

Names: _____

LAB: The Average Atomic Mass of Candium

Purpose: To analyze the isotopes of Candium and to calculate its atomic mass.

Procedure:

1. Obtain a sample of Candium. Separate the three isotopes (M & M's, Skittles, and Candy corn). Count the number of each isotope of the element Candium and record it in the following boxes.

	M&M's	Skittles	Candy corn
Number of each isotope	32	25	37

2. Put the entire sample of EACH ISOTOPE on the balance and determine the mass in grams. Record it below.

	M&M's	Skittles	Candy corn
Total mass (grams)	38.2 g	30.1 g	39.5 g

3. Determine the mass of one atom of EACH ISOTOPE in grams. You can do this by dividing the TOTAL MASS by the NUMBER OF EACH ISOTOPE. Record these numbers in data table.

	M&M's	Skittles	Candy corn
Average mass (grams)			

4. Why do you think we found the AVERAGE MASS of each isotope by dividing the total mass by the number of isotopes and not by simply putting ONE isotope on the balance to find the mass of just ONE?

5. Add the number of isotopes together to determine the TOTAL number of atoms.

TOTAL ATOMS	
--------------------	--

6. Determine the *percent abundance* of each isotope by **dividing the number of each isotope by the TOTAL ATOMS** and then multiply by 100. Record the %'s below. You can check your math by adding all of the percent abundance, they should total to 100%.

	M&M's	Skittles	Candy corn
Percent abundance (%)			

7. Calculate the average atomic mass of Candium using the average mass and the percent abundance of each isotope.

--