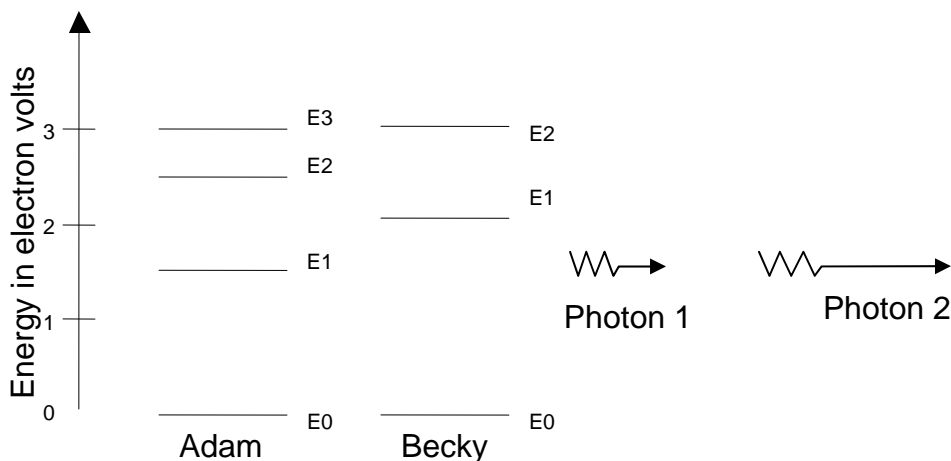


Name _____

The energy of a photon as you have seen in class is in units of Joules. For visible light this results in energies (per photon) of 2.5×10^{-19} J (red) to 5×10^{-19} J (violet). These are awkwardly small energies, so we can come up with different units of energy that are more convenient – these are “electron volts”. 1 electron volt (eV) is equivalent to 1.6×10^{-19} J. Thus, the range of energies for visible light is about 1.56 eV – 3.13 eV.

Consider the energy diagram shown below for two atoms named Adam and Becky. The diagram also includes two arrows representing the energies of two photons. The energy scale shown below is 1 electron volt per division. Assume the length of the arrow (including the tail) is an indicator of the energy of a photon.



Please answer following questions:

- 1) What is the energy of photon 1? _____
- 2) What is the energy of photon 2? _____
- 3) Is photon 1 visible? Explain. _____
- 4) Is photon 2 visible? Explain. _____
- 5) What will photon 1 do to atom Adam? _____
- 6) What will photon 1 do to atom Becky? _____
- 7) What will photon 2 do to atom Adam? _____
- 8) What will photon 2 do to atom Becky? _____