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ATOMIC STRUCTURE, ATOMIC MASS, & ISOTOPES

EVIDENCE NOTEBOOK

KEY IDEAS

1. Vocabulary: Understanding the periodic table numbers

Term	Definition
Atomic Number	
Atomic Mass	
Isotopes	
Average Atomic Mass	

- 2. Atomic Number
 - a. Give a visual example of how you could identify the atomic number of an element when looking at a periodic table:
 - b. What does the atomic number of an element represent about the element?
- 3. Find carbon on your periodic table and illustrate where and the value of its atomic number:

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4.	Atomic a.	
	b.	How could you determine the number of protons and neutrons a chlorine-35 atom would have?
	C.	What is the rule to determine the number of electrons an element has?
	d.	If an atom breaks the rule above, it is no longer considered an atom. It is now called $a(n)$:
5.	Isotope a.	es Give the example of two chlorine isotopes that was given in the lesson.
	b.	What makes chlorine-35 and chlorine-37 isotopes?

6. Average Atomic Mass

a. Explain what the average atomic mass of chlorine-35 and chlorine-37 is NOT 36. Explain what a weighted average is in your answer.

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- b. How can you identify the average atomic mass of an element using the periodic table?
- c. What is the average atomic mass of chlorine? Illustrate how you can determine this using a periodic table.
- 7. Formatting practice
 - a. How should phosphorus-32 be written in symbols?
 - b. How should ¹⁴C be written in words?

CHECKPOINTS

1. Complete the following table

Isotope	Protons	Neutrons	Electrons
Phosphorus-32			
¹⁴ C			
Silicon-32			
⁴⁰ Ar			
⁴ He			
Potassium-40			
Gold-197			
¹¹ B			

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- 2. What is the atomic mass of the following?
 - a. Oxygen with 8 neutrons
 - b. Iodine with 74 neutrons
 - c. Iron with 30 neutrons
 - d. Silver with 61 neutrons