Four-in-a-Row Addition – 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. An "(N)" in front of the following list items indicates the approach is not outlined in the lesson.

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

Subject

Grade 2 Mathematics

Strand

Computation and Estimation

Topic

Estimating and finding the difference of whole numbers

SOL

2.5 The student will

b) demonstrate fluency with addition and subtraction within 20.

Outcomes

The student will recall addition facts with sums to 20 or less.
The student will recall corresponding subtraction facts.

Materials

- "Adding and Subtracting" video
- Demonstration tool (e.g., document camera, digital display)
- Flip chart paper
- Flip chart markers
- Four-in-a-Row Addition Game Boards A and B (attached)
- Four-in-a-Row Subtraction Game Boards A and B (attached)

- Digit Cards (for Addition) (attached)
- Digit Cards (for Subtraction) (attached)
- Classroom Observation Form (attached)
- Counters
- Dry-erase materials (boards, markers, and erasers
- Data Sheet (attached)
- Calculator (for differentiation)
- Dice
- Difference To … activity sheet (laminated or in sheet protectors; attached)
- Addition and Subtraction Homework (attached)

Vocabulary

addend, addition, adding, difference, minus, plus, subtract, subtracting, sum

Co-Teacher Actions

Lesson Component	**Co-Teaching Approach(es)**	**General Educator (GE)**	**Special Educator (SE)**
Anticipatory Set ***Peer Discussion**	Team Teaching	• Before students arrive, have the following "I can …" statement written on the board: "I can … recall addition facts with sums to 20 or less and the corresponding subtraction facts." • (1) Have students read the "I Can" statement aloud together with teachers. • Have students turn to their mathematics buddy (shoulder partner) for a peer discussion on what they think they will be doing for the mathematics lesson today based on the "I can …" statement and the video. (Remind students to use their "math	• Use the hand pointer to track words on the board while students read the "I can …" statement. • (2) Show the "Adding and Subtracting" video to students. • Monitor peer discussions, asking questions as needed.

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		words" during discussion.) Walk around to monitor student discussions.	
Lesson Activities/ Procedures	One Teach/One Observe	• The GE will create an "Addition Strategies" anchor chart on the flip chart paper to review six strategies with the class. o One more than o One less than o Doubles o Near doubles o Make ten o Related facts • In each strategy, the GE will ask the students for examples of addition problems and record their examples for each one. • The GE will check for understanding of each strategy before proceeding to the activity. • Once the students have demonstrated an understanding of each strategy, the GE will randomly divide the students into two groups. • Each student will receive a dry-erase board, dry-erase marker and an eraser. • Each group will have their own "Four-In-a-Row Addition" game board shown on the demonstration tool.	• The SE will observe and collect data on the students while the GE leads the whole group. • The SE will be looking to see how students approach the specific task and problems. • The SE will be taking observational notes to gather data about: o student participation o student interactions o data for IEP meetings o data for teacher planning meetings o data for creating mathematics groups • As students are creating addition problems on their dry erase boards, teacher will observe the strategies and rationale they use in solving the addition problems. • The SE may ask questions to determine whether the students are absorbing the key points of the lesson. • The SE may note who is having difficulty and give help as needed.

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		• The GE will have several sets of digit cards for the students to choose from. • The teacher can determine which group goes first. A player from the first group will draw two number cards at a time, and everyone in the first group must create an addition problem using the cards as the addends on their dry-erase boards (e.g., drawing a 5 card and a 4 card means that the addition problem is 5 + 4 = ____). • That player finds the sum on their "Four-In-a-Row Addition" board and covers the sum using the interactive board pen. • A player from the other group will then take a turn drawing two cards, and everyone in the second group must create an addition problem on their dry-erase boards. • That player finds the sum on their "Four-In-a-Row Addition" board and covers the sum using the interactive board pen. • Each player from each group will continue taking turns, drawing two cards, and having the whole group create an addition problem on their	

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		dry-erase boards. Each will continue covering the sum on their board. • If a sum has already been covered on a group's board, that group loses the turn. • The group that covers four sums in a row, either horizontally or vertically, wins. • As students play the game, the GE will encourage them to use the addition strategies discussed at the beginning of the activity.	
Guided/ Independent Practice	Station Teaching	**Station 1 (Teacher 1): Difference To …** *Materials: dice, Difference To … activity sheet, dry-erase boards, dry-erase markers, board-erasers* • The teacher will be working with students adding amounts together and finding the difference to a predetermined number. See directions in the addendum. • The teacher will model how to use the Difference To … activity sheet. • Students will need to roll dice, add amounts together, and then find the difference to a predetermined number given by the teacher.	**Station 2 (Teacher 2): Four-In-a-Row Subtraction** *Materials: Four-In-A-Row Subtraction game boards, digit cards, counters, dry-erase boards, dry-erase markers, board erasers* • Students will be playing the "Four-In-a-Row" game again, but this time, they will be creating subtraction facts with the pairs of cards. • The teacher will model how to create subtraction facts using the digit cards. • Students will work in pairs. Each pair will get their own game board, several sets of digit cards, and a group of

Lesson Component	Co-Teaching Approach(es)	General Educator (GE)	Special Educator (SE)
		• The teacher will monitor and observe to be sure students are completing task correctly.	counters. • Teacher will monitor and observe to be sure students are completing task correctly.
	Station Teaching	**Station 3: Four-In-a-Row Addition (Independent Pairs)** *Materials: Four-In-A-Row Addition game boards, digit cards, counters, dry-erase boards, dry-erase markers, board erasers* • Students will work in pairs. Each pair will get their own game board, several sets of digit cards, and a group of counters. • Players will take turns drawing two of the digit cards at a time to create an addition problem, using the cards as the addends (e.g., drawing a 5 card and a 4 card means that the addition problem is 5 + 4 = ___ .) • Player 1 finds the sum and then uses a counter to cover the sum on his/her game board. • Player 2 then takes a turn, drawing two cards, finding the sum and covering the sum on his/her game board. If a player draws a sum that is already covered on his/her board, he/she loses the turn. • The first player to cover four sums in a row, either horizontally or vertically, wins.	
Closure	Team Teaching	• (1) Bring the whole group together and ask questions such as: "Which addition strategy is the most difficult? Why? Which addition strategy is the easiest? Why? Was there a sum that came up more often than others? If so, why? Was there a sum that was difficult to get? If so, why?"	• (2) Ask questions regarding finding differences in the second game of Four-In-a-Row: "What strategies did you use to find a difference for that game? (Record responses on another chart labeled "Finding Differences.") How does knowing addition of numbers help you when finding differences?"

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		• (3) Follow up with questions about the vocabulary, especially the following words: adding, plus, sum, subtracting, minus, and difference.	
Formative Assessment Strategies	Team Teaching	• The teacher will have the students complete the following statements: "Today I learned_____. Tomorrow I need_____." as an exit ticket. (These can be written on cards or in a mathematics journal.) • Quiz to assess students' mastery of being able to demonstrate fluency with addition and subtraction within 20. • Create new boards for the games and use them in a station for students to use as games. • The teachers will informally monitor student progress by asking direct questions that are concrete and review the basic concepts. The teacher will give specific positive and, if needed, corrective feedback.	SE should take note of student responses, particularly those of the students needing extra help. * When appropriate, the teachers will pull aside a small group of students for read-aloud accommodations. • Use created games to provide further practice for students to add and subtract facts within 20.
Homework	Team Teaching	• The students will be given a worksheet with addition and subtraction facts within 20.	Same as GE.

Specially Designed Instruction

- Multisensory teaching strategies
- Direct instruction
- Time delay
- Most-to-least prompts
- Model-lead-test
- Repetitive practice

Accommodations

- FM headset transmitters (The students hear the speaker's words directly in their ears, without any distracting background noise, allowing them to enjoy and participate fully in class.)
- Peer buddy (Students are discreetly grouped by ability, and this provides a chance for students with and without disabilities to work together.)
- Verbal feedback in each station (This guides students in their learning process by giving them the direction they need to reach the target or goal of the lesson.)
- Provide a template for students to use to fill in the addition and subtraction facts (e.g., __ + __= ___) (e.g., _ - ___ = __)
- Color-coded number sentence components to help students recognize the plus sign, minus sign, equal to sign, and where each digit goes
- Allow students to use a calculator to check their sums

Modifications

- For those students who require a modified curriculum, the content could be modified to demonstrate fluency with just addition within 10.

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.

Note: The following pages are intended for classroom use for students as a visual aid to learning.

Addition Strategies

Create on flip chart paper.

One More Than	One Less Than
Doubles	**Near Doubles**
Make Ten	**Related Facts**

Four-in-a-Row Addition Game Board A

16	4	5	14
18	9	10	11
3	6	15	7
12	13	2	8

Four-in-a-Row Addition Game Board B

14	15	3	7
9	6	11	2
4	18	16	5
13	12	8	10

Digit Cards (for Addition)

Reproduce cards on card stock and cut them apart on the dotted line.

0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9

Four-in-a-Row Subtraction Game Board A

13	2	10	11
16	15	4	8
12	6	5	7
14	17	1	9

Four-in-a-Row Subtraction Game Board B

1	6	16	8
12	16	13	4
18	5	11	10
9	3	15	2

Digit Cards (for Subtraction)

Reproduce cards on card stock, and cut them apart on the dotted line.

0	1	2	13
4	15	6	7
8	9	20	18
12	3	14	5
16	7	8	19

Classroom Observation Form

Time/Date: _____ Observer: _____

Subject: _____ Lesson:_____

STUDENT NAME	NOTES

Difference To …

Directions

Students roll the dice, add the amounts together, and then find the difference to a predetermined number.

The sheets for this game are designed to be printed and slipped into sheet protectors. There are blank parts in the directions of each game to allow you to change certain parts of the game, depending upon what you want your students to focus on. Plus, students can write on the sheet protector with whiteboard markers and wipe it off for each new game.

Resource: BuildMathMinds

Player 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Player 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

1. Roll the dice ____ time(s).
2. Use the number path to record the amount you rolled.
3. Find the difference from ____.
4. The player with the smallest difference wins.
5. Wipe off your work and PLAY AGAIN.

EXAMPLE

Player 1

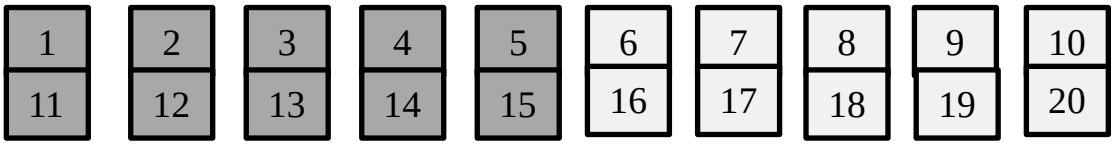
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Player 2

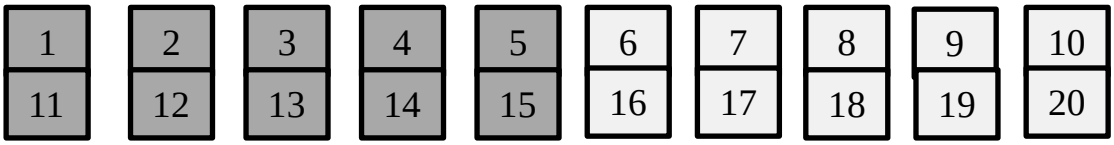
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

1. Roll the dice __1__ time(s).
2. Use the number path to record the amount you rolled.
3. Find the difference from __8__.
4. The player with the smallest difference wins.
5. Wipe off your work and PLAY AGAIN.

Player 1



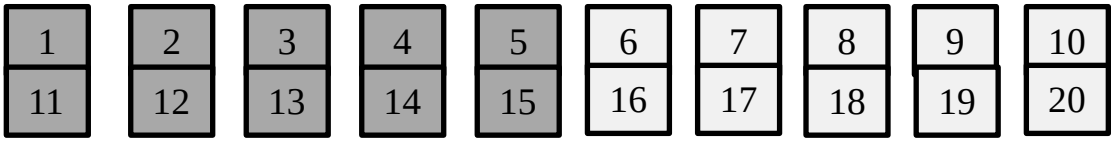
Player 2



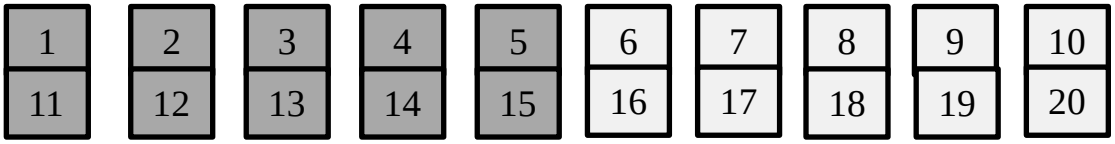
1. Roll the dice ____ time(s).
2. Use the number path to record the amount you rolled.
3. Find the difference from ____.
4. The player with the smallest difference wins.
5. Wipe off your work and PLAY AGAIN.

EXAMPLE

Player 1



Player 2



1. Roll the dice __2__ time(s).
2. Use the number path to record the amount you rolled.
3. Find the difference from __10__.
4. The player with the smallest difference wins.
5. Wipe off your work and PLAY AGAIN.

Addition and Subtraction Homework

Name_____Date_____

Directions: Solve. Please read carefully and watch the ***signs*** *(+ or -).*

1. Which **addition** fact will fill in the blank to make the equation true?

   19 = _____

   a. 10 + 6
   b. 12 + 7
   c. 11 + 3

2. Circle **all** of the correct facts.

   8 = _____

7 + 5	**4 + 4**	**9 - 1**	**8 - 0**

3. Which **subtraction** fact will fill in the blank to make the equation true?

   4 = _____

   a. 10 - 6
   b. 9 – 1
   c. 11- 2

4. Circle **all** of the correct facts.

   13 = _____

8 + 5	**10 - 3**	**16 - 3**	**12 + 1**

5. What is the **sum**? 8 + 1 = ____

   a. 10
   b. 7
   c. 9

6. What is the **difference**? 10 - 2 = ____

   a. 12
   b. 8
   c. 9