

# Fill the Stairs

**Topics:** Comparison of two-digit numbers, estimation

**Materials:** Fill the Stairs Game Sheets (one for each player), pencil, 2 ten-sided dice (different colors)

**Players:** two or more

**Recommended Grades:** 2-8

**Common Core Standards:** MP1, MP6, MP7

The numbers have to increase as they go up the stairs. Where should each number go?

## Why we Love Fill the Stairs

This clever game requires the thoughtful placement of two-digit numbers in order, before all the numbers are known. Fill the Stairs is a compelling and fun game that holds up after repeated playing.

## How to Play

Each player gets a Fill the Stairs Game Sheet for each game. Choose one 10-sided die to be the “tens” die, and the other ten-sided die to be the “ones” die. When you roll them both, you get a one- or two-digit number. After every roll, everyone places the number that was rolled where they like on the stairs. The only rule is that numbers higher up on the stairs must be greater than all the numbers below them. If a player can’t use a number, it gets written under the stairs as a “discard.” Whoever fills up their stairs first is the winner.

## Prompts and Questions

- Where are you going to put that number? Why there?
- What number are you hoping for on the next roll?
- How do you know that number is bigger than that one?
- What’s the best way to win the game?

## Variations

1. Cooperative Game: Play the game together as a pair or group to see if you can fill the stairs with the fewest discarded numbers.
2. Individual Rolls: Have players take turns rolling the dice on their own turn so everyone is working with different number.
3. Three Dice: Roll a die 3 times to fill the stairs (0-1000) with 3 digit numbers.

## About this Game

Adapted from Math For Love ([www.mathforlove.com](http://www.mathforlove.com))

# Fill the Stairs Game Sheet

Roll the two 10-sided dice to make a two-digit number, and write it in on one of the stairs. Each number you write in must be bigger than all the numbers below it, and smaller than all the numbers above it. If you can't use a number, write down the discard number under the stairs, and that ends your turn.

The game is over when someone fills in all the steps in their staircase.

