Discovering the Structure of the Atom - Validation  
**Task 2 Name:**

/20

1. Describe the contributions of John Dalton and any experiments he did

(2 marks)

1. What was the problem with the experiments that Dalton conducted?

(1 mark)

1. J. J. Thompson was famous for describing the “plum pudding” model of the atom. In the space below, draw a labelled diagram of the plum pudding model of the atom.

(3 marks)

1. What piece of equipment did Thompson use to discover the existence of charged particles in the atom? How did this component verify the existence of sub-atomic particles?

(2 marks)

1. Ernest Rutherford is famously credited with discovering the existence of the nucleus being surrounded by electrons by using the gold foil experiment.
2. Draw the gold foil experimental setup below, making sure to label the gold foil, detection sheets, and radiation source

(3 marks)

1. What type of radiation was used, and what was the parity of its charge?

(2 marks)

1. Discuss what would happen if the plum pudding model had been accurate, explaining why.

(2 marks)

1. What is the major difference between the Rutherford and Bohr models of the atom? Which element did Bohr base his calculations on?

(2 marks)

1. Name the observable phenomena Bohr used to explain why there must be discrete and distinct energy levels that electrons must exist in, and why this phenomenon explains that the energy levels that electrons exist in are discrete and distinct

(3 marks)