

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

## Chapter 4 Review (Chem)

1. Complete the following table using the periodic table provided.

<i>Atomic Symbol</i>	<i>Atomic Number</i>	<i>Protons</i>	<i>Neutrons</i>	<i>Electrons</i>	<i>Mass Number</i>	<i>Atomic Shorthand</i>
	3		4			
Al				13	27	
			34		63	
		17	20			
I					127	
	14				28	
W			110			
		23			51	

2. Which of the *subatomic particles* above is responsible for determining the type of element?

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4. **Illustrate and label** each of the models of an atom from Dalton through Rutherford.
5. Identify the experiments conducted by Thomson and Rutherford to modify our understanding of the structure of an atom.
6. Barium is a soft metal that is highly reactive. It has five naturally-occurring isotopes – barium-134, barium-135, barium-136, barium-137, and barium-138.
- A. Write each of the selected isotopes below correctly in atomic shorthand, making sure to use the appropriate atomic symbol. For each isotope, determine the number of protons and neutrons that would be present.

**Atomic Shorthand Notation**

**Number of Neutrons**

Barium-134

Barium-136

Barium-138

7. Determine the average atomic mass of bromine to the proper number of significant figures by using the mass numbers and relative abundance of the following isotopes. *Since you have been provided the atomic mass units, you must use these values.* For full credit on any quizzes or assessment, you must set up the equation and show all work. *Circle your final answer.*
- A. Bromine-79    78.918 amu    50.69%
- B. Bromine-81    80.916 amu    49.31%