

# Pennies and Nickels Puzzle

The starting setup is shown below:



- How many moves does it take to switch the position of the coins?
- What is the fewest number of moves needed?

Set-up your coins here:

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RULES:

To solve the puzzle, you must switch the positions of the coins so the nickels are on the left and the pennies are on the right.

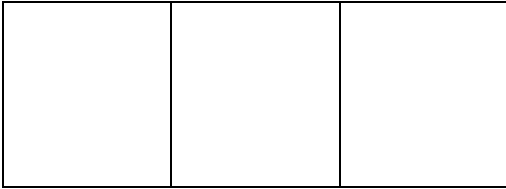
You can move a coin to an empty square by sliding it or jumping it over one coin.

You can move pennies only to the right and nickels only to the left.

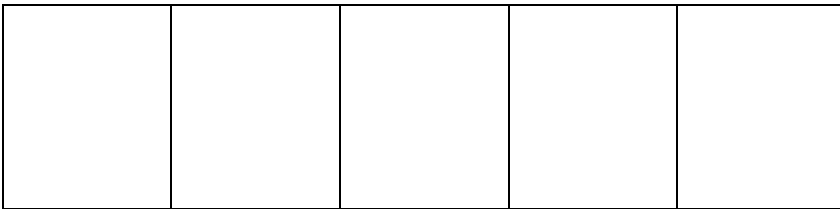
## Solving the Pennies and Nickels Puzzle

You can make variations of the puzzle by changing the number of coins and the length of the strip. Each puzzle should have the same number of coins and one empty square in the middle.

1. Try a 1 coin of each type puzzle. How many moves does it take?



2. Try a 2 coin of each type puzzle. How many moves does it take?



3. How many moves did the 3 coin puzzle take?

4. Make a showing how many moves each puzzle takes. Use the pattern in the table to figure out how many coins it would take for a 4 coin puzzle and for a 5 coin puzzle.

Number of Coins $x$	0	1	2	3	4	5	...	$x$
Number of Moves $y$								

5. How many moves does a puzzle with  $x$  coins take?