2 Math Unit 10: Strategies to Subtract 3-Digit Numbers

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 4**
Length: **15 days**
Status: **Published**

Unit Overview

Subtraction Strategies

This unit allows students to make connections tow hat they already know. By representing the greater number in base-ten blocks then taking away the lesser number, students visually see how 3-digit subtraction results in the difference.

- Subtraction Strategies: Students examine many strategies that can help when subtracting 3-digit numbers. these strategies are familiar to them at this point, as they have used them for subtracting 2-digit numbers but are slightly more complex now that they involve 3-digit numbers. Decomposing numbers to count back is explored using both 2-digit and 3-digit subtrahends. Different decompositions are used to show that some are more efficient than others when counting back. Counting up from the subtrahend to the minuend on a number line is another strategy used. By adding the jump[s made on the number line, the difference can be found. Finally, adjusting numbers to friendlier numbers is shown as an efficient way to subtract 3-digit numbers. By adding or subtracting the same amount to both numbers in the problem, the difference remains the same, but the subtraction becomes easier.

What Students Are Learning

- Students use place value patterns to mentally subtract 10 or 100 from a 3-digit number.
- Students use place value to subtract 3-digit numbers with and without regrouping.
- Students use different strategies for subtracting 3-digit numbers and explain why they chose the strategy they used.

Number Routines

- Build Fluency
- Let's Count
- Would You Rather?
- Mystery Number
- Decompose It
- Notice & Wonder
- Numberless Word Problem

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.

Materials

Core Materials:

Reveal Math

10.1 Use Mental Math to Subtract 10 or 100

10.2 Represent Subtraction with 3-Digit Numbers

10.3 Decompose One 3-Digit Number to Count Back

10.4 Count On to Subtract 3-Digit Numbers

10.5 Regroup Tens

10.6 Regroup Tens and Hundreds

10.7 Adjust Numbers to Subtract 3-Digit Numbers

10.8 Explain Subtraction Strategies

10.9 Solve Problems Involving Addition and Subtraction

Supplemental Materials:

- ST Math
- Happy Numbers
- 3 Act Lessons
- Building Fact Fluency Kit
- Brainingcamp Manipulatives
- Nearpod Lessons
- Brainpop Resources
- Online Resources

Technology

DA	Data & Analysis

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.
8.2.2.ED.2	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
8.2.2.ED.3	Select and use appropriate tools and materials to build a product using the design process.

Assessment

Formative Assessment

- Unit Readiness Diagnostics
- Lesson Checks
- Exit Tickets
- Teacher Observation

Summative Assessment

- Unit Assessment Performance Task
- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

Differentiated Instruction			
Accommodate Based on Students' Individual Needs: Strategies			
Time/General • Extra time for assigned tasks • Adjust length of assignment • Timeline with due dates for reports and projects • Communication system between home and school • Provide lecture	**Processing** • Extra response time • Have students verbalize steps • Repeat, clarify, or reword directions • Mini-breaks between tasks • Provide a warning for transitions • Reading partners	**Comprehension** • Precise step-by-step directions • Short manageable tasks • Brief and concrete directions • Provide immediate	**Recall** • Teacher-made checklist • Use visual graphic organizers • Reference resources to promote independence • Visual and

notes/outline		feedback • Small group instruction • Emphasize multi-sensory learning	verbal reminders • Graphic organizers
Assistive Technology • Computer/whiteboard • Tape recorder • Spell-checker • Audio-taped books	**Tests/Quizzes/Grading** • Extended time • Study guides • Focused/chunked tests • Read directions aloud	**Behavior/Attention** • Consistent daily structured routine • Simple and clear classroom rules • Frequent feedback	**Organization** • Individual daily planner • Display a written agenda • Note-taking assistance • Color code materials

504

- In class/pull out support with special ed teacher Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks Graphic organizers
- Vocabulary support Mnemonic devices
- Songs/videos to reinforce concepts Limit number of questions
- Scribe Manipulatives Calculators Reteach pages Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System Another look homework video
- Practice buddy

ELL

- Translation device/dictionary
- In class/pull out support with ESL teacher
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts

- Manipulatives
- Math Diagnosis & Intervention System

At-risk of Failure

- Additional time during intervention time
- Questions read aloud
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

Gifted & Talented

- Independent projects
- Enrichment pages
- Online games
- Leveled Homework
- Extension Activities
- Today's Challenge

Interdisciplinary Connections

ELA:

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.

Science:

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Career Readiness, Life Literacies & Key Skills

9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.
9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
9.1.2.CAP.2	Explain why employers are willing to pay individuals to work.
9.4.2.CT	Critical Thinking and Problem-solving
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).

Career Ready Practices

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    - **Stem in Action :**
    - **Stem Career: Landscape Architect: Kayla talks about her aspirations to be a landscape architect.**
    - **Kayla subtracts 3-digit numbers: Kayla explains how she can subtract to find the difference in sizes of two parks.**

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP12. Work productively in teams while using cultural global competence.