Name
Date   **Period**

Lab 16
THE HALF-LIFE OF AN M & M

PreLab Questions

None

NAME: _____   PERIOD: _____

DATE: _____   LAB PARTNERS:

EXPERIMENT 16
THE HALF-LIFE OF AN M & M

DATA TABLE

Trial Number	Lab Group Results # Radioactive M & M's	Class Results # Radioactive M & M's
1	100	100
2		
3		
4		
5		
6		

QUESTIONS AND CONCLUSIONS

1. When was the rate of decay faster, during the first or last trials?
2. What factor does the rate of decay depend upon?
3. Based on the your graph, what kind of relationship exists between time that has elapsed and mass of M & M's still radioactive?

Answer the following questions using the analogy that each trial represents a half-life. Also consider that the half-life of an M & M is 12.4 seconds.

4. What is the number of seconds required for a radioactive M & M to pass through three half-life periods?
5. What fraction of a sample of radioactive M & M's will remain after 37.2 seconds?
6. Approximately how many grams of a 40 gram sample of radioactive M & M's would remain after 24.8 seconds.
7. After three half-life periods, 12.5 grams of an original sample of radioactive M & M's remains unchanged. What was the mass of the original sample?
8. Compare the two graphs prepared, one representing group results the other representing class results. Which simulation comes closest to approximating half-life? Why?