

Puzzle of the Week

Self-Describing Numbers – 2

The number 1210 is a *Self-Describing Number* because each digit in order describes how many digits of that type there are - there is 1 0, 2 1's, 1 2, and 0 3's. Similarly, 2020 is a Self-Describing Number because it has 2 0's, 0 1's, 2 2's, and 0 3's.

1	2	1	0
# of 0's	# of 1's	# of 2's	# of 3's

2	0	2	0
# of 0's	# of 1's	# of 2's	# of 3's

THE CHALLENGE: Find a Self-Describing Number that has seven digits.

# of 0's	# of 1's	# of 2's	# of 3's	# of 4's	# of 5's	# of 6's
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EXPLORATION: Why are there no Self-Describing Numbers with 6 digits?