**Honors Chemistry: Chapter 3 Checkpoint Quiz – Study Guide**

***(1 pt EC for completing)***

1. When Rutherford shot alpha particles through a thin sheet of atoms and most passed with a small number bouncing back; what was he able to conclude about the nature of atoms?
2. There are three natural isotopes of Lithium (atomic number 3, average atomic mass 6.941); Lithium-4, Lithium-6, and Lithium-7. Which do you predict you would find in the greatest abundance and explain why.
3. Look at the following isotope symbols to answer the following questions.



1. What does the number on the upper left of the “C” represent?
2. What is different about the three different isotopes shown?
3. What evidence supports a model of the atom that cannot be divided into smaller pieces?
	1. Chemical processes cannot change one element into another
	2. Atoms form ions
	3. Some alpha particles bounce back when shot toward gold foil.
	4. A 1.0 cm3 sample of pure gold will always have a mass of 19.3g.
4. Write the isotope symbol for Calcium-44 (atomic number 20).
5. What is the result of potassium-40 undergoing beta decay?
6. What is the parent isotope of the products of the nuclear reaction shown below?



1. Scientific evidence indicates that the original source of the elements found on Earth is (are)…?
2. The equation below is an example of what kind of reaction?

