

Chapter 3 Review

What was the first civilization to study the atom?

What were the four elements that this civilization thought matter was broken into?

What Greek philosopher came up with the idea of atomos?

Aristotle disagreed with the previous philosopher because the idea of atomos did what?

Approximately, how much lighter is an electron than a proton?

William Thomson came up with the plum pudding model. Describe this model.

Rutherford is getting credit for finding what part of the atom?

Describe Rutherford's experiment.

Describe Millikan's Experiment.

James Chadwick is given credit for locating the neutron. What was his research focused on when he found them?

The Bohr model of the atom has electrons following what kind of paths?

Heisenberg says what about electrons position and velocity?

What is the accepted atomic model today?

What are the three subatomic particles, what are their charges, where are they found, and what is their mass in u.a.m.u

What is the unit the u.a.m.u. stand for and what is it based off of?

The Atomic Number tells us what? List all you can think of.

The Atomic Mass is the combination of what two subatomic particles?

Isotopes are atoms of the same element that differ in the number of?

When chemists calculated the average atomic mass on the periodic chart, the different isotopes must fit two categories. What are the two categories?

Magnesium has 3 stable isotopes. They are as follows:

Mg-24 = 78.7%

Mg-25 = 10.1%

Mg-26 = 11.2 %

Find the average atomic mass.

Iron has four stable isotopes. They are as follows:

Fe-54 = 5.8%

Fe-56 = 91.8%

Fe-57 = 2.1%

Fe-58 = 0.3%

Find the average atomic mass

Bromine has two stable isotopes, Br-79 and Br-80. If the average atomic mass is 79.9, what is the percent abundance of each isotope?

What is the name for a charged particle?

What are the two types of ions. Please include charges.

Complete the following complete atomic designations

Protons	Neutrons	Electrons	Element & MN	Ion
53	73	54		
			Ba-137	Ba ²⁺

How many mols are in 250g of sodium?

How many grams are in 42 mols of gold?

How many atoms are in 38g of lithium?

How many grams are in 4.3×10^{24} atoms of iron?