

**Unit 1 Review Worksheet**  
**ACCELERATED Chemistry**

Name: \_\_\_\_\_  
 Period: \_\_\_\_\_

1. What two elements make up the majority of the sun?
2. How did elements lighter than iron form?
3. What is fusion?
4. What happens to a star when it runs out of iron?
5. How did elements heavier than iron form?
6. How is carbon formed?
7. For a specific atom of an element the number of \_\_\_\_\_ is the same but the number of \_\_\_\_\_ and \_\_\_\_\_ may vary.
  - a. Multiple forms of the same element with varying numbers of neutrons are called \_\_\_\_\_.
  - b. Mass number = \_\_\_\_\_ + \_\_\_\_\_
  - c. What are the two ways to write an isotope of carbon with 7 neutrons?
    1. \_\_\_\_\_
    2. \_\_\_\_\_
8. Name the element which has
 

a. 1 proton _____	c. 30 n <sup>0</sup> , 26 e <sup>-</sup> , 26 p <sup>+</sup> _____
b. 4 n <sup>0</sup> , 3 p <sup>+</sup> , 3 e <sup>-</sup> _____	d. 18 e <sup>-</sup> , 22 n <sup>0</sup> , 18 p <sup>+</sup> _____
9. How are mass number and atomic mass different?
10. What is the overall charge of a neutral atom? \_\_\_\_\_

11. Complete the table.

Particle	Charge	Mass (amu)	Location
electron			
proton			
neutron			

12. Complete the table: Include the mass # and atomic # in names or symbols as discussed

Element	Symbol	#p	#e	#n	mass #	atomic #
		4			9	
			21	23		
aluminum-28						
	${}^2_1\text{H}$				2	1

13. The relative abundance and mass of the isotopes of an unknown element are shown below. Calculate the atomic mass of the element and determine the element's identity. Show your work!

Mass (amu)	% abundance
84.91	72.17
86.91	27.83

14. Chlorine has two naturally occurring isotopes. One has a mass of 34.97 amu and abundance of 75.77%. The other has a mass of 36.96 amu and abundance of 24.23%. Calculate the atomic mass of chlorine. Show your work!

15. The average atomic mass of copper is 63.55 amu. If the only two isotopes of copper have masses of 62.94 amu and 64.93 u, what are the percentages of each? Show your work!

16. Silver (Atomic weight 107.868) has two naturally-occurring isotopes with isotopic weights of 107 and 109. What is the percentage abundance of each isotope? Show your work!

17. What is fission? (*Objective(s): I*)

18. Identify the following as alpha or beta decay.

a.  $\frac{0}{-1}e$  \_\_\_\_\_

c. An electron: \_\_\_\_\_

b.  $\frac{4}{2}He$  \_\_\_\_\_

d. A helium nuclei: \_\_\_\_\_

