

Multiplication and Division – A Co-Teaching Lesson Plan

Co-Teaching Approaches

A “(Y)” in front of the following list items indicates the approach is outlined in the lesson. A “(N)” in front of the following list items indicates the approach is not outlined in the lesson.

- (N) Parallel Teaching
- (Y) Team Teaching
- (N) Station Teaching
- (N) One Teach/One Observe
- (N) Alternative Teaching
- (Y) One Teach/One Assist

Subject

Grade 4 Mathematics

Strand

Computation and Estimation

Topic

Multiplication and division facts through the twelves table

SOL

SOL 4.4 a Student will demonstrate fluency with multiplication facts through 12×12 and the corresponding division facts.

Outcomes

The student will be able to multiply and divide in fact form explaining their solution strategies.

Materials

- Index cards with the basic multiplication and division fact questions written on them (i.e., $24 \div 6$ or 8×7)
- Calculators
- Exit Ticket (attached)

Vocabulary

array, divide, dividend, divisor, fact family, multiply, number sentence, numeral, product, quotient

Co-Teacher Actions

Lesson Component	Co-Teaching Approach(es)	General Educator (GE)	Special Educator (SE)
Anticipatory Set	Team Teaching	<ol style="list-style-type: none"> 1. The GE will monitor and assist students as needed. 2. Divide the class into two teams of nine. If there are remaining students, designate one to be the home plate umpire, and one or two to be the scorekeeper(s)—one to keep score and keep track of outs and innings, and the other to be the commissioner. The commissioner will be armed with a calculator. Have each team decide on the positions the members will play. Toss a coin to determine who bats first. 	<ol style="list-style-type: none"> 1. Explain that the class is going to play a game of baseball, but rather than using a bat and a ball, students are going to use multiplication and division facts. An incorrect answer will be an out. Label home plate and first, second, and third bases around the room. Designate a pitcher's mound. 2. Monitor and assist students as needed.
Lesson Activities/ Procedures	Team Teaching	<p>The GE and the SE model how to play the game to the students. The teachers will verbalize their thought process and model showing each position (i.e., umpire, commissioner, etc.).</p> <p>The GE and SE: Demonstrate the game, emphasizing that the batter must give the result and give at least one strategy (beyond memorization) for how they could figure the result. For example: 8×9. The result is 72, because $10 \times 8 - 1 \times 8$ gives 72; or 5×9 is 45 + 3×9 is 27 and $45 + 27$ is 72; or 8×8 is 64 + another 8 is 72; etc.</p> <p>Be sure that no answers are given until after an allotted time (goal is fluency and</p>	<p>The GE and the SE model how to play the game to the students. The teachers will verbalize their thought process and model showing each position (i.e., umpire, commissioner, etc.).</p> <p>Team members not at bat or pitching will keep a fact sheet, recording the given problem and their answer to the problem. Each student will check their response or correct it when umpire makes the call. The SE will monitor to see that students make timely responses and record results appropriately.</p>

Lesson Component	Co-Teaching Approach(es)	General Educator (GE)	Special Educator (SE)
		accuracy, not pure memorization/speed). Set the time to be given; answers yelled before that time result in a penalty point for that team.	
Guided/ Independent Practice	Team Teaching	<ol style="list-style-type: none"> 1. Place the set of fact cards in a pile. The pitcher steps forward, draws a card, reads the fact question to the batter. You may want to reserve the pitcher position for yourself. 2. The first batter goes to the plate, and the pitcher orally “tosses” a fact to the batter. The batter responds. The umpire determines whether the response is correct. If it is correct, the umpire calls, “Hit,” and the batter proceeds to first base. If the response is incorrect, the umpire calls, “Out,” and the next batter comes to the plate. The commissioner doublechecks the responses; if the umpire makes an incorrect call, the commissioner overrules the umpire. 3. Play continues until three outs have been accumulated or a set number of runs/hits has been reached. At that point, the teams trade places. 	<ol style="list-style-type: none"> 1. The SE will monitor students and check for understanding of directions. Circulate among students and ensure students are engaged in lesson. 2. Record hits and outs for all students as they come to bat. Watch for common mistakes and correct errors. 3. Before changing sides at bat, take a moment to discuss any facts that confused some students. Quickly have students share a strategy to solve it.
Closure	Team Teaching	Have students discuss the most difficult facts and the strategies they use to remember them, and the strategies they use	Ask: “Do you think that the strategy you used in the game helped or hindered you? Why?”

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		most often.	
Formative Assessment Strategies	Team Teaching	<p>Exit Ticket</p> <p>Share with students. Observe students as they work.</p> <p>After class, work with the SE to disaggregate data obtained from the exit tickets to form remediation groups.</p>	Same as GE.
	Homework	<p>Journal Entry</p> <p>Describe the strategies you used to learn your multiplication and division facts. Which ones worked best? Why? Did you use any helpful tools or materials?</p>	Same as GE

Specially Designed Instruction (teacher teaches)

- Teachers can explicitly teach different strategies for remembering math facts. Examples of such strategies could include visual images (i.e. carton of eggs to show 6×2); using rhyming words; or using mnemonic strategies.
- Teachers will provide opportunities for repetition and practice to aid students with weak memory skills.

Accommodations (based on student needs)

- Modeling before independent game play.
- Written directions for the game on the board or on paper.
- Noise-reducing headphones while the class plays the game
- Use of a multiplication chart, if student has a calculator accommodation.

Modifications

- If a student requires a modified curriculum, facts could be limited to certain tables and/or limited to just multiplication.
- Curriculum could also be modified to use addition/subtraction facts rather than multiplication/division facts.

Notes

- “Special educator” as noted in this lesson plan might be an EL teacher, speech pathologist, or other specialist co-teaching with a general educator.

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Exit Ticket

Directions: For each of the following explain how you could determine the result through drawing a picture or describing your process in words:

1. 7×6

2. $72 \div 8$