Predict-In-A-Row

Grade 3

Activity 313

Relevant Chapters in the *Digi-Block Comprehensive Teacher's Guides*:
  Book III: 3-3, Finding Sums, pp. 54-58

Overview

Students predict the sums of 2-digit and 3-digit numbers in order to mark three sums in a row on a game board.

Objectives

Thinking Skills: Students use number sense, estimation, and mental math skills to predict the two addends that make a given sum.

Mastery Skills: Students learn to determine exact sums of two numbers. Students check their work by modeling problems with the blocks.

Materials

- Transparency of the game board
- 1 Set of Addend Cards: Write numbers on larger index cards so that all students may view them during the demonstration game.

Each pair of students needs:
- "Predict in a Row" game board
- 1 Set of Addend Cards
- 2 colors of markers, 1 color for each player

- Selection of blocks and place mats available (Note: In order to have enough materials, you may want students to introduce the activity and then have students take turns at a math center to play the game.)

Use the Counter, Counter mat, or Place mat and blocks as described in the Teachers Guide to develop students' ability to make accurate predictions.

Tell students they will be using their prediction skills to play a game called "Predict-In-A-Row." Have two student volunteers play a round of the game, and have each half of the class serve as "advisors" to each player. To begin:
- Display an overhead transparency of the game board and tell students that in order to win, they must cover three numbers in a row in any direction with their color marker.
- Explain that in order to cover a number, students must name the two numbers that, when combined, will result in the sum on the game board.
- Place the Addend Cards face up. Show how to combine two cards, lining up places to make an addition problem:

> 251

> 163

- Explain that addend cards may be used more than once, as they are combined with other cards to make different sums.
- If a prediction is incorrect, the player does not mark a space for that turn. (Note: The student cannot exchange his/her cards for better cards during a turn. Once two cards are chosen, students must use these two cards for their turn.)

Ask one player and his or her advisors to:
- Predict the sum of the two addend cards (251 and 163).
- Describe their prediction techniques.
- Check their prediction by modeling the problem with blocks.
- Locate the sum, 414 on the game board and place a marker on the space.

Have the second player pick two cards. He or she may want to strategize and "block" the first player on a side by covering a sum that is next to, or diagonally near 414, as in Tic-Tac-Toe.

Explain that each player must <u>prove his or her answer with blocks before a marker can be placed on a space</u>.

Continue playing until a winner is determined, or until all students understand how to play the game.

Student Pair Activity   (20 minutes)

Organize students in pairs to play "Predict-In-A-Row." Distribute game boards, markers, and addend cards. Have paper, pencils and blocks available for student use.
- Play "Predict In-A-Row" until a student wins or a tie is declared.

Closure   (10 - 20 minutes)

After students have played the game, have them reflect on their work. Some questions to guide a discussion are:
- What strategies did you use to play the game?
- How did you pick the addends for a sum?
- How did you predict the sum?
- How did you prove your answer?

Distribute "Predict-In-A-Row" Activity Sheet 2 and have students complete it independently.

Assessment

As students work, observe and note:
Do they -
- Demonstrate number sense and estimation strategies as they select addend cards to mark a given box?
- Predict sums with accuracy?
- Explain how they arrived at their predictions?
- Prove their answers using blocks and/or an algorithm?

Extension

- Adjust the level of the game by using smaller/larger addends and sums.
- Have students create their own game boards and addend cards.

299	516	560	912	675
508	952	414	626	1101
532	1073	699	955	769
884	983	437	228	1244
1427	1216	343	417	858

313 "Predict in a Row" Game Board

163	281	92	424	607
345	820	251	792	136

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163	281	92	424	607
345	820	251	792	136

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Predict-In-A-Row

Pick 2 cards from your addend card deck. Write the numbers in the boxes:

Explain how you can predict their sum:

David wants to mark a space with the number 437. Which two cards should he use? Draw a loop around them:

251	92	607	345	136

How did you decide which cards to use and which NOT to use?