Grades 2 and 3 Math: Adding Two-Digit Numbers

Learning Objective/Standard/Outcomes/Skills

TEKS

- **§111.4. Grade 2:** 4B
  Add up to 4 two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations.

Common Core

- **CCSS.MATH.CONTENT.3.NBT.A.2**
  Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Essential Question/Enduring Understanding

How do you know the values of place digits in numbers?

How many different ways can we represent a number? A two-digit number?

Mathematics and problem solving involves understanding patterns and rules.

There may be just one correct answer, but many methods for getting to it.

Entry Point/Hook

For this hook, students will review for the upcoming summative assessment through product differentiation. Whether they choose to use ten cards and hundreds charts, narrative and explanation of each value and step, or visual representations through geometric shapes on graph paper, the students will use this time (about ten minutes) to attempt to demonstrate and then solve two-digit addition problems.

What kind of differentiated experience will I utilize?

Note: You will use *CogAT* data to inform the differentiation decisions. *Options for all three relative strengths are offered in the strategies playlist.*

Content	Process	Product
Do I want to focus on skills and concepts today, allowing freedom and flexibility in the specific materials or details?	Do I want to vary how my students manipulate new content so the learning is memorable and engaging?	Do I want to allow students the freedom and flexibility to showcase their learning in a format that makes sense to them?
		CAP Activity

PLC Question 3:
Have help documents ready to go with reminders of rules and methods for solving two-digit addition problems.

PLC Question 4:
Embed iconic prompts in follow-up questions for each activity to extend and deepen the learning.

Transfer, Meaning Making, Acquisition

This activity allows students to connect to differing approaches of demonstrating mastery of the concept. They can choose the task most comfortable for them as the artifact to prove the learning happened.

C: The following equation has been written on the board:

$$45 + 16 = 64$$

"64" has been accused of being the correct answer. Defend the number 61 as the incorrect answer for this equation. Then, to prove your case at the end, solve this additional problem.

A: You have been given a dozen different two-digit addition problems. How many different ways can you sort them, including by the correct answers to each problem?

P: You have been given cards with numbers on them. How many different two-digit addition problems can you create and solve correctly?

Reflection on Learning

Rubric Elements:
- Used correct terms for two-digit addition.
- Solved two-digit problems correctly.
- Used methods taught in class to solve problems, followed steps correctly.
- Explained how the problem was solved.

The next day, give students their rubrics and as a class, engage in the following discussion:
- Do we see any patterns in our class understanding and performance?
- Why is it important we know how to solve two-digit addition problems correctly?

CAP: creative, analytical, practical; PLC: professional learning community.