

Student 6: Not Achieved

What is nuclear fission?

Fission is a nuclear reaction in which the nucleus splits into smaller parts and at the same time it releases a large amount of energy. [1] Because of the large amounts of energy it can be used to make bombs, such as the ones dropped on Japan. It can also be used on nuclear power stations.

How did Rutherford discover the nucleus?

Rutherford conducted the gold foil experiment. To do this he fired alpha particles at a thin sheet of gold foil. He proved that the majority of the mass of an atom was in a small portion, meaning that there must be a nucleus holding the protons and neutrons. [2] The gold foil experiment proved Thomson's theory of a plum pudding wrong as there isn't a large amount of mass in the nucleus.

Why can beta particles pass through paper while alpha can't?

Beta particles have a very low mass compared to alpha particles and beta particles have a much higher speed. Beta particles are purely electrons and alpha particles are helium nucleus. [3] Because of these differences beta particles can move through paper while alpha particles can't.