Alpha & Beta Decay

Part I: Alpha Decay
http://phet.colorado.edu/en/simulation/alpha-decay

Open the "Alpha Decay" sim and go to the SECOND tab (single atom).

1. Complete the following chart:

Data Table

	Before Alpha Decay	After Alpha Decay	Alpha Particle
Chemical Symbol			
Element Name			
Mass			
Number of Protons			
Number of Neutrons			

5. What happens during alpha decay. Be sure to include how the atom changed (refer to the table above) and what was ejected during the decay. (sketch might help)

6. **Transmutation** is the process by which an atom changes its identity by ejecting a particle of radiation. When an atom decays by alpha radiation, is this considered transmutation?

Part II: Beta Decay
http://phet.colorado.edu/en/simulation/beta-decay

Open the "Beta Decay" sim and go to the SECOND tab (single atom).

1. Complete the chart:

Data Table

	Hydrogen-3		Carbon-14	
	Before Decay	After Decay	Before Decay	After Decay
Chemical Symbol				
Element Name				
Mass				
Number of Protons				
Number of Neutrons				

2. What is the beta particle? (Sketch might help)

3. What happens during beta decay. How the atom changed (refer to the table above), what was ejected during the decay.

4. Transmutation is the process by which an atom changes its identity by ejecting a particle of radiation. When an atom decays by beta radiation, is this considered transmutation?