Name _____
Pd _____ Date _____

The m&m Game

Through a strange and crazy set of coincidences, our class has become host to a large number of radioactive m&ms. Your job is to model the remaining number of radioactive m&ms as we shake and remove the edible ones.

Directions:

A. Count the total number of m&ms and place all into your cup. Record the initial number of m&ms here _____ and in the table below (this is trial 0 in your table below)

B. Shake your m&ms and pour them out onto your desk or table: any m&m that is face down (the "m" isn't showing) is no longer radioactive and can be safely removed! Put these aside.

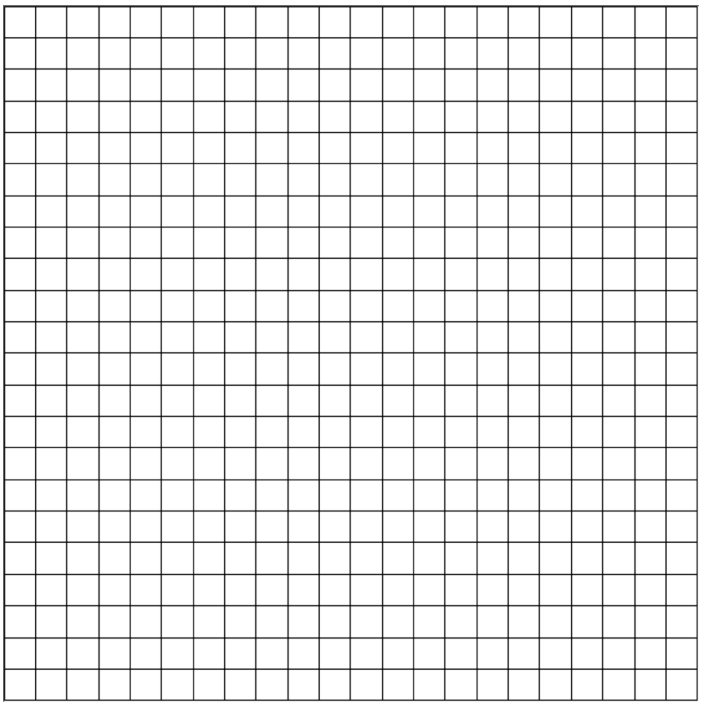
   ❖ Note: if it isn't radioactive, you can eat it!

C. Count the remaining (radioactive) m&ms and place them back into your cup (be sure to record the number that are still radioactive—each time you do this represents a new trial).

D. Repeat steps 2 and 3 until two or fewer m&ms remain.

E. Graph the function $N(x)$, where x is the number of trials and $N(x)$ is the number of remaining m&ms.

x (trial)	***N*(*x*)** (# of radioactive m&ms)
0	
1	



Next, answer the following questions on the next page.

Name _____
Pd _____ Date _____

1. What does the *x*-axis measure? What are its units?

2. What does the *y*-axis measure? What are its units?

3. What is the contextual meaning of $N(3)$?

4. What is the value of $N(3)$?

5. How could you find $N(3)$ from **your table**?

6. How could you find $N(3)$ from **your graph**?

7. Approximately how many trials does it take for the number of m&ms to be about 20? Should our answer be an *x* or *y* value?

8. Approximately how many trials does it take for the number of m&ms to be less than ¼ of what we began with?