Unit 2 Reveal Grade 4

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

Unit Overview

UNIT 2 PLANNER

Generalize Place-Value Structure

PACING: 8 days

LESSON		MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY
Unit Opener	IGNITE! Fewest Coins	Explore base-5 number system using pennies, nickels, and quarters and compare to a base-10 system.				
2-1	Understand the Structure of Multi-Digit Numbers	Students relate the value of a digit in one place-value position to that of the same digit in the place to its right; determine the value of a digit in any place in a number.	Students identify the value of any digit in a number and explain that a digit in any place represents ten times what it represents in the place to its right using the terms *to the right/left*.	Students set learning goals and initiate work on tasks to accomplish their goals.	2-1	Math Terms base 10 number system digit expanded form
2-2	Read and Write Numbers to One Million	Students read and write numbers from 1 to 1,000,000 in standard form, word form, and expanded form.	Students identify and write multi-digit whole numbers using base-ten numerals, number names, and expanded form using the prefix multi-.	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	2-2	expanded form period standard form word form
2-3	Compare Multi-Digit Numbers	Students compare multi-digit numbers using place value and record comparisons using symbols.	Students compare two multi-digit numbers based on the values of digits in each place using the academic word *compare*.	Students identify personal traits that make them good students, peers, and math learners.	2-3	digit value
2-4	Round Multi-Digit Numbers	Students determine an estimate by rounding numbers to an appropriate place; round multi-digit numbers to any place.	Students explain to partners how rouding can be used to get estimates.	Students engage in respectful discourse with peers about various perspectives for approaching a mathematical challenge.	2-4	halfway point round
Math Probe	Rounding Numbers	Gather data on students' understandings of rounding multi-digit numbers.				
Unit Review Fluency Practice						
Unit Assessment Performance Task						

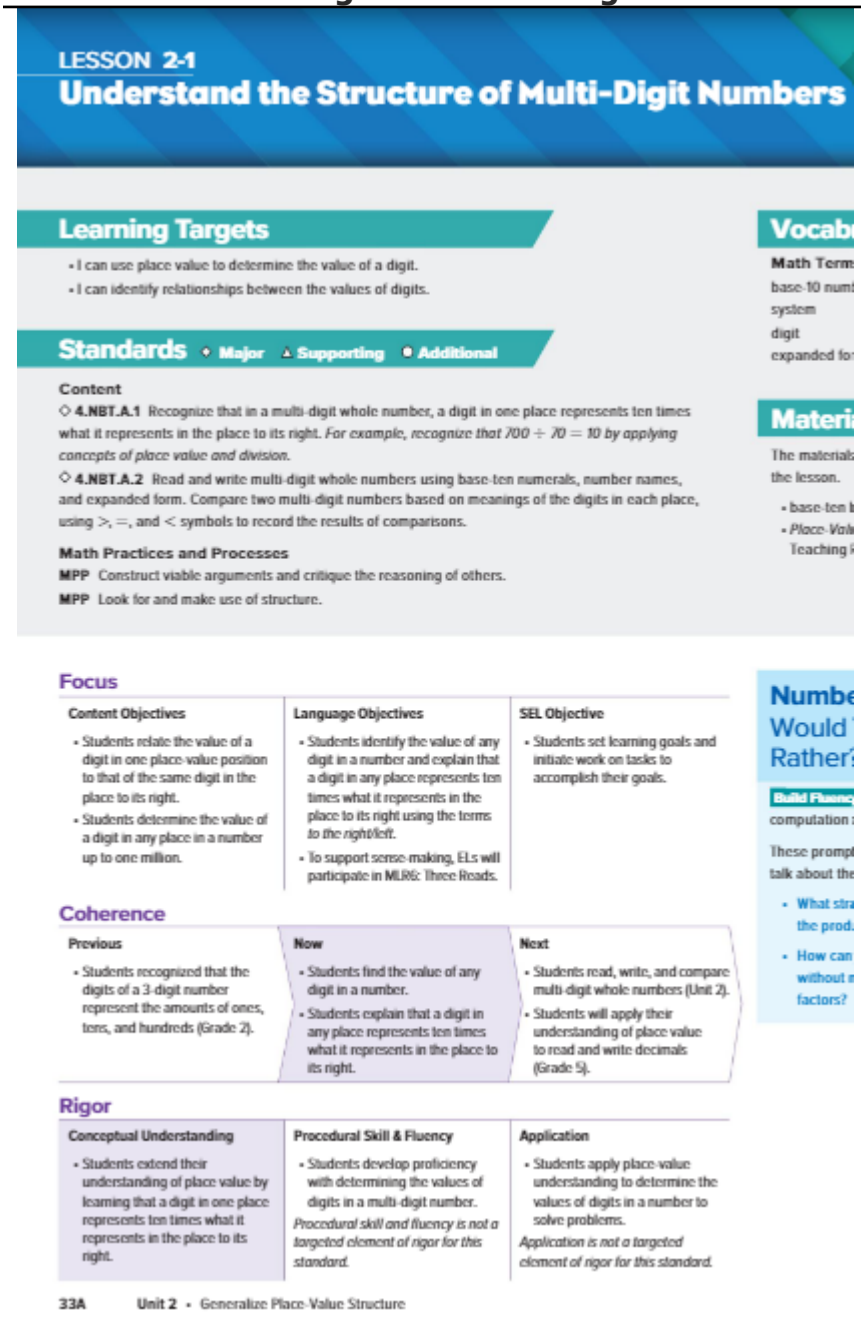
Enduring Understandings

See Above

Essential Questions

See Above

Instructional Strategies and Learning Activities



LESSON 2-1

Understand the Structure of Multi-Digit Numbers

Learning Targets

- I can use place value to determine the value of a digit.
- I can identify relationships between the values of digits.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **4.NBT.A.1** Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*

◇ **4.NBT.A.2** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Math Practices and Processes

MPP Construct viable arguments and critique the reasoning of others.

MPP Look for and make use of structure.

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Teaching

Focus

Content Objectives	Language Objectives	SEL Objective
• Students relate the value of a digit in one place-value position to that of the same digit in the place to its right. • Students determine the value of a digit in any place in a number up to one million.	• Students identify the value of any digit in a number and explain that a digit in any place represents ten times what it represents in the place to its right using the terms *to the right/left*. • To support sense-making, ELs will participate in MLR6: Three Reads.	• Students set learning goals and initiate work on tasks to accomplish their goals.

Coherence

Previous	Now	Next
• Students recognized that the digits of a 3-digit number represent the amounts of ones, tens, and hundreds (Grade 2).	• Students find the value of any digit in a number. • Students explain that a digit in any place represents ten times what it represents in the place to its right.	• Students read, write, and compare multi-digit whole numbers (Unit 2). • Students will apply their understanding of place value to read and write decimals (Grade 5).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students extend their understanding of place value by learning that a digit in one place represents ten times what it represents in the place to its right.	• Students develop proficiency with determining the values of digits in a multi-digit number. *Procedural skill and fluency is not a targeted element of rigor for this standard.*	• Students apply place-value understanding to determine the values of digits in a number to solve problems. *Application is not a targeted element of rigor for this standard.*

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LESSON 2-2

Read and Write Numbers to One Million

Learning Targets

- I can read and write greater numbers in word form, standard form, and expanded form.
- I can explain how to use place-value structure to read and write greater numbers.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **4.NBT.A** Generalize place value understanding for multi-digit whole numbers.

◇ **4.NBT.A.2** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Math Practices and Processes

MPP Use appropriate tools strategically.

MPP Look for and make use of structure.

Focus

Content Objective	Language Objectives	SEL Objective
• Students read and write numbers from 1 through 1,000,000 in standard form, word form, and expanded form.	• Students identify and write multi-digit whole numbers using base-ten numerals, number names, and expanded form using the prefix *multi-*. • To support optimizing output, ELs will participate in MLR4: Information Gap.	• Students actively listen without interruption as peers describe how they approached a complex mathematical task.

Coherence

Previous	Now	Next
• Students read and wrote numbers to 1,000 (Grade 2). • Students recognized that a digit in any place represents ten times what it represents in the place to its right (Unit 2).	• Students read and write multi-digit whole numbers to 1,000,000 using base-ten numerals, number names, and expanded form.	• Students use place value to compare multi-digit whole numbers (Unit 2). • Students read, write, and compare decimals to thousandths (Grade 5).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students extend their understanding of place value as they read and write multi-digit whole numbers.	• Students build proficiency with reading and writing multi-digit whole numbers. *Procedural skill and fluency is not a targeted element of rigor for this standard.*	• Students apply their understanding of place-value structure to read and write multi-digit numbers. *Application is not a targeted element of rigor for this standard.*

LESSON 2-3

Compare Multi-Digit Numbers

Learning Targets

- I can compare two multi-digit numbers based on the value of the digits in each place.
- I can use >, =, and < symbols to record the results of comparisons.

Standards ◇ Major △ Supporting ○ Additional

Content

◇ **4.NBT.A** Generalize place value understanding for multi-digit whole numbers.

◇ **4.NBT.A.2** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Use appropriate tools strategically.

Focus

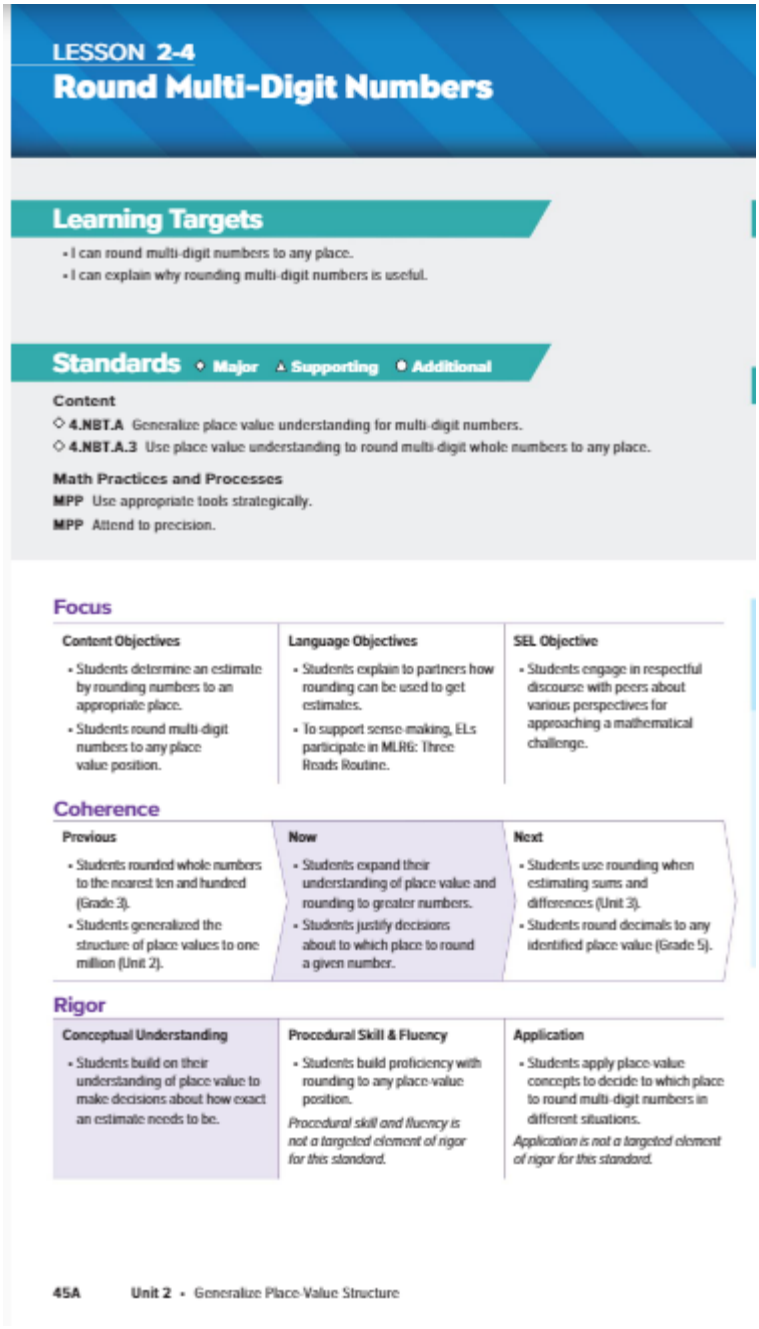
Content Objective	Language Objectives	SEL Objective
• Students compare multi-digit numbers using place value and record comparisons using symbols.	• Students compare two multi-digit numbers based on the values of digits in each place using the academic word *compare*. • To support sense-making and to maximize meta-language, ELs will participate in MLR2: Collect and Display and MLR5: Co-Craft Questions or Problems.	• Students identify personal traits that make them good students, peers, and math learners.

Coherence

Previous	Now	Next
• Students compared two 3-digit numbers based on the values of the digits in each place (Grade 2). • Students determined the value of digits in a multi-digit number (Unit 2).	• Students compare two multi-digit numbers based on the values of digits in each place.	• Students round multi-digit numbers to any place (Unit 2). • Students compare two decimals based on the values of digits in each place (Grade 5).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students extend their understanding of place value as they compare two multi-digit numbers.	• Students build proficiency with comparing multi-digit numbers based on place value.	• Students apply their understanding of comparing multi-digit numbers to solve real-world problems. *Application is not a targeted element of rigor for this standard.*



LESSON 2-4

Round Multi-Digit Numbers

Learning Targets

- I can round multi-digit numbers to any place.
- I can explain why rounding multi-digit numbers is useful.

Standards ◇ Major △ Supporting ○ Additional

Content

◇ **4.NBT.A** Generalize place value understanding for multi-digit numbers.

◇ **4.NBT.A.3** Use place value understanding to round multi-digit whole numbers to any place.

Math Practices and Processes

MPP Use appropriate tools strategically.

MPP Attend to precision.

Focus

Content Objectives	Language Objectives	SEL Objective
• Students determine an estimate by rounding numbers to an appropriate place. • Students round multi-digit numbers to any place value position.	• Students explain to partners how rounding can be used to get estimates. • To support sense-making, ELs participate in MLR6: Three Reads Routine.	• Students engage in respectful discourse with peers about various perspectives for approaching a mathematical challenge.

Coherence

Previous	Now	Next
• Students rounded whole numbers to the nearest ten and hundred (Grade 3). • Students generalized the structure of place values to one million (Unit 2).	• Students expand their understanding of place value and rounding to greater numbers. • Students justify decisions about to which place to round a given number.	• Students use rounding when estimating sums and differences (Unit 3). • Students round decimals to any identified place value (Grade 5).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of place value to make decisions about how exact an estimate needs to be.	• Students build proficiency with rounding to any place-value position. *Procedural skill and fluency is not a targeted element of rigor for this standard.*	• Students apply place-value concepts to decide to which place to round multi-digit numbers in different situations. *Application is not a targeted element of rigor for this standard.*

45A Unit 2 • Generalize Place-Value Structure

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.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.NBT.A.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
MA.4.NBT.A.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MA.4.NBT.A.3	Use place value understanding to round multi-digit whole numbers to any place.