



# Sum Difference

**Math Concepts:** Add / Subtract numbers 0 to 12.

**Materials:** None

**Players:** 2 to 4

**Set up:** Create groups of 2 to 4 children.

**Play:** One person gives two numbers, one number is the sum and the other a difference, and the other players are 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 players are challenged to discover the original numbers are 3 and 9.

**Goal:** Be the player who discovers the original two numbers.

## – DISCUSSION AND TIPS –

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. For older students, ask them to come up with a pair of numbers for the sum and difference that does not have a whole number answer.

For example, a sum of 4 and a difference of 1 will have the answer  $1\frac{1}{2}$  and  $2\frac{1}{2}$ , whereas a sum of 4 and a difference of 2 will have the answer 1 and 3.

Have your students can find some patterns for the sum and difference pairs that work. Make a table and look for patterns. For a sum of 6, differences of 0, 2, 4 and 6 work. For a sum of 7, differences of 1, 3, 5, and 7 work. After looking at a few more sum values, the pattern becomes clear. Discuss why the possible difference values change by 2.

## – VARIATIONS –

The activity Secret Ops is a variation of this activity. Secret Ops uses operations other than just addition and subtraction.

