Chemistry
Lab: Atomic mass of candium

Procedure
Obtain a sample of candium . Separate the three isotopes (m&m's, Skittles, and Reese's Pieces) and measure the mass of each isotope. Count the numbers of m&m's, Skittles, and Reese's Pieces. Make a table similar to the table below to record you measured and calculated data.

	m&m's	skittles	Reese's' Pieces	Totals
Total mass				
Number				
average mass				
% abundance				
Relative abundance				
Relative mass				

Analysis
Using the experimental data record the answers to the following questions below your data table.

1. Calculate the average mass of each isotope by dividing its total mass by the number of particles of that isotope.
2. Calculate the percent abundance of each isotope by dividing its number of particles by the total number of particles and multiplying by 100.
3. Calculate the relative abundance of each isotope by dividing the percent abundance from step 2 by 100.
4. Calculate the relative mass of each isotope by multiplying its relative abundance from step 3 by its average mass.
5. Calculate the average mass of all candium participles by adding the relative masses. This average mass is the atomic mass of candium.
6. Explain the differenced between percent abundance and relative abundance. What is the result when you total the individual percent abundances? The individual relative abundances?
7. What do relative abundance tell you?
8. Compare the total values found in rows 3 and 6. Why can't the atomic mass in row 6 be calculated the way the total for row 3 is calculated?
9. Explain any differences between the atomic mass of your candium sample and that of your neighbor. Explain why the differences would be smaller if larger samples were used.