Name _____ Date _____ Period _____

INTRODUCTION TO FINDING THE AGE OF ROCK

Purpose: The purpose of this lab is to use licorice as a model of radioactive decay. You will cut several pieces of licorice in half to model the decay of different "elements." This should help you understand the concept of half-life..

Materials:3 different colors of licorice, scissors, scale

Procedure:

1. Obtain a piece of each color licorice from your teacher. Different colors of licorice represent different elements in nature. For example, the red licorice represents the element carbon-14.

2. The color of licorice determines its half-life. Each time a half-life passes, ½ of the element decays.

Color (atom)	Half-life (years)
Red	500
Brown	1000
Black	2000

3. In each table, record the initial (beginning) mass of each element. Do this by placing the piece of licorice on the digital scale and record in grams the mass.

4. Cut your licorice in half with scissors and throw half away (oh okay, you can eat that half, if you would like). Then find the mass of the other half. This is the amount (in g) of the element the licorice "decayed" into. Record in your data table.

5. Every time you cut the licorice in half, this is known as a half-life.

6. Continue this process until you cannot cut your licorice anymore. (Be careful not to cut your fingers)

7. Graph your data. (Use a different color for each element.)

8. Repeat steps 1-8 for each piece of licorice.

Data Table #1 Color – Red

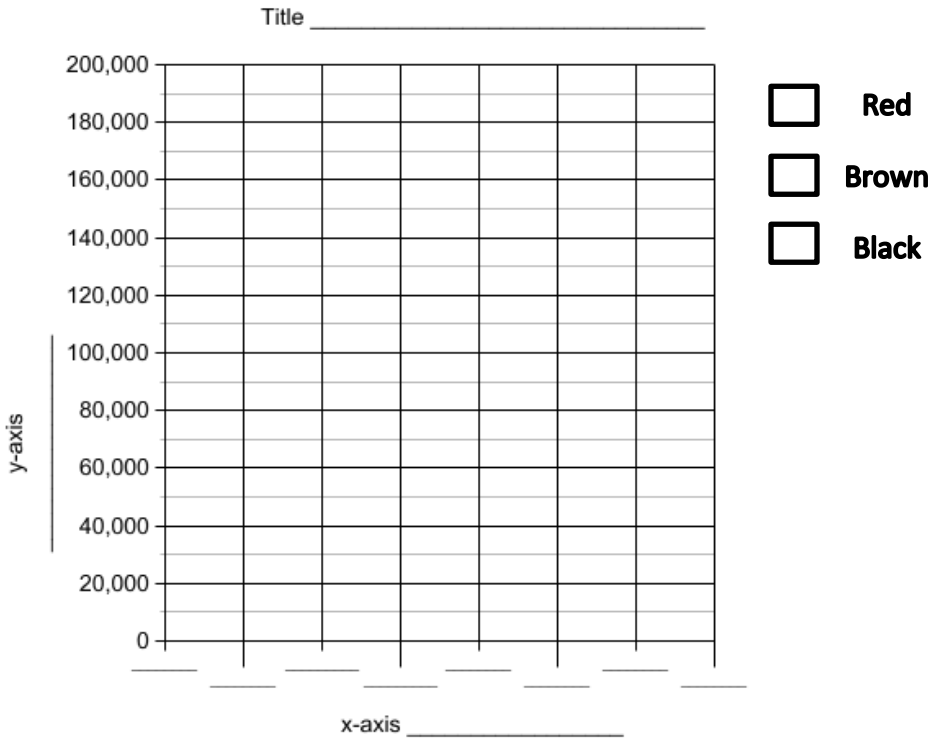
Half-lives	Years Passed	Mass (g)
0	0	

Data Table #2 Color – Brown

Half-lives	Years Passed	Mass (g)
0	0	

Data Table #3 Color – Black

Half-lives	Years Passed	Mass (g)
0	0	



Analysis Questions

1. What is the independent variable in this experiment?

2. What is the dependent variable in this experiment?

3. What pattern is the graph showing?

4. In your own words, explain your understanding of a half-life.