

MathFLIX CHALLENGE

Exponential Growth

Take a regular piece of notebook paper. Cut that paper in half. How many pieces of paper will you have? Those results are recorded in the second line of the table below. Next, put the 2 cut pieces together and cut them in half. How many pieces do you have, now? Continue putting the pieces on top of each other and cutting them in half. Record your results. Do you notice the relationship between the # of cuts, the times the # is multiplied and the exponential notation?

# of cuts	# of papers	Multiplication by 2	Exponential Notation
0	1	$n a$	2^0
1	2	2	2^1
2		2×2	2^2
3		$2 \times 2 \times 2$	
4			
5			
6			

Now, instead of folding and cutting one paper in half, see what happens when you fold one paper into thirds and cut. Can you complete the table?

# of cuts	# of papers	Multiplication by 3	Exponential Notation
0	1	$n a$	3^0
1	3	3	3^1
2			3^2
3			
4			
5			
6			