CONSTRUCTING TASK: Perfect 500!

Approximately 1 Day

STANDARDS FOR MATHEMATICAL CONTENT

MCC2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

MCC2.NBT.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.

MCC2.NBT.8 Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.

MCC2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.

STANDARDS FOR MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

*****Mathematical Practices 1 and 6 should be evident in EVERY lesson. *****

BACKGROUND KNOWLEDGE

Students should have addition skills clearly in place, and strategies for larger numbers, including counting up, counting back, pairs that make ten, pairs that make 100, and compensation strategies.

Students may find this game challenging, particularly at the beginning of the year. When introducing this game, you may choose to use one of the variations of the game from the list below.

- Play just one round, the students with the sum closest to 100 wins.

- Play just one round as a class. Put the digits on the board and let students create the sum that is closet to 100.
- Discuss the relationship between pairs of 10 and pairs of 100. (i.e. 4 + 6 = 10, so 40 + 60 = 100 What about 42 + 68? Why doesn't that equal 100?

ESSENTIAL QUESTIONS

- How can I learn to quickly calculate sums in my head?
- What strategies will help me add numbers quickly and accurately?
- What strategies are helpful when estimating sums in the hundreds?

MATERIALS

- Deck of playing cards, (2 copies of the cards provided for a deck of 40 cards)
- "Perfect 500" Directions Sheet
- "Perfect 500" Student Recording Sheet

GROUPING

Partner/Small Group Game

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

This game allows students to look for combinations of numbers that equal 100.

Task Directions
The goal of the game is to have a sum as close to but not over 500 at the end of five rounds. To begin, each student is dealt 5 cards. The player uses four of the cards to make 2, two-digit numbers, saving the unused card for the next round. Each player will arrange the cards so that the sum of their 2 two-digit numbers are as close as possible to 100. Students record their addition problem on the recording sheet, keeping a running total as they play.

For the second round, each player gets four cards to which they add the unused card from the first round. The students will repeat the same process as the first round, saving one card for the next round. After the end of five rounds, each player will total their sums of the five rounds. The student, who is closest to 500 without going over, after five rounds, is the winner.

FORMATIVE ASSESSMENT QUESTIONS

- What is one way to quickly find the answer? Can you think of another way?
- How do you know you will not go over 500?
- How do you decide which numbers to use? How do you choose which cards to use?

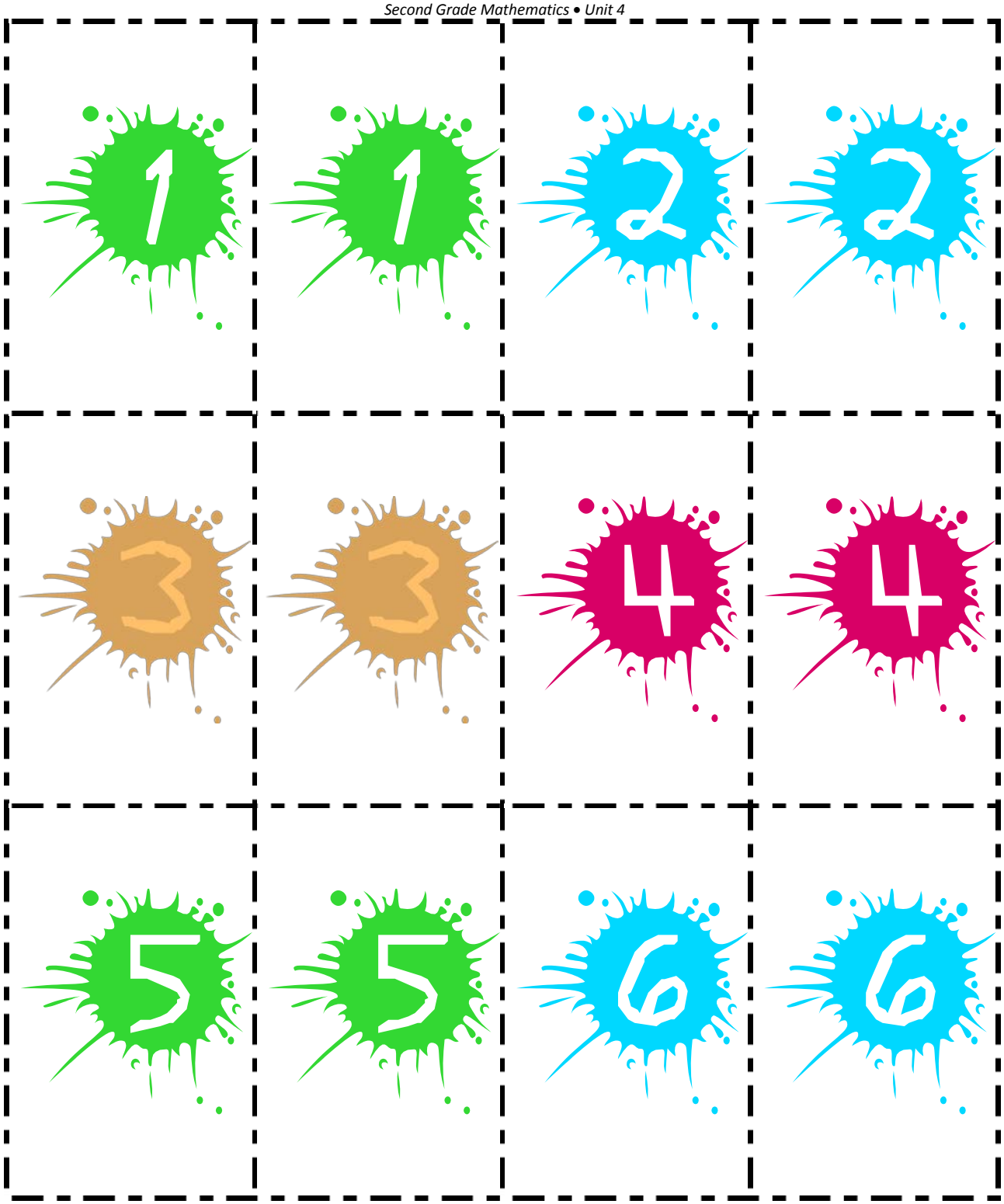
DIFFERENTIATION

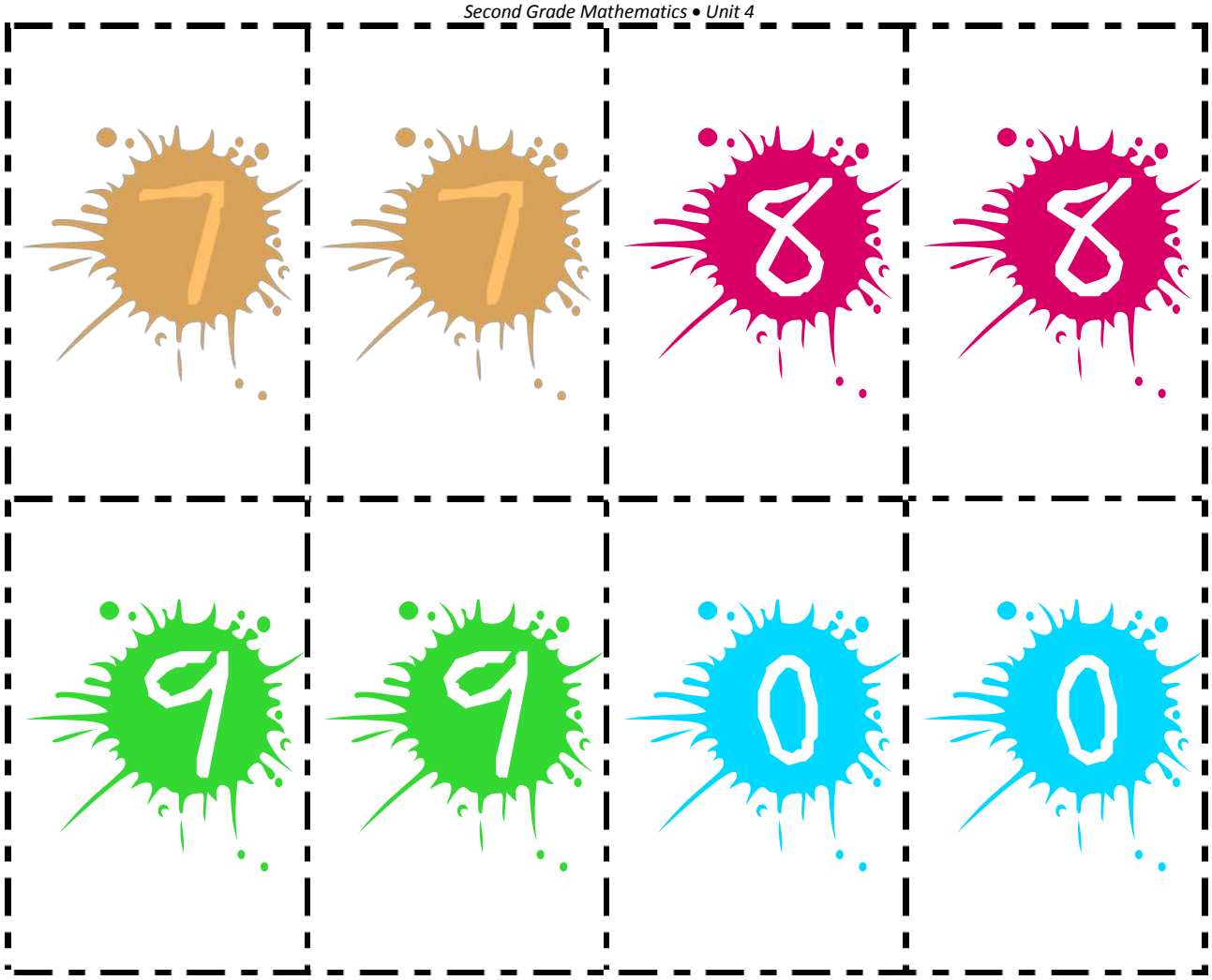
Extension

- Students can play "Perfect 5,000" during which each player draws 7 cards and uses 6 to make 2, three-digit numbers whose sum is close to 1,000. After 5 rounds, the player with the sum closest to 5,000, without going over, is the winner.

Intervention

- Plan for students with like abilities to play against each.
- Students can play "Perfect 100" during which each player draws 4 cards and adds the numbers on three cards to find a sum as close as possible to 20. After 5 rounds, the player with the sum closest to 100, without going over, is the winner.





Name _____ Date _____

Perfect 500

Number of Players: 2 or 3

Materials: One deck of 40 cards (4 each of the numbers 0-9)

Directions:

1. To begin, each student is dealt 5 cards.
2. Use four of the cards to make 2, two-digit numbers. Arrange these 2, two-digits numbers so that they will create a sum as close to 100 when added together. This will leave one card for the next round.
3. Record your addition problem on the recording sheet, keeping a running total as you play.
4. For the second round, each player gets four cards to which they add the unused card from the first round.
5. Repeat the same steps as the first round, saving one card for the next round.
6. After the end of five rounds, each player will total their sums of the five rounds.

The student, who is closest to 500 without going over, after five rounds, is the winner.

Perfect 500!

Player 1 _____ **Date** _____

Round						Running Total
1		+		=		
2		+		=		
3		+		=		
4		+		=		
5		+		=		
					Total	

Perfect 500!

Player 2 _____ **Date** _____

Round						Running Total
1		+		=		
2		+		=		
3		+		=		
4		+		=		
5		+		=		
					Total	