



Number Spiral: Facilitation Guide

Implementation Ideas:

- Have your students find patterns in the number spiral by coloring in the chart—use different colors to distinguish different patterns!
- Use different colored stones or other manipulatives to find patterns:

Number Spiral Sample

82	83	84	85	86	87	88	89	90	91
50	51	52	53	54	55	56	57	92	
80	26	27	28	29	30	31	58	93	
79	48	10	11	12	13	32	59	94	
78	47	24	2	3	14	33	60	95	
77	46	23	8	15	34	61	96		
76	45	22	7	6	5	35	62	97	
75	44	21	20	19	18	17	63	98	
74	43	42	41	40	39	38	37	99	
73	72	71	70	69	68	67	66	65	

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78	24	2	14	60					
77	46	8	4	34	96				
76	22	6	16	62					
75	44	20	18	36	98				
74	42	40	38	64					
73	72	70	68	66	100				

- Set up a station rotation model where each station explores a question using colored stones or other manipulatives
- Use a projector screen to find patterns with the whole class

Sample Questions:

- In what ways is the number spiral chart similar or different from a traditional 1-100 chart?
- Can you make a checkerboard pattern? What do you notice?
- What does it look like if you fill in spaces counting by 2's? What about if you count by 5's?
- What is the function that covers up all of the even numbers on the board? ($y = 2x$) All of the odd numbers on the board? ($y = 2x + 1$)
- Make a number spiral counting by 3s. What number did you start on and end on? Compare with a partner who started with a different number. List the ways in which they look the same and how they look different. Hypothesize: if you wanted your next number spiral to end on the number 150, what number would you have to start on and why?
- What happens if you color the number 1, color the number 3 a different color, and continue counting by 2s and alternating these two colors throughout your number spiral? Do you notice any patterns?
- What happens if you color in all the square numbers?
 - What if you colored in the square numbers, and added that number as well? ($x^2 + x$)
- How much longer does each arm of the spiral get every time it goes around?
- How wide would the number grid have to be if you wanted a spiral 1,000 boxes long?