

# Adding and Subtracting

## — SHUT THE BOX —

### GAME

Each player writes the numbers from 1 to 9 on a piece of paper. To start a turn, a player finds the sum of the roll of two dice. Using only numbers that have yet to be crossed out, the player crosses out a group of one or more numbers that add up to that sum. If this can't be done, nothing changes. A player may decide in advance to use just one die. The first player to get all numbers crossed out wins.

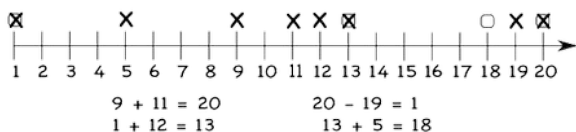
One way to vary this game is to use a larger range of numbers, such as going to 10 or even 12. Another way is to give each player a single turn - the turn continues with new rolls until the first time the player is stuck. At the end, the player's score is the sum of the numbers not crossed out. The player with the lowest score wins.

## — PAIRING DOWN —

### GAME

Start with a number line that goes from 1 to some number, say 20. During a turn, choose two numbers and a result, none of which have been crossed out, and write down an addition or subtraction equation that involves those numbers. The two numbers in the equation are crossed off, and the result is circled.

The next player must use the result as one of the two numbers. If it is played competitively, the winner is the last player with a legal move. It can also be played cooperatively to see how few numbers are left untouched.



## — MATH TIC TAC TOE —

### GAME

Use a Tic-Tac-Toe board and tokens with the numbers from 1 to 9 on them. One player has the odd numbers and the other the even ones. Players take turns placing a token, with the Odd player going first. The first player to complete 3 in a row whose sum is 15 wins. One variation is to keep going, fill all the squares, and see which player made the most 15's.

A related game is to have an attacker and a defender. The attacker goes first (the first move cannot be a 5 in the center) and tries to get 15, and the defender tries to stop the attacker.

## — SUM DIFFERENCE —

### ACTIVITY

One person gives two numbers, one a sum and the other a difference, and the other person is challenged to find the two numbers that have that sum and difference. For example, if one person says the sum is 12 and the difference is 6, the other person says the numbers are 3 and 9.

Because of how easy it is to create these questions, this is a good activity to let your child be the questioner. Not all combinations of numbers for the sum and difference will produce reasonable answers. If you start with two numbers and then say their sum and difference, that will guarantee that there is an answer.

Challenge an older child with the question of why some sums and differences have reasonable answers and others do not.