Test for **Fluorescence** Activity

Name:_____ Teacher:_____

Date_____ Class ___ _____

Choose one:

__Pretest

__Posttest

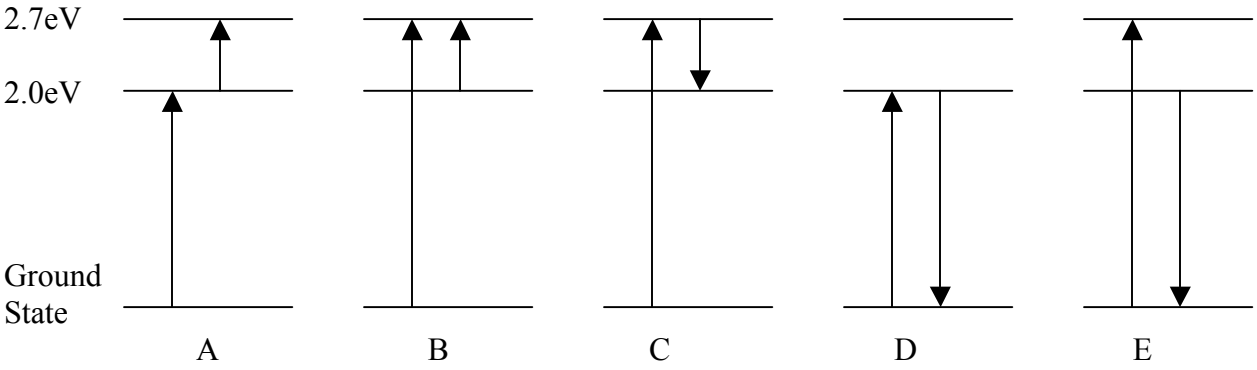
1. If a UV photon excites an atom in the ground state, will fluorescence take place when the atom returns to the ground state in one step? Explain why or why not?

Response includes…	
No. When the excited state returns to the ground state directly, a UV photon is emitted; there is no visible light emitted. For fluorescence, the excited state would need to first emit a less-energetic photon. This can be in the visible part of the spectrum.	3
No. Explains that the excited state needs to fall back to ground state in two steps. (Doesn't explain why this is important)	2
No. When electron falls back to original state in one step, fluorescence doesn't happen. (Basically saying no without an explanation as to why not.)	1
Other	0

2. UV photons are produced inside a fluorescent light bulb. How do these produce visible light?

Response includes…	
The UV photons hit the fluorescent inner coating, which absorbs the UV and emits visible photons.	3
Atoms are excited and then certain wavelengths of visible light are emitted.	2
The mechanism excites electrons and then allows them to come back to lower energy levels. (Doesn't mention the UV vs. visible light)	1
Other	0

3.Which of the following energy level diagrams or combination of diagrams could represent the transitions between atom states in fluorescence? Explain your answer.



Response includes…	
One point for each correct answer. C and E	1
0 where it is incorrect.	0