

Experimenting with M&Ms

✧ **Objective:** *You will be able to use technology to write and analyze population models.*

★ **Experiment A:** Choose any 2 M&Ms and place them on the plate.

- ★ Cover the plate, and shake. Then remove the top plate.
- ★ Every M&M that is showing its “M” can be considered a “mommy M&M!” ☺
For each “mommy M&M,” place another M&M on the plate.
- ★ Record the number added, as well as the total population at each generation.
- ★ Repeat for 10 generations, until your plate becomes overly crowded, or until you run out of M&Ms.

Generation (x)	Number Added	Population Size p(x)
0	2	2
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

★ Let’s create a graph to display the data Population Size vs Generation!

★ Let’s use technology to our advantage in determining a model to fit the data. What type of model do you think will fit best?

★ How many total M&Ms would you expect to be in the next generation? _____

★ **Experiment B:** Begin with your full plate of M&Ms.

★ Cover the plate, and shake. Then remove the top plate.

★ “M” no longer stands for “Mommy”... in this experiment, “M” stands for “muerte” (which means death in Spanish!) ☹ Remove each M&M that has its “M” showing.

★ Record the number removed, as well as the total population at each generation.

★ Repeat for 10 generations, or until your plate becomes empty.

Generation (x)	Number Removed	Population Size $p(x)$
0	0	
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

★ Let's create a graph to display the data Population Size vs Generation!

★ Does your population decay faster, slower, or at the same rate as it grew? Explain why.

★ Let's use technology to our advantage in determining a model to fit the data.

★ How many total M&Ms would you expect to be in the next generation? _____

★ If all of your M&Ms were not removed, in which generation would you expect for all of your M&Ms to die off?