# **Unit 10 Reveal Grade 2**

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

# **Unit Overview**

UNIT 10 PLANNER
Strategies to Subtract 3-Digit Numbers

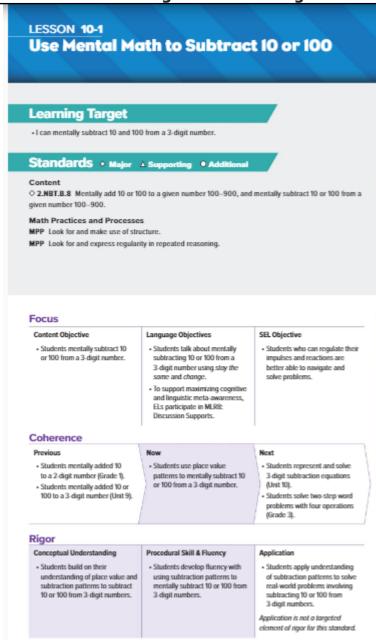
Jnit Op	all.					
	pener Willel Greatest and L	east Differences Students apply their	understanding of subtraction and place w	alue to tackle subtraction challenges.		
	Use Mental Math to Subtract 10 or 100	Students mentally subtract 10 or 100 from a 3-digit number.	Students talk about mentally subtracting 10 or 100 from a 3-digit number using stay the same and change.	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	10-1	Math Terms hundreds tens
	Represent Subtraction with 3-Digit Numbers	Students represent and solve 3-digit subtraction equations that require no regrouping.	Students explain how to represent and solve 3-digit subtraction equations using similar and different.	Students use prior knowledge and new understanding of mathematical concepts to complete a task.	10-2	place value
	Decompose One 3-Digit Number to Count Back	Students decompose one number by place value to count back to subtract 3-digit numbers.	Students discuss decomposing by place value to count back to subtract 3-digit numbers using other ways, helpful, and efficient.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	10-3	decompose
	Count On to Subtract 3-Digit Numbers	Students count on to subtract 3-digit numbers.	Students explain how to count on to subtract 3-digit numbers using con and con't.	Students exchange ideas for mathematical problem-solving with a peer.	10-4	related facts
0-5	Regroup Tens	Students represent and solve 3-digit subtraction equations that require regrouping a ten.	Students talk about representing and solving 3-digit subtraction equations.	Students set learning goals and initiate work on tasks to accomplish their goals.	10-5	regroup
	Regroup Tens and Hundreds	Students represent and solve 3-digit subtraction equations that require regrouping a ten and a hundred.	Students discuss representing and solving 3-digit subtraction equations that require regrouping a ten and a hundred using the verb change.	Students identify a problem, use creativity to execute problem- solving steps, and identify multiple solutions.	10-6	regroup
	Adjust Numbers to Subtract 3-Digit Numbers	Students adjust numbers to subtract 3-digit numbers.	Students explain how to adjust numbers to subtract 3-digit numbers using the verb adjust.	Students reflect on and describe the logic and reasoning used to make a mathematical decision.	10-7	adjust friendly numbers
	Explain Subtraction Strategies	Students explain the strategies they use to subtract 3-digit numbers.	Students talk about the strategies they use to subtract 3-digit numbers with use, best, and useful.	Students collaborate with peers to complete a mathematical task and offer constructive feedback.	10-8	adjust decompose
	Solve Problems Involving Addition and Subtraction	Students solve one-step or two-step addition or subtraction word problems.	Students discuss solving one-step or two-step addition or subtraction word problems using the verb he(p.	Students identify and discuss the emotions experienced during math learning.	10-9	adjust decompose
		ction Problems Students solve a pro	oblem using a strategy of their choice.			
Init Rev	view y Practice					
	sessment nance Task					

# **Essential Questions**

See Above

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# **Instructional Strategies and Learning Activities**



Unit 10 · Strategies to Subtract 3-Digit Numbers

# **Represent Subtraction with 3-Digit Number**

# **Learning Target**

. I can subtract 3-digit numbers without regrouping.

# Standards + Major A 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; 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.

#### Math Practices and Processes

MPP Model with mathematics.

MPP Look for and make use of structure.

#### Focus

#### Content Objective

 Students represent and solve 3-digit subtraction equations that require no regrouping.

#### Language Objectives

- Students explain how to represent and solve 3-digit subtraction equations using similar and different.
- To support optimizing output, ELs participate in MLR1: Stronger and Clearer Each Time.

#### SEL Objective

 Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.

#### Coherence

#### Previous

- Students used strategies to subtract within 100 (Grade 1).
- Students used mental math to subtract 10 or 100 from a 3-digi number (Unit 10).

#### Now

#### Students apply understanding of place value to subtract 3-digit numbers without regrouping.

#### Next

- Students decompose and adjust numbers to subtract 3-digit numbers (Unit 10).
- Students solve two-step word problems with four operations (Grade 3).

## Rigor

### Conceptual Understanding

 Students build on their understanding of place value and subtraction by solving 3-digit subtraction equations using place-value representations.

### Procedural Skill & Fluency

 Students develop fluency with subtracting 3-digit numbers using place-value representations.

Procedural skill & fluency is not a targeted element of rigor for this standard.

### Application

 Students write and solve subtraction equations to solve real-world problems involving 3-digit numbers.

# **Decompose One 3-Digit Number to Count B**

# **Learning Target**

• I can decompose one 3-digit number to count back.

# Standards • Major A 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; 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.

#### Math Practices and Processes

MPP Reason abstractly and quantitatively.
MPP Use appropriate tools strategically.

#### Focus

#### Content Objective

 Students decompose one number by place value to count back to subtract 3-digit numbers.

## Language Objectives

- Students discuss decomposing by place value to count back to subtract 3-digit numbers using other ways, helpful, and efficient.
- To support optimizing output, ELs participate in MLR7: Compare and Connect.

## SEL Objective

 Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.

#### Coherence

#### Previous

- Students used strategies to subtract within 100 (Grade 1).
- Students subtracted 3-digit numbers without regrouping (Unit 10).

#### Now

 Students decompose one number by place value to subtract 3-digit numbers.

#### Next

- Students count on to subtract 3-digit numbers (Unit 10).
- Students solve two-step word problems with four operations (Grade 3).

## Rigor

## Conceptual Understanding

 Students build on their understanding of subtraction strategies by decomposing a 3-digit number and counting back to subtract efficiently.

## Procedural Skill & Fluency

 Students develop fluency with 3-digit subtraction by decomposing one number and counting back to find the difference.

## Application

 Students apply understanding of decomposing as a subtraction strategy to solve real-world problems involving 3-digit numbers.

# LESSON 10-4 Count On to Subtract 3-Digit Numbers

# **Learning Target**

- I can count on to subtract 3-digit numbers.

# Standards • Major A Supporting • Additional

#### Contont

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.

#### Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Look for and make use of structure.

#### Focus

#### Content Objective

Students count on to subtract
 3-digit numbers.

## Language Objectives

- Students explain how to count on to subtract 3-digit numbers using con and con?.
- To support cultivating conversation, ELs participate in MLR3: Critique, Correct, and Clarify.

## SEL Objective

 Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.

#### Coherence

#### Previous

- Students used strategies to subtract within 100 (Grade 1).
- Students decomposed one number to count back to subtract 3-digit numbers (Unit 10).

#### Now

Students count on to solve
 3 digit subtraction equations.

#### Next

- Students regroup tens to subtract 3-digit numbers (Unit 10).
- Students solve two-step word problems with four operations (Grade 3).

## Rigor

## Conceptual Understanding

 Students build on their understanding of place value and properties of operations to subtract 3-digit numbers.

## Procedural Skill & Fluency

 Students build proficiency with counting on using a number line to subtract 3-digit numbers.

#### Application

 Students apply their understanding of counting on as a strategy to solve real-world problems involving 3-digit

Application is not a targeted element of rigor for this standard.

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Unit 10 - Strategies to Subtract 3-Digit Numbers

# Regroup Tens

# **Learning Target**

• I can regroup tens to subtract 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; 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.

Math Practices and Processes MPP Reason abstractly and quantitatively.

MPP Model with mathematics.

#### Focus

#### Content Objective

 Students represent and solve
 3-digit subtraction equations that require regrouping a ten.

#### Language Objectives

- Students talk about representing and solving 3-digit subtraction equations that require regrouping a ten using not enough and represent.
- To support maximizing linguistic and cognitive meta-awareness, ELs participate in MLRS: Co-Craft Questions and Problems.

# SEL Objective

 Students set learning goals and initiate work on tasks to accomplish their goals.

## Coherence

#### Previous

- Students used strategies to subtract within 100 (Grade 1).
- Students represented and solved 2-digit subtraction equations that required regrouping (Unit 6).

## Now

 Students apply their understanding of place value to subtract 3-digit numbers by regrouping tens.

#### Next

- Students represent and solve 3-digit subtraction equations that require regrouping a ten and a hundred (Unit 10).
- Students solve two-step word problems with four operations (Grade 3).

## Rigor

## Conceptual Understanding

 Students build on their understanding of place value to subtract 3-digit numbers by regrouping tens.

# Procedural Skill & Fluency

 Students develop proficiency representing and solving subtraction problems with 3-digit numbers that involve regrouping tens.

# Application

 Students apply understanding of regrouping tens to solve real-world subtraction problems involving 3-digit numbers.

Application is not a targeted element of rigor for this standard.

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Unit 10 - Strategies to Subtract 3-Digit Numbers

# **Regroup Tens and Hundreds**

# **Learning Target**

. I can regroup tens and hundreds to subtract 3-digit numbers.

# Standards • Major A 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; 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.

## Math Practices and Processes

MPP Construct viable arguments and critique the reasoning of others.

MPP Model with mathematics.

### Focus

#### Content Objective

 Students represent and solve 3-digit subtraction equations that require regrouping a ten and a hundred.

#### Language Objectives

- Students discuss representing and solving 3 digit subtraction equations that require regrouping a ten and a hundred using the verb change.
- To support optimizing output, ELs participate in MLR1: Stronger and Clearer Each Time.

## SEL Objective

 Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions. TI

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#### Coherence

#### Daniel and

- Students used strategies to subtract within 100 (Grade 1).
- Students represented and solved 3-digit subtraction equations that required regrouping a ten (Unit 10).

#### Now

 Students represent and solve 3-digit subtraction problems that require regrouping a ten and a hundred.

#### Nex

- Students adjust numbers to subtract 3-digit numbers (Unit 10).
  - Students solve two-step word problems with four operations (Grade 3).

## Rigor

### Conceptual Understanding

 Students build on their understanding of place value to subtract 3-digit numbers by regrouping a ten and a hundred.

### Procedural Skill & Fluency

 Students develop proficiency representing and solving subtraction problems with 3-digit numbers that involve regrouping a ten and a hundred.

### Application

 Students apply understanding of regrouping a ten and a hundred to solve real-world subtraction problems involving 3-digit numbers.

Application is not a targeted element of rigor for this standard.

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Unit 10 - Strategies to Subtract 3-Digit Numbers

# **Adjust Numbers to Subtract 3-Digit Number**

# **Learning Target**

• I can adjust 3-digit numbers to make them friendlier to subtract.

# Standards • Major A 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; 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.

#### Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Attend to precision.

## Focus

## Content Objective

 Students adjust numbers to subtract 3-digit numbers.

## Language Objectives

- Students explain how to adjust numbers to subtract 3-digit numbers using the verb adjust.
- To support sense-making, ELs participate in MLR2: Collect and Display.

#### SEL Objective

 Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.

#### Coherence

#### Previous

- Students used strategies to subtract within 100 (Grade 1).
- Students represented and solved 3-digit subtraction equations that require regrouping a ten and a hundred (Unit 10).

#### Now

 Students adjust numbers to create friendly numbers for subtraction of 3-digit numbers.

#### Next

- Students explain the strategies they use to subtract 3-digit numbers (Unit 10).
- Students solve two-step word problems with four operations (Grade 3).

# Rigor

## Conceptual Understanding

 Students build on their understanding of place value and properties of operations to subtract 3-digit numbers.

## Procedural Skill & Fluency

 Students build proficiency with the subtraction strategy of adjusting numbers to make them friendly.

## Application

 Students apply understanding of subtraction to solve problems with real-world contexts.

# LESSON 10-8 Explain Subtraction Strategies

# **Learning Target**

. I can explain subtraction strategies to subtract 3-digit numbers.

## Standards • Major A 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

 Students explain the strategies they use to subtract 3-digit numbers.

#### Language Objectives

- Students talk about the strategies they use to subtract 3-digit numbers with use, best, and useful.
- To support optimizing output, students participate in MLR4: Info Gap.

## SEL Objective

 Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.

#### Coherence

#### Previous

- Students used strategies to subtract within 100 (Grade 1).
- Students adjusted numbers to subtract 3-digit numbers (Unit 10).

#### Now

 Students use three different strategies for subtracting 3-digit numbers and decide which method is most effective.

#### Next

- Students solve one-step addition and subtraction word problems (Unit 10).
- Students solve two step word problems with four operations (Grade 3).

# Rigor

## Conceptual Understanding

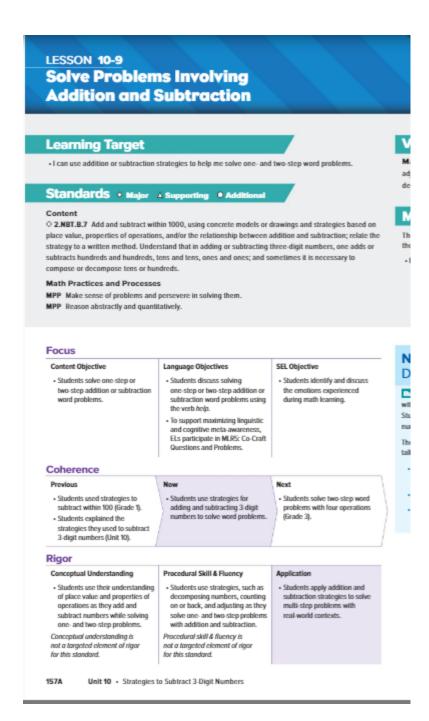
 Students express understanding of different strategies for subtracting 3-digit numbers and why they are efficient.

## Procedural Skill & Fluency

 Students build on their procedural skill and fluency with subtraction strategies by using the most efficient strategy to solve an equation.

## Application

 Students apply understanding of subtraction strategies to solve real-world problems involving 3 digit numbers



# **Integration of Career Readiness, Life Literacies and Key Skills**

PFL.9.1.2. Fl.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.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.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.Cl.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.L.2.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
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.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.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.

# **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.
- o Process how the student will acquire the content information.
- o 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:**

Exit Ticket: Use Data to Inform Differentiation

Every lesson closes with an Exit Ticket. Differentiation recommendations reside in the Teacher Edition to make the Exit Ticket data actionable.

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# **Modifications and Accommodations**

# **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

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