

Guided Lesson Notes

Name: _____ Date: _____

Isotopes and Atomic Mass

Directions: Complete this study guide as you move through the lesson. By taking notes, you are more likely to remember what you are learning. The completed study guide can be used for practice activities and to prepare for quizzes and exams. Be sure to save each study guide so you can access it when you need it.

Essential Vocabulary

As you encounter these scientific terms in the lesson, enter the meaning and an example (or two) for each. You can even draw a picture. If there are other unfamiliar words you find, enter them in the blank spaces provided.

<i>isotope</i>	<i>atomic mass</i>
<i>unified atomic mass units</i>	<i>average atomic mass</i>
<i>weighted average</i>	

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Isotopes

What subatomic particle can vary in a neutral atom?

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Compare the three forms of hydrogen in the following table:

Type	Atomic Number	Number of protons and electrons	Mass number	Number of Neutrons
Protium				
Deuterium				
Tritium				

What is an isotope?

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Use the words atomic number and mass number to fill in the blanks in the following sentence.

Isotopes of the same element have the same _____ but different _____.

Comparing Subatomic Particles

Fill in the missing information in the following table:

Particle	Actual Mass (g)	Mass (u)	Relative Mass
	9.11×10^{-28}		$\frac{1}{1836}$
	1.674×10^{-24}		
	1.675×10^{-24}		

How do the masses of protons and neutrons compare?

How does the mass of an electron compare to the mass of protons and neutrons?

Why is the atomic mass of an element not always near a whole number?

What are the two stable, naturally occurring isotopes for chlorine?

How is the average atomic mass for chlorine calculated?

Tutorial: Calculating Atomic Mass

Describe how to calculate the atomic mass for an element.