

Ladders

A game for small groups
or Whole Class

North Coast Region

Mathematics



Big Idea: Place Value

Suits: Years 1-7

Materials:

10 sided dice (2 per group)

The aim of the game is for each player to write 2 digit numbers and order them correctly.

Instructions:

- Each player draws a ladder with 6 rungs (7 spaces).
- Players take turns to roll the dice and use the digits to make a 2-digit number. For example, Player 1 rolls 6 and 8. He can make 68 or 86.
- Players write their chosen number in one of the spaces on their ladder.
- Players continue to roll the dice and add numbers to their ladder, keeping a sequence of smallest to biggest (bottom to top).
- The first player who fills their entire ladder is the winner.



There will be times when a player is unable to write a number on their ladder, they simply miss their turn. For example, a player with the ladder above rolls a 5 and a 6, there is nowhere to put 56 or 65, so they miss their turn.

Teacher Notes

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To play the game as a whole class, each student draws their own ladder. The teacher rolls the dice. Students choose the number to be made and write it on their own ladders. Students will complete their ladders at different times. Discuss students' strategies for playing the game.

Be aware that:

- The first time students play this game, they may not have a strategy for making and placing numbers.
- Have this discussion with them after the first game. Talk about the biggest and smallest numbers possible.

Differentiate the task by:

- Using three dice and making 3-digit whole numbers
- Rolling two dice to make numbers with decimals, eg. 6 and 6 are rolled. Possible numbers are 5.6 and 6.5
- Varying the number of rungs on the ladder.
- Using fewer or more dice to suit ages and abilities.
- Using a 6-sided dice.
- Having students record all possible numbers from their rolls, not just the one they are using.
- Giving students the lowest number and the highest number on the ladder. Students make and order numbers within the given range.

Guiding Questions:

- *What strategy did you use when choosing numbers to put on the ladder?*
- *How did you decide where to place your numbers?*
- *What are you doing now that you weren't doing the first time you played this game?*

