**Math Lesson: Doubles and Near Doubles**

## I. PRE-INSTRUCTION PHASE: What you are planning to teach.

### 1. TEACHING STANDARDS

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| NY-CC-MATH-2011.2.OA.1  | Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. |
| NY-CC-MATH-2011.2.OA.2  | Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers. |

### 2. LESSON OBJECTIVE (S): After participating in the lesson, LWDAT use doubles and near doubles to solve the problems in their textbook on pages 27-30 with 80% accuracy.

### 3. CONCEPT OR CENTRAL FOCUS: Students will learn how to use doubles and near doubles to find sums more efficiently.

### 4. ENROUTE OBJECTIVES (TASK ANALYSIS): Learner must be able to:

1. read and comprehend grade level math text
2. add single digit numbers
3. identify doubles and near doubles
4. draw pictures to solve math problems
5. engage in discussion about mathematical concepts

### 5. LANGUAGE DEMANDS:

Vocabulary:

* doubles: two addends that are the same
* near doubles: addition facts in which one addend is exactly 1 more or 1 less than the other addend

Discourse: Students need to be able to use language to talk about numbers, particularly to describe how to use doubles and near doubles to solve addition problems

Language Demands:

* Solve problems (using doubles and near doubles)
* Evaluate (understand why finding doubles and near doubles is useful)

### 6. INSTRUCTIONAL AIDS/RESOURCES/TECHNOLOGIES:

McGraw Hill My Math textbook, Smart Board, dice rolling website, dice, dice doubles worksheet

### 7. STUDENT ADAPTATIONS (with or without disabilities):

## Struggling learners may receive additional time to complete assignment, work in a small group with teacher guidance, use manipulatives (connecting cubes).

## To benefit all students, information will be presented in multiple modes (auditory, visually), students will be able to move around the room and interact with peers, new skill will be scaffolded.

## II. INTERACTIVE PHASE: How you actually teach the lesson, step by step.

### 8. SET/FOCUSING EVENT:

Ask students to recall the strategy they learned yesterday (counting on to add) and talk about it with their partners. Choose one or two students to share what they remember aloud to the class. Bridge to objective: "Today, we are going to learn about how we can use doubles and near doubles to find sums."

### 9. IMPLEMENTATION:

Part One: Review Counting On to Add

* Present the problem of the day on Smart Board: "Ruby has 6 markers. Destiny has the same number of markers that Ruby has. How many markers to Ruby and Destiny have together?"
* Read problem aloud and ask students to write a number sentence or draw a picture to solve the problem.  Have student share and explain their answer with their seat partner. Choose volunteer to place their answer on the board.
	+ Formative Check: Walk around and note who is able to solve this problem successfully.
* Next, ask students to think about how they could solve this problem using the strategy they learned yesterday, counting on to add. Draw a number line on the board and then randomly select a student to show how they would count on to solve this problem. Use this as a quick review and assessment of the previous lesson.
* Question: "This problem involved doubles. Raise your hand if you have an idea of what "doubles" means." Write definition of the new word on the board. (Doubles: Two addends that are the same). Choral read definition together.
* Transition: "Now, we are going to practice solving more problems involving doubles."

Part Two: Introduce and Teach Doubles

* Read the directions at the bottom of page 25.  Tell students that when two or more connecting cubes are connected, they are called a cube train.  Then explain to students that a doubles fact is an addition number sentence that has two addends that are the same number.
* Guide students through drawing the first cube train and writing the first doubles fact. Ask: "How many cubes are in the cube train?" (Have all students show with their fingers.) "What will be the addends in the doubles fact?"  "What is the sum?"
* Have students work with a partner to draw the next two cube trains and write the doubles facts. Go over together.
* Have students look at the 5+5 doubles problem.  Ask students how the sum would change if one more cube was added to one of the cube trains.  Tell students to explain their reasoning to a seat mate, then select one student to share aloud.
* Write the new number sentence, 5+6 on the board.  Explain that this is called a near doubles problem, which means one of the addends is exactly one more or less than the other addend.  Explain that once you learn doubles facts, it’s easy to solve near doubles facts, because all you need to do is either add one or subtract one.
* Work on page 26 together as a class. Select student to read aloud the definitions at the top of the page. Ask: What to you notice about the sum in the first equation and the sum in the second equation?" Choose students to come up to solve the next six equations.
* Direct students to work on pages 27-28 independently. Walk around to check student work and assist as necessary. Go over pages together.

Part Three: Dice Rolling Game

* Tell students they will be playing a game to practice using doubles and near doubles facts. Split the class into two teams and give directions.
	+ I will call one person up at a time to roll the dice.  If you roll a doubles or near doubles fact, your team will receive the number of points rolled.  If you don't roll a double or near doubles fact, you won’t receive any points.  The first team to 30 points wins.
* Complete game as a class. When the dice are rolled, encourage player to use their team to help them. Ask: "Did they roll doubles or near doubles?" If yes, ask entire team, "What is the sum?"

### 10. CLOSURE

Complete Think-Pair-Share with the following question:  "What was the most important thing you learned today?"

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Dice Doubles Game

**Directions**: Take turns rolling the dice with your partner. Each time you roll the dice, fill in one of the spots below by drawing your dice and using the numbers on the dice to write an addition sentence. If you roll doubles, you will get the total number of points rolled. If you don’t roll doubles, you get zero points. Total your points at the end of the game.

**1**.  **\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Points earned = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2**.  **\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Points earned = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3**.  **\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Points earned = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**