

Name: _____

PRE-LAB #14
ATOMIC & NUCLEAR PHYSICS

Before starting the laboratory session, be sure read *Investigation #14: Atomic & Nuclear Physics* and then answer the following questions:

1. What is meant by the term *half-life*?

2. In the simulation described in **Part I**, the “half-life” of the pennies will be less than that of the dice. Why do you suppose that is the case?

3. Briefly describe how you will simulate the measurement of the size of an atomic nucleus in **Part II**.

4. In **Part III**, you will simulate a *critical* and a *supercritical* chain reaction using dominoes. How will the dominoes be arranged for the “critical case” and how will they be arranged for the “supercritical case?”

5. In **Part IV**, you will look at the color spectrum of four different gases and two other light sources. What are these other two sources?

1)

2)

