

1. Describe the experiment and reasoning Rutherford used to arrive at his model of the atom.
2. What were the shortcomings with Rutherford's model due to
 - (a) ideas of electromagnetism
 - (b) actual observations of light emitted from atoms
3. Carefully draw a one-dimensional standing wave representing (a) the fundamental vibration (b) the 2nd harmonic. Label the places on each where there is no movement (the nodes).
4. How do electron wavefunctions explain atomic stability and the discrete spectrum of emitted and absorbed light?