

M&M's: Look at them Grow (Part 1)

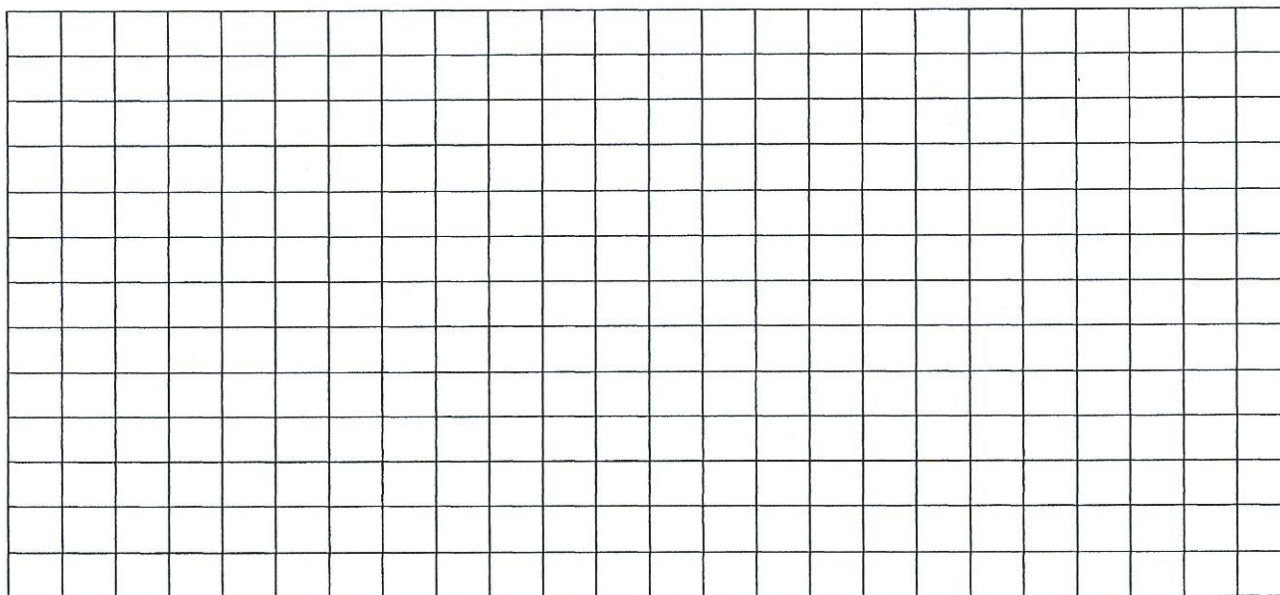
Name: _____

1st Experiment: Growth

1. Begin with 2 M&M's in a cup. Shake the cup and pour the M&M's onto your plate (be careful to not lose them on the floor!) For each M&M that has the "M" showing, add another M&M (watch out for the yellow ones, they can be difficult to see.) Record the new total number of M&M's in the table below.
2. Repeat this procedure 9 more times; recording the new total number of M&M's each time.

Trial #	Number of M&M's
0	2
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

3. Plot the data points on the graph below. Use the trial number on the x-axis and the number of M&M's on the y-axis. Turn your paper so the longer axis is the y-axis.



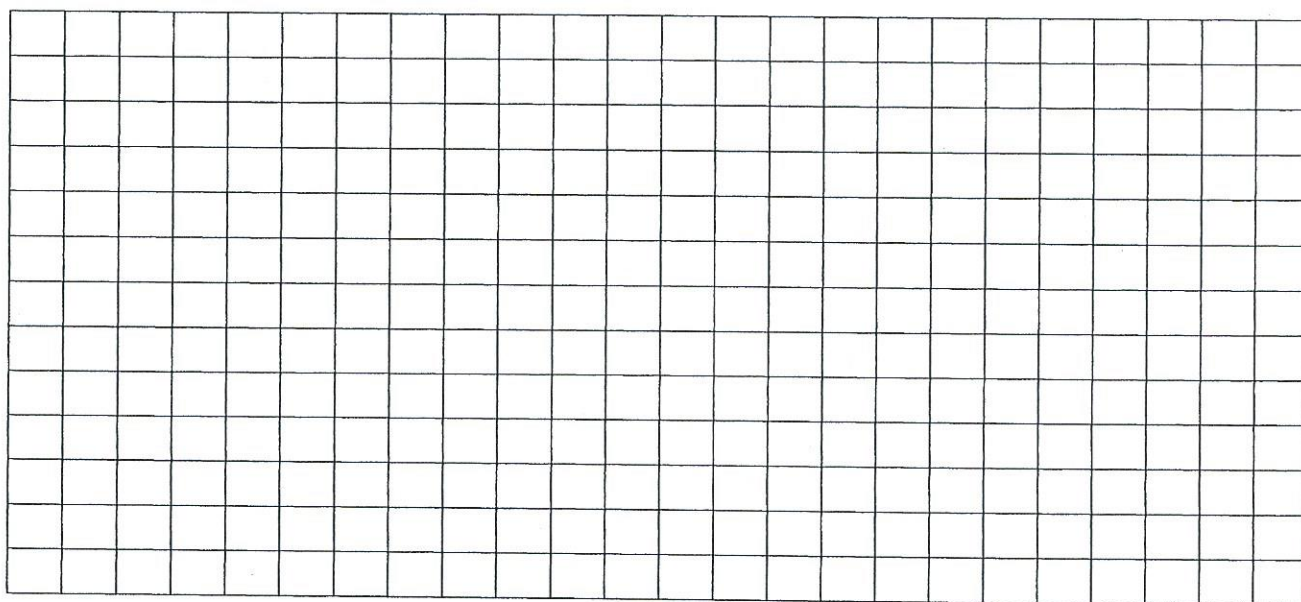
M&M's: Where did They Go? (Part 1) Name: _____

2nd Experiment: Decay

1. Begin with 75 M&M's in a cup. Shake the cup and pour the M&M's onto the plate (be careful to not lose them on the floor!) For each M&M that has the "M" showing, eliminate it (either by eating or removing). Record the new total number of M&M's in the table below.
2. Repeat this procedure 9 more times; recording the new total number of M&M's each time.

Trial #	Number of M&M's
0	75
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

3. Plot the data points on the graph below. Use the trial number on the x-axis and the number of M&M's on the y-axis. Turn your paper so the longer axis is the y-axis.



M&M's: Grow and Go

Name: _____

Graphing calculator required

A) CALCULATOR SET-UP

***Before you start, Make sure you have no equations in your 'y =' window.

B) ENTERING DATA

- Press Stat
- Choose Edit
- Enter the trial number in L₁ and the number of M&M's for each trial in L₂ for the growth experiment.
- Press 2nd y = (stat plot) and turn on plot 1
- Press Zoom 9
- Press Stat, arrow over to CALC and scroll down to 0 (ExpReg) and hit enter.

Using the information write down the following:

a = _____ (round to hundredth place)

b = _____

Equation: _____

C) Repeat the process using your decay data: (do not enter in your trials with no M&M's)

Write down the following:

a = _____

b = _____

Equation: _____

D) Write the growth equation on one section of the blackboard and write the decay equation on another section of the blackboard so groups can compare the results.

What do you notice about the "a" values in the growth experiment and the decay experiment?

What would it represent (in relation to our experiment)?

What do you notice about the "b" value in the growth experiment versus the "b" value in the decay experiment?

Can you make a generalization about the equation $y = a \cdot b^x$ and the value of the variables a and b?