



# Fill in the Blanks

**Math Concepts:** Various

**Materials:** Die or Playing cards, Pencil and Paper

**Players:** Whole class, Pairs

**Set up:** Give your students paper and pencil to work with individually.

**Play:** There are many ways to set up this game. They all involve putting a configuration of blank spaces on the board that everyone will use on their own paper. After that, random digits are created with either a die or selecting a numbered playing card. Each student decides where to place each new digit on their paper. Once a digit is placed, it cannot be moved later in the game.

For example, give your students two blanks to use to create a 2-digit number:  $\_ \_$ . Their goal will be to create the largest number they can. When you write the first random number on the board, they must decide whether to use it as the ones or tens digit of their number. After the second random number is drawn, there is often laughter, groaning, or cheering.

**Goal:** Get the largest or smallest answer without going over or under some limit.

## – DISCUSSION AND TIPS –

After a few rounds, discuss the strategies the students are using. If you can narrow it down to a choice of two strategies, play a few rounds playing the two strategies against each other to see which one wins more often.

## – VARIATIONS –

**Trash Bins and Larger Numbers:** Starting from this example, there are lots of directions to go. A simple one is to add a single-digit trash bin. With a trash bin, a student can decide to toss out any one digit when it is written on the board. Another possibility is to use 3-digit numbers or 4-digit numbers.

**Addition and Subtraction:** Have them maximize or minimize the result of adding two 2-digit numbers with a single-digit trash bin. Use subtraction and make the result as small as possible without being negative.

**Upper Limit:** Establish an upper limit for addition problems. Your students will do a lot of mental arithmetic trying to make sure that they don't go over that limit. For example, add two 2-digit numbers with a limit of 100. One standard game is to have three 3-digit numbers with a limit of 1000.

**Multiplication:** Have a 1-digit number multiplied by a 2-digit number, where the result is no larger than 200.

There is lots of room to play around with this and have your students suggest favorite versions of their own! This also makes a good game for pairs, or small groups, to play against each other.