Unit 9 Reveal Grade 2

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

Unit Overview

UNIT 9 PLANNER

Strategies to Add 3-Digit Numbers

PACING: 11 days

LESSON		MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY
Unit Opener	IGNITE! Greatest and Least Sums	Students apply their understanding of addition and place value to tackle addition challenges.				
						Math Terms
9-1	Use Mental Math to Add 10 or 100	Students mentally add 10 or 100 to a 3-digit number.	Students talk about how they mentally add 10 or 100 to a 3-digit number using the phrase *go up*.	Students discuss and practice strategies for managing stressful situations.	9-1	hundreds
9-2	Represent Addition with 3-Digit Numbers	Students represent and solve 3-digit addition equations that require no regrouping.	Students discuss solving 3-digit addition equations that require no regrouping using the modals *can* and *might*.	Students break down a situation to identify the problem at hand.	9-2	addend
9-3	Represent Addition with 3-Digit Numbers with Regrouping	Students represent and solve 3-digit addition equations that require regrouping the ones and tens.	Students talk about solving 3-digit addition equations that require regrouping ones and tens, comparing the groupings using the adjectives *similar* and *different*.	Students explore taking different perspectives on approaches to problem solving.	9-3	regroup
9-4	Decompose Addends to Add 3-Digit Numbers	Students decompose two addends to add 3-digit numbers.	Students talk about decomposing two addends to add 3-digit numbers using *could* and the adjective *helpful*.	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	9-4	decompose partial sums
9-5	Decompose One Addend to Add 3-Digit Numbers	Students decompose one addend to add 3-digit numbers.	Students talk about decomposing one addend to add 3-digit numbers using the modal *might*.	Students develop and execute a plan, including selecting tools for mathematical problem solving.	9-5	decompose
9-6	Adjust Addends to Add 3-Digit Numbers	Students adjust addends to add 3-digit numbers.	Students explain how to adjust addends to add 3-digit numbers using the modal *must*.	Students recognize and work to understand the emotions of others and practice empathetic responses.	9-6	adjust friendly numbers
9-7	Explain Addition Strategies	Students explain the strategies they use to add 3-digit numbers.	Students talk about the strategies they use to add 3-digit numbers using the superlative *best* and the adjective *useful*.	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	9-7	adjust decompose
Math Probe	Addition Word Problems	Solve 3-digit addition word problems involving two addends and compare the solution to a given number.				
Unit Review Fluency Practice						
Unit Assessment Performance Task						

Enduring Understandings

See Above

Essential Questions

What strategies can I use to add 3-digit numbers?

Instructional Strategies and Learning Activities

LESSON 9-1

Use Mental Math to Add 10 or 100

Learning Target

- I can mentally add 10 or 100 to a 3-digit number.

Standards ◆ Major ▲ Supporting ○ Additional

Content

◇ **2.NBT.B.8** Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Use appropriate tools strategically.

Focus

Content Objective	Language Objectives	SEL Objective
• Students mentally add 10 or 100 to a 3-digit number.	• Students talk about how they mentally add 10 or 100 to a 3-digit number using the phrase *go up*. • To support maximizing cognitive and linguistic meta-awareness, ELs participate in MLR8: Discussion Supports.	• Students discuss and practice strategies for managing stressful situations.

Coherence

Previous	Now	Next
• Students mentally added 10 to a 2-digit number (Grade 1). • Students used strategies to add within 100 (Unit 5).	• Students use place value patterns to mentally add 10 or 100 to a 3-digit number.	• Students represent and solve 3-digit addition equations (Unit 9). • Students solve two-step word problems with four operations (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of place value to add 10 or 100 to 3-digit numbers.	• Students develop proficiency with using place value patterns to add 10 or 100 to 3-digit numbers.	• Students apply place value patterns and addition strategies to solve real-world problems involving adding 10 or 100 to 3-digit numbers. *Application is not a targeted element of rigor for this standard.*

LESSON 9-2

Represent Addition with 3-Digit Numbers

Learning Target

- I can add 3-digit numbers without regrouping.

Standards ◇ Major △ Supporting ○ Additional

Content

◇ **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; justify the reasoning used with a written explanation. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Model with mathematics.

Focus

Content Objective	Language Objectives	SEL Objective
• Students represent and solve 3-digit addition equations that require no regrouping.	• Students discuss solving 3-digit addition equations that require no regrouping using the modals *can* and *might*. • To support cultivating conversation, ELs participate in MLR3: Critique, Correct, and Clarify.	• Students break down a situation to identify the problem at hand.

Coherence

Previous	Now	Next
• Students added 2-digit numbers using different strategies (Grade 1). • Students used mental math to add 10 or 100 to a 3-digit number (Unit 9).	• Students apply their understanding of place value to add 3-digit numbers without regrouping.	• Students decompose and adjust addends to add 3-digit numbers (Unit 9). • Students solve two-step word problems with four operations (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of place value to add 3-digit numbers.	• Students develop proficiency with using place value to add 3-digit numbers. *Procedural skill and fluency is not a targeted element of rigor for this standard.*	• Students apply place value concepts and addition strategies to solve real-world problems with 3-digit addends. *Application is not a targeted element of rigor for this standard.*

LESSON 9-3

Represent Addition with 3-Digit Numbers with Regrouping

Learning Target

- I can regroup ones and tens to add 3-digit numbers.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; justify the reasoning used with a written explanation. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Math Practices and Processes

MPP Make sense of problems and persevere in solving them.

MPP Model with mathematics.

Focus

Content Objective	Language Objectives	SEL Objective
• Students represent and solve 3-digit addition equations that require regrouping the ones and tens.	• Students talk about solving 3-digit addition equations that require regrouping ones and tens, comparing the groupings using the adjectives *similar* and *different*. • To support sense-making, ELs participate in MLR2: Collect and Display.	• Students explore taking different perspectives on approaches to problem solving.

Coherence

Previous	Now	Next
• Students added 2-digit numbers using different strategies (Grade 1). • Students added 3-digit addition equations that required no regrouping (Unit 9).	• Students apply their understanding of place value to add 3-digit numbers with regrouping.	• Students decompose and adjust addends to add 3-digit numbers (Unit 9). • Students solve two-step word problems with four operations (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of place value to add 3-digit numbers with regrouping.	• Students develop proficiency with using place value to add 3-digit numbers with regrouping. *Procedural skill & fluency is not a targeted element of rigor for this standard.*	• Students apply place value concepts and addition strategies to solve real-world problems with 3-digit addends with regrouping. *Application is not a targeted element of rigor for this standard.*

LESSON 9-4

Decompose Addends to Add 3-Digit Numbers

Learning Target

- I can decompose two addends to help me add 3-digit numbers.

Standards ◇ Major △ Supporting ○ Additional

Content

◇ **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; justify the reasoning used with a written explanation. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Construct viable arguments and critique the reasoning of others.

Focus

Content Objective	Language Objectives	SEL Objective
• Students decompose two addends to add 3-digit numbers.	• Students talk about decomposing two addends to add 3-digit numbers using *could* and the adjective *helpful*. • To support optimizing output, ELs participate in MLR7: Compare and Connect.	• Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.

Coherence

Previous	Now	Next
• Students added tens and ones (Grade 1). • Students regrouped ones and tens to add 3-digit numbers (Unit 9).	• Students decompose addends by place value to add 3-digit numbers.	• Students decompose one addend by place value to add 3-digit numbers (Unit 9). • Students solve two-step word problems with four operations (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of decomposing by place value to add 3-digit numbers.	• Students develop fluency with decomposing addends by place value to solve 3-digit addition problems.	• Students apply the addition strategy of decomposing addends by place value to solve real-world problems with 3-digit addends. *Application is not a targeted element of rigor for this standard.*

LESSON 9-5

Decompose One Addend to Add 3-Digit Numbers

Learning Target

- I can decompose one addend to add 3-digit numbers.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; justify the reasoning used with a written explanation. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Use appropriate tools strategically.

Focus

Content Objective	Language Objectives	SEL Objective
• Students decompose one addend to add 3-digit numbers.	• Students talk about decomposing one addend to add 3-digit numbers using the modal *might*. • To support optimizing output, ELs participate in MLR1: Stronger and Clearer Each Time.	• Students develop and execute a plan, including selecting tools for mathematical problem solving.

Coherence

Previous	Now	Next
• Students added tens and ones (Grade 1). • Students decomposed two addends to add 3-digit numbers (Unit 9).	• Students decompose one addend to add 3-digit numbers.	• Students adjust addends to add 3-digit numbers (Unit 9). • Students solve two-step word problems with four operations (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of decomposing to add 3-digit numbers.	• Students develop proficiency with decomposing one addend to solve 3-digit addition problems.	• Students apply the addition strategy of decomposing one addend to solve real-world problems with 3-digit addends. *Application is not a targeted element of rigor for this standard.*

LESSON 9-6

Adjust Addends to Add 3-Digit Numbers

Learning Target

- I can adjust addends to make them friendlier to add.

Standards ◇ Major △ Supporting ○ Additional

Content

◇ **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; justify the reasoning used with a written explanation. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Look for and make use of structure.

Focus

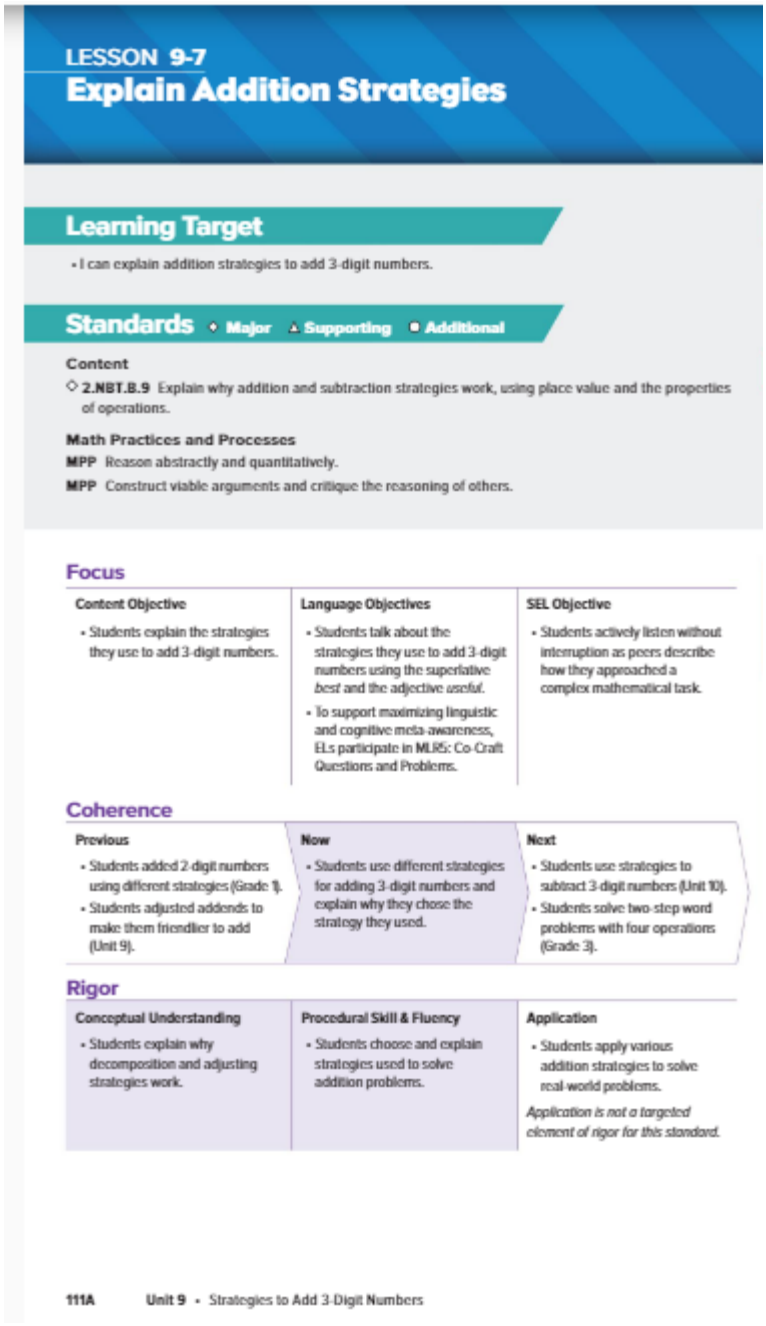
Content Objective	Language Objectives	SEL Objective
• Students adjust addends to add 3-digit numbers.	• Students explain how to adjust addends to add 3-digit numbers using the modal *must*. • To cultivate conversation, ELs participate in MLR8: Discussion Supports.	• Students recognize and work to understand the emotions of others and practice empathetic responses.

Coherence

Previous	Now	Next
• Students added 2-digit numbers using different strategies (Grade 1). • Students adjusted addends of 2-digit numbers to add (Unit 5).	• Students adjust addends of 3-digit numbers to make them friendlier to add.	• Students explain the strategies they use to add 3-digit numbers (Unit 9). • Students solve two-step word problems with four operations (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students develop number sense and build on their understanding of adjusting addends to add 3-digit numbers.	• Students develop proficiency with adjusting addends to solve 3-digit addition problems.	• Students apply the addition strategy of adjusting addends to solve real-world problems with 3-digit addends. *Application is not a targeted element of rigor for this standard.*



LESSON 9-7

Explain Addition Strategies

Learning Target

- I can explain addition strategies to add 3-digit numbers.

Standards ◆ Major ▲ Supporting ● Additional

Content

◇ **2.NBT.B.9** Explain why addition and subtraction strategies work, using place value and the properties of operations.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Construct viable arguments and critique the reasoning of others.

Focus

Content Objective	Language Objectives	SEL Objective
• Students explain the strategies they use to add 3-digit numbers.	• Students talk about the strategies they use to add 3-digit numbers using the superlative *best* and the adjective *useful*. • To support maximizing linguistic and cognitive meta-awareness, ELs participate in MLR5: Co-Craft Questions and Problems.	• Students actively listen without interruption as peers describe how they approached a complex mathematical task.

Coherence

Previous	Now	Next
• Students added 2-digit numbers using different strategies (Grade 1). • Students adjusted addends to make them friendlier to add (Unit 9).	• Students use different strategies for adding 3-digit numbers and explain why they chose the strategy they used.	• Students use strategies to subtract 3-digit numbers (Unit 10). • Students solve two-step word problems with four operations (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students explain why decomposition and adjusting strategies work.	• Students choose and explain strategies used to solve addition problems.	• Students apply various addition strategies to solve real-world problems. *Application is not a targeted element of rigor for this standard.*

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.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

2.NBT.B.7	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
2.NBT.B.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
2.NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations.