Name _____

I Spy

   I Spy is a game you can play as a whole class or you can pair students up and let them play in partners. Be sure to play it a few times all together to help students develop the ability to look for patterns and use number sense rather than just wild guessing.

   The Codemaker makes a secret number by choosing a three digit number that does not repeat any digits.

   The Number Spy uses logical reasoning, patterns, and number sense to find the secret number.

   The Codemaker writes the number down where the Number Spy or Spies cannot see it.

   On each turn, the Number Spy guesses a three digit number. The Codemaker compares the guess with the secret number and gives a clue that tells:

- how many of the digits are in the secret number, and

- how many of the digits are in the correct position.

   Make a chart to help keep track of the guesses. A sample is given below—you can do the reasoning orally and not write it down each time.

Number Spy's Guess	Codemaker's Digits Correct	Clues Places Correct	Number Spy's Reasoning
375	1	0	There is a 3, 7, or 5 in the number
786	0	0	There is no 7, 8, or 6. There might be a 3 or 5.
123	1	0	There could be a 1, 2, or 3.
125	0	0	The 3 is correct. There is no 1, 2, or 5. I can try 0, 4, and 9.
349	3	1	I was right about all the digits. Now I need to change the places.
394	3	1	The 3 can't be first.
493	3	1	Almost—I'll try switching the last two numbers.
439	3	3	I guessed it!