NUCLEAR CHEMISTRY PhET SIMULATION TASKS

Fission: One Nucleus *- Fill out the chart based on your observations and our discussions:*

1	Which isotope are we starting with?		4	Why did this happen?	
2	What particle am I adding to the Parent isotope?		5	1 Look at the energy graph – explain how the stability is related to the energy	
3	What happens after I add the particle?				

Chain Reaction *- Describe what happens when adding a neutron to each situation:*

1	1 atom of U-235		6	50 atoms of U-238	
2	25 atoms of U-235		7	100 atoms of U-238	
3	50 atoms of U-235		8	25 atoms of U-235 and 50 atoms of U-238	
4	100 atoms of U-235				
5	1 atom of U-238				

Nuclear Reactor *- Fill out the chart based on your observations and our discussions:*

1	Which radioactive element is inside the nuclear reactor?		6	Describe what happens when we fire a neutron and the control rods are partially in	
2	Which particle am I firing into the reactor?				
3	What part of the reactor am I adjusting in and out?		7	Describe what happens when we fire a neutron and the control rods are all the way OUT	
4	What am I graphing and monitoring on the side				
5	Describe what happens when we fire a neutron and the control rods are all the way in		8	Describe how the control rods function as a safety device in a real nuclear power plant	