



# Secret Ops

**Math Concepts:** Single-digit arithmetic

**Materials:** None

**Players:** Pairs

**Set up:** Put your students in groups of two.

**Play:** One person in each group, the Challenger, thinks of two numbers, gives the other person a clue to those numbers, and then challenges them to figure out the original two numbers. There are a couple ways to play.

**Sum - Difference:** For this, the simplest form of this activity, the Challenger thinks of two numbers and then tells the other person the sum and difference of the two numbers. For example, the challenger might say that the sum is 12 and the difference is 6. To this, the other person would say that the numbers are 3 and 9.

**Secret Ops:** Instead of using the sum and difference, you have the option of using any two operations. For example, the Challenger might say “Which two numbers have a product of 12 and a difference of 4?” If you like, you can even extend this to three numbers. For example, “Which three numbers have a product of 12 and a sum of 8?”

**Goal:** To figure out the Challenger’s puzzle.

## – DISCUSSION AND TIPS –

For Sum - Difference, ask your students if any pair of numbers can be the sum and difference of two numbers, or whether there are some restrictions on what will work.

These problems can start some related questions and discussions. For example, if you have two whole numbers whose product is some number, what are the possible sums? Is there any pattern to those possible sums?

