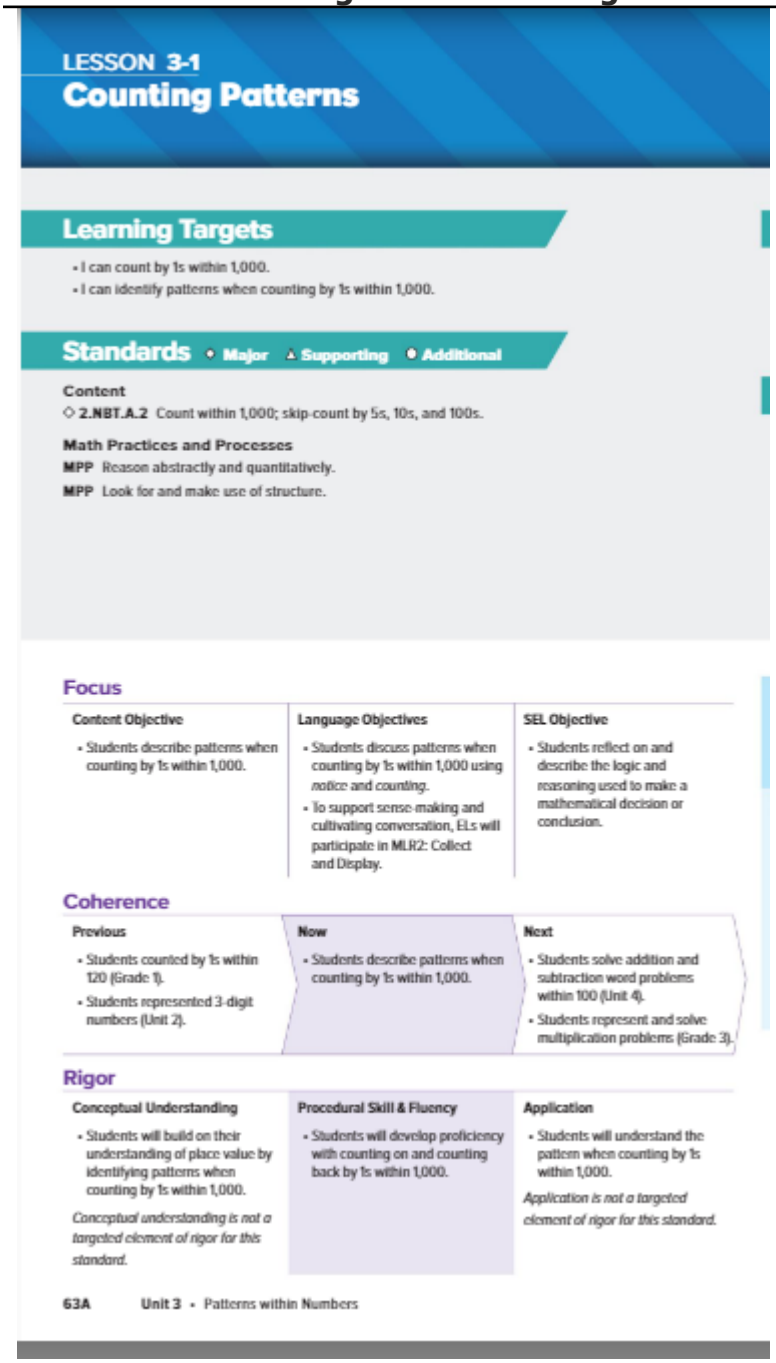
Enduring Understandings

See Above

Essential Questions

How can I use patterns to add and count numbers?

Instructional Strategies and Learning Activities



LESSON 3-1

Counting Patterns

Learning Targets

- I can count by 1s within 1,000.
- I can identify patterns when counting by 1s within 1,000.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **2.NBT.A.2** Count within 1,000; skip-count by 5s, 10s, and 100s.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Look for and make use of structure.

Focus

Content Objective	Language Objectives	SEL Objective
• Students describe patterns when counting by 1s within 1,000.	• Students discuss patterns when counting by 1s within 1,000 using *notice* and counting. • To support sense-making and cultivating conversation, ELs will participate in MLR2: Collect and Display.	• Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.

Coherence

Previous	Now	Next
• Students counted by 1s within 120 (Grade 1). • Students represented 3-digit numbers (Unit 2).	• Students describe patterns when counting by 1s within 1,000.	• Students solve addition and subtraction word problems within 100 (Unit 4). • Students represent and solve multiplication problems (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students will build on their understanding of place value by identifying patterns when counting by 1s within 1,000. *Conceptual understanding is not a targeted element of rigor for this standard.*	• Students will develop proficiency with counting on and counting back by 1s within 1,000.	• Students will understand the pattern when counting by 1s within 1,000. *Application is not a targeted element of rigor for this standard.*

LESSON 3-2

Patterns When Skip Counting by 5s

Learning Targets

- I can identify patterns when skip counting by 5s.
- I can describe patterns when skip counting by 5s.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **2.NBT.A.2** Count within 1,000; skip-count by 5s, 10s, and 100s.

Math Practices and Processes

MPP Attend to precision.

MPP Reason abstractly and quantitatively.

Focus

Content Objective	Language Objectives	SEL Objective
• Students skip count by 5s within 1,000.	• Students explain patterns when skip counting by 5s while answering simple *Wh-* questions and using the comparative adjective *quicker*. • To support optimizing output, ELs will participate in MLR1: Stronger and Clearer Each Time.	• Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.

Coherence

Previous	Now	Next
• Students looked for patterns in numbers within 120 (Grade 1). • Students described patterns when counting by 1s within 1,000 (Unit 3).	• Students skip count by 5s within 1,000.	• Students skip count by 10s and 100s within 1,000 (Unit 3). • Students represent and solve multiplication problems (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students will build on their understanding of skip counting to identify patterns when skip counting by 5s within 1,000. *Conceptual understanding is not a targeted element of rigor for this standard.*	• Students develop proficiency with skip counting by 5s within 1,000.	• Students apply the patterns of skip counting by 5s within 1,000 to solve real-world problems. *Application is not a targeted element of rigor for this standard.*

LESSON 3-3

Patterns When Skip Counting by 10s and 100

Learning Targets

- I can identify patterns when skip counting by 10s and 100s.
- I can describe patterns when skip counting by 10s and 100s.

Standards ◇ Major △ Supporting ○ Additional

Content

◇ **2.NBT.A.2** Count within 1,000; skip-count by 5s, 10s, and 100s.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Look for and express regularity in repeated reasoning.

Focus

Content Objective	Language Objectives	SEL Objective
• Students skip count by 10s and 100s within 1,000.	• Students identify and describe patterns when skip counting by 10s and 100s using *notice*, *similar*, and *different*. • To support cultivating conversation and maximizing linguistic and cognitive meta-awareness, ELs will participate in MLR8: Discussion Supports.	• Students set learning goals and initiate work on tasks to accomplish their goals.

Coherence

Previous	Now	Next
• Students looked for patterns in numbers within 120 (Grade 1). • Students skip count by 5s within 1,000 (Unit 3).	• Students skip count by 10s and 100s within 1,000.	• Students solve addition and subtraction word problems within 100 (Unit 4). • Students represent and solve multiplication problems (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of skip counting to identify patterns when skip counting by 10s and 100s within 1,000. *Conceptual understanding is not a targeted element of rigor for this standard.*	• Students develop proficiency with skip counting by 10s and 100s within 1,000.	• Students apply the patterns of skip counting by 10s and 100s within 1,000 to solve real-world problems. *Application is not a targeted element of rigor for this standard.*

LESSON 3-4

Understand Even and Odd Numbers

Learning Targets

- I can determine whether a group of objects is even or odd.
- I can recognize the patterns within even and odd numbers.

Standards ◆ Major ▲ Supporting ● Additional

Content

△ **2.OA.C.3** Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Look for and express regularity in repeated reasoning.

Focus

Content Objective	Language Objectives	SEL Objective
• Students determine if the number of objects in a group is even or odd.	• Students discuss if a number of objects in a group is even or odd using *because*. • To support sense-making, ELs will participate in MLR6: Three Reads.	• Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.

Coherence

Previous	Now	Next
• Students analyzed whether two sides of an equation were equal (Grade 1). • Students identified patterns when skip counting by 5s, 10s, and 100s (Unit 3).	• Students find patterns in even and odd numbers. • Students determine whether a number is even or odd.	• Students use patterns to solve addition problems (Unit 5). • Students identify doubles, fives, and tens skip counting patterns on a multiplication chart (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students begin to develop an understanding of even and odd numbers.	• Students determine whether the number of objects in a group is even or odd. *Procedural skill & fluency is not a targeted element of rigor for this standard.*	• Students apply understanding of even and odd numbers to solve real-world problems. *Application is not a targeted element of rigor for this standard.*

LESSON 3-5

Addition Patterns

Learning Targets

- I can write an equation to show an even number as a sum of doubles.
- I can write an equation to show an odd number as a sum of near doubles.

Standards ◆ Major △ Supporting ○ Additional

Content

△ **2.OA.C.3** Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Look for and express regularity in repeated reasoning.

Focus

Content Objective	Language Objectives	SEL Objective
• Students write an equation to express an even number as a sum of two equal addends.	• Students explain why a sum is even or odd using *because*. • To support sense-making and cultivating conversation, ELs will participate in MLR3: Critique, Correct, and Clarify.	• Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.

Coherence

Previous	Now	Next
• Students analyzed whether two sides of an equation were equal (Grade 1). • Students determined whether a given number was even or odd (Unit 3).	• Students write an equation to express an even number as a sum of two equal addends, or a doubles fact.	• Students use patterns to solve addition problems (Unit 5). • Students identify doubles, fives, and tens skip counting patterns on a multiplication chart (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of even and odd numbers to develop understanding of addition patterns.	• Students develop proficiency with addition patterns through writing equations to express even numbers as sums of two equal addends. *Procedural skill & fluency is not a targeted element of rigor for this standard.*	• Students apply their understanding that two equal addends have an even sum to solve real-world problems. *Application is not a targeted element of rigor for this standard.*

LESSON 3-6

Patterns with Arrays

Learning Target

- I can skip count to find the total number of objects in an array.
- I can represent equal groups with arrays.

Standards ◆ Major ▲ Supporting ● Additional

Content

△ **2.OA.C.4** Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Look for and express regularity in repeated reasoning.

Focus

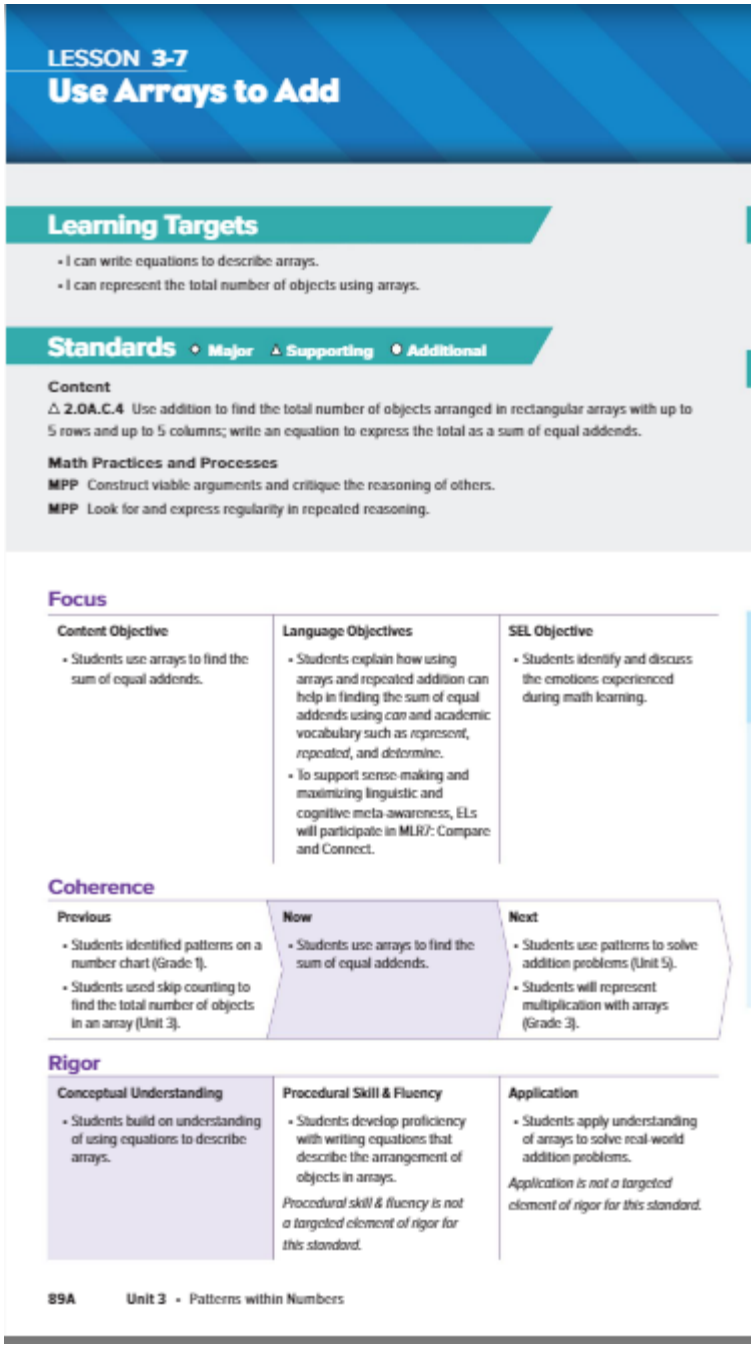
Content Objective	Language Objectives	SEL Objective
• Students use skip counting to find the total number of objects in an array.	• Students explain how to skip count to find the total number of objects in an array using the verb *arrange*. • To support optimizing output, ELs will participate in MLR1: Stronger and Clearer Each Time.	• Students exchange ideas for completing a mathematical task with a peer and reflect on the value of their similarities and differences.

Coherence

Previous	Now	Next
• Students identified patterns on a number chart (Grade 1). • Students understood that the sum of two equal addends (even or odd) is always even (Unit 3).	• Students use skip counting to find the total number of objects in an array.	• Students use arrays to find the sum of equal addends (Unit 3). • Students will represent multiplication with arrays (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students will build on their understanding of skip counting to find the total number of objects.	• Students will be able to skip count to find the total number of objects in an array. *Procedural skill & fluency is not a targeted element of rigor for this standard.*	• Students will use arrays to find the total number of objects to solve word problems. *Application is not a targeted element of rigor for this standard.*



LESSON 3-7

Use Arrays to Add

Learning Targets

- I can write equations to describe arrays.
- I can represent the total number of objects using arrays.

Standards ● Major ▲ Supporting ○ Additional

Content

▲ **2.OA.C.4** Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Math Practices and Processes

MPP Construct viable arguments and critique the reasoning of others.

MPP Look for and express regularity in repeated reasoning.

Focus

Content Objective	Language Objectives	SEL Objective
• Students use arrays to find the sum of equal addends.	• Students explain how using arrays and repeated addition can help in finding the sum of equal addends using *can* and academic vocabulary such as *represent*, *repeated*, and *determine*. • To support sense-making and maximizing linguistic and cognitive meta-awareness, ELs will participate in MLR7: Compare and Connect.	• Students identify and discuss the emotions experienced during math learning.

Coherence

Previous	Now	Next
• Students identified patterns on a number chart (Grade 1). • Students used skip counting to find the total number of objects in an array (Unit 3).	• Students use arrays to find the sum of equal addends.	• Students use patterns to solve addition problems (Unit 5). • Students will represent multiplication with arrays (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on understanding of using equations to describe arrays.	• Students develop proficiency with writing equations that describe the arrangement of objects in arrays. *Procedural skill & fluency is not a targeted element of rigor for this standard.*	• Students apply understanding of arrays to solve real-world addition problems. *Application is not a targeted element of rigor for this standard.*

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Integration of Career Readiness, Life Literacies and Key Skills

PFL.9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
PFL.9.1.2.CR.2	List ways to give back, including making donations, volunteering, and starting a business.
PFL.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).
PFL.9.1.2.FP.1	Explain how emotions influence whether a person spends or saves.
PFL.9.1.2.FP.3	Identify the factors that influence people to spend or save (e.g., commercials, family, culture, society).

PFL.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.
PFL.9.1.2.PB.2	Explain why an individual would choose to save money.
TECH.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).
TECH.9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
TECH.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).
TECH.9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
TECH.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).
TECH.9.4.2.DC.6	Identify respectful and responsible ways to communicate in digital environments.
TECH.9.4.2.DC.7	Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
TECH.9.4.2.TL.2	Create a document using a word processing application.
TECH.9.4.2.TL.5	Describe the difference between real and virtual experiences.
TECH.9.4.2.TL.6	Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
TECH.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

CS.K-2.8.1.2.AP.4	Break down a task into a sequence of steps.
CS.K-2.8.1.2.AP.5	Describe a program's sequence of events, goals, and expected outcomes.
CS.K-2.8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
CS.K-2.8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
CS.K-2.8.1.2.DA.3	Identify and describe patterns in data visualizations.
CS.K-2.8.1.2.DA.4	Make predictions based on data using charts or graphs.
CS.K-2.8.2.2.ITH.4	Identify how various tools reduce work and improve daily tasks.

Interdisciplinary Connections

LA.RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
LA.RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
LA.RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
LA.RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
LA.RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
LA.RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.

LA.RI.2.7	Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
LA.RI.2.8	Describe and identify the logical connections of how reasons support specific points the author makes in a text.
LA.RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.
LA.RI.2.10	Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.
LA.W.2.5	With guidance and support from adults and peers, focus on a topic and strengthen writing as needed through self-reflection, revising and editing.
LA.SL.2.1	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
LA.L.2.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

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

MATH.2.OA.C.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
MATH.2.OA.C.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
MATH.2.NBT.A.2	Count within 1000; skip-count by 5s, 10s, and 100s.