

Name: _____ Date: _____ Period: _____

Isotopes Activity

Introduction:

Scientists have recently discovered the element “Mandmium” (Mm). Your assignment is to calculate its average atomic mass based on the samples provided. The atomic number of “Mandmium” is 119.

Terms:

- 1) _____ are different versions of an atom having the same number of _____ but different numbers of _____.
- 2) The _____ is the weighted average of all the isotopes of an element as they are found in nature.

Data Table: Determine the number of each color M&M and combine your group’s results below.

Isotopes (M&M’s)	Amt. of each isotope	÷ by total M&M’s (example: 0.129)	x mass number
Mandmium-273 (red)			x 273 =
Mandmium-274 (blue)			x 274 =
Mandmium-275 (green)			x 275 =
Mandmium-276 (orange)			x 276 =
Mandmium-277 (yellow)			x 277 =
Mandmium-278 (brown)			x 278 =
	Total #:		AvgMass: <i>(Do not divide by 6, just add up)</i>

Calculations:

Determine the percent of each isotope of Mandmium. Show work here.

Questions:

- 1) For each "Mandmium" isotope, give the proper complete symbol (w/ atomic # & mass #).
- 2) Calculate the number of neutrons in each "Mandmium" isotope.
- 3) According to your calculations, which "Mandmium" isotope is most abundant in nature?
- 4) If additional Mandmium-278 isotopes were added to the sample, how would the average atomic mass of Mandmium be affected?
- 5) If Mandmium-273 isotope became an ion by losing 3 electrons, write out its proper isotopic notation symbol.

Now enter in your groups results in the "Class Data" sheet and turn in your completed assignment.