

Names of others in your group _____

For this test the class will split into groups of no more than four students. Students will be able to use any written notes, calculators, and copies of the papers, but you will **not** be able to use your computers. While students will be in groups, each student is individually responsible for their own answers on this test.

The answers to these questions that I am looking for are based only on what you should have learned from the papers. Any additional information you might have from other sources is welcome but not needed to answer the questions.

1) As high energy charged particles go through matter they slow down.

a) What are the two main reasons this happens?

b) Explain what the differences and similarities are between these two reasons.

2) Suppose a former Mod Phys student discovers a new type of radiation called Kazenas radiation. What experiments could you do to learn more about this new particle?

3) Based on the analysis done by Rutherford give an approximate range of the size of a gold nucleus. Explain your answer.

4) What is the largest flaw in Rutherford's theory of the atom?