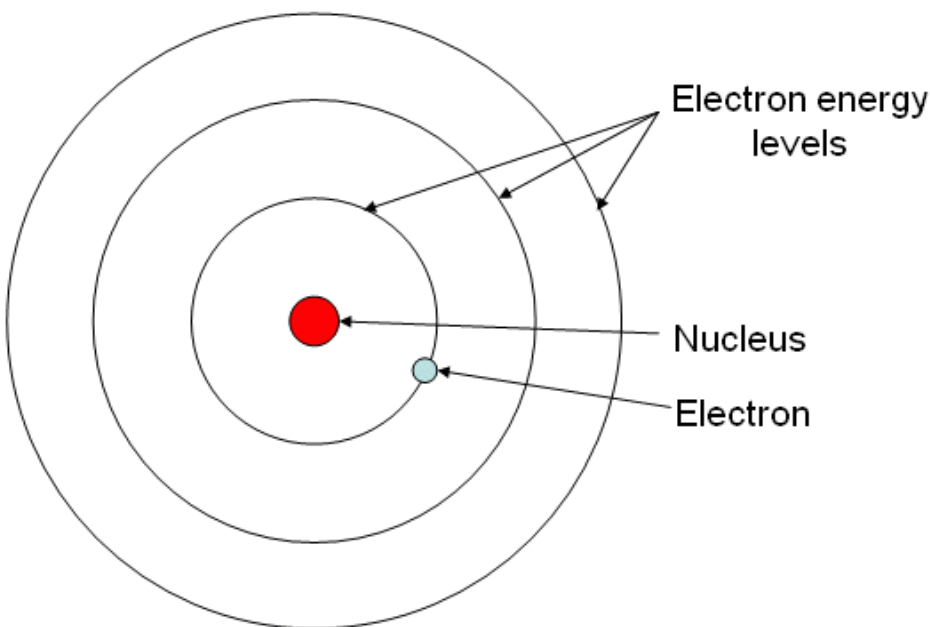


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PLEASE SUBMIT YOUR WORK THROUGH GOOGLE CLASSROOM

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1. Review Lecture #21; pay special attention to slide #7.
2. What is a *photon*?
2. The diagram below shows an atom of Hydrogen with some of its possible electron orbits (three energy levels are shown). Electron is currently in its ground state.



- a. Suppose you HEAT the atom. On the diagram, show possible electron transitions (use arrows to indicate where the electron can go).
- b. How many emission lines (distinct colors) can this configuration yield? (Remember, the excited electron needs to go to a *lower*, but not necessarily *the lowest*, energy level to emit a photon.)