

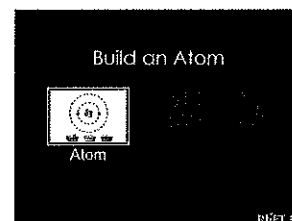
Name: KEY Date: _____ Period: _____

Making STABLE Atoms

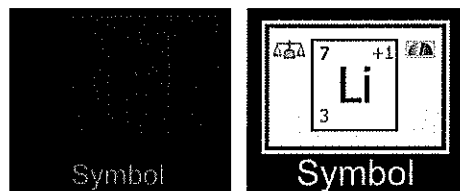
This lab will help concretize the makings of a stable atom. If it is unstable, it will be radioactive.

Procedure

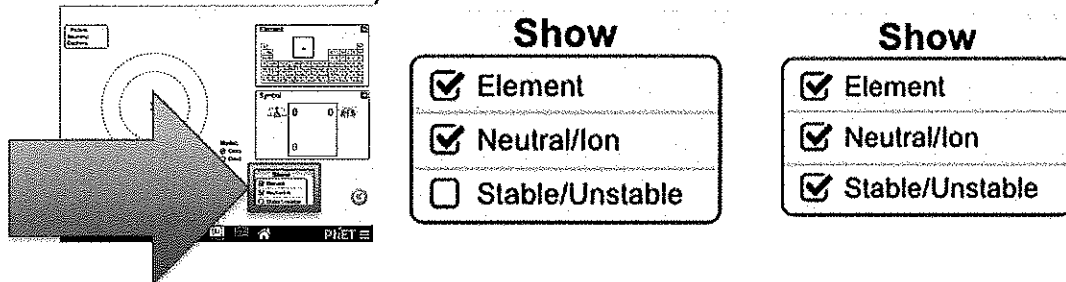
1. Go to my website, jonathanjohnsonchemistryandphysics.weebly.com, go to Integrated Chemistry-Physics, Unit 3 Chapter 4 or go to <http://tinyurl.com/hk9dlud>
2. Scroll down to the embedded "Build an Atom" phet simulation.



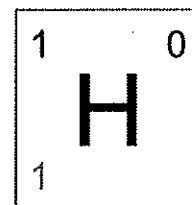
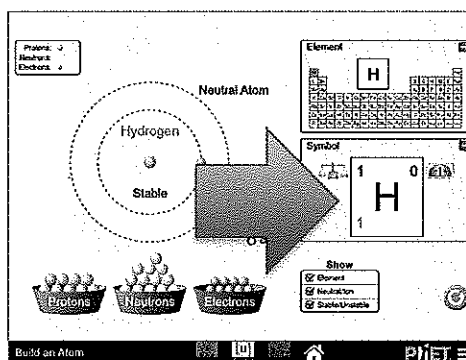
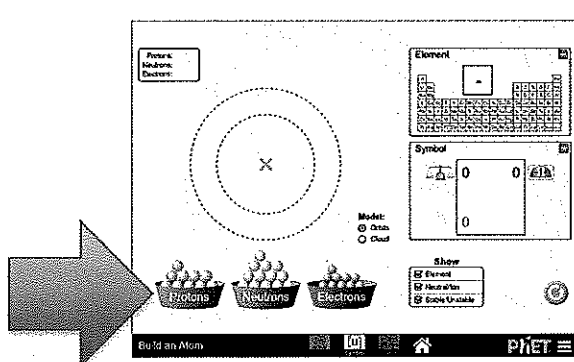
3. Click on the Symbol Button twice.



4. Click the "Stable/Unstable" box.



5. Add protons and neutrons to the nucleus and electrons to the circles. Record all STABLE combinations in the table and the appropriate periodic table box. HINT: The number of protons in the nucleus should equal the number of electrons outside the nucleus.



PROTONS	ELECTRONS	NEUTRONS	MASS NUMBER	SYMBOL
1	1	0	1	${}^1_1\text{H}^0$
1	1	1	2	${}^2_1\text{H}^0$
2	2	1	3	${}^3_2\text{He}^0$
2	2	2	4	${}^4_2\text{He}^0$
3	3	3	6	${}^6_3\text{Li}^0$
3	3	4	7	${}^7_3\text{Li}^0$
4	4	5	9	${}^9_4\text{Be}^0$
5	5	5	10	${}^{10}_5\text{B}^0$
5	5	6	11	${}^{11}_5\text{B}^0$
6	6	6	12	${}^{12}_6\text{C}^0$

PROTONS	ELECTRONS	NEUTRONS	MASS NUMBER	SYMBOL
6	6	7	13	${}^{13}_{6}\text{C}^0$
7	7	7	14	${}^{14}_{7}\text{N}^0$
7	7	8	15	${}^{15}_{7}\text{N}^0$
8	8	8	16	${}^{16}_{8}\text{O}^0$
8	8	9	17	${}^{17}_{8}\text{O}^0$
8	8	10	18	${}^{18}_{8}\text{O}^0$
9	9	10	19	${}^{19}_{9}\text{F}^0$
10	10	10	20	${}^{20}_{10}\text{Ne}^0$
10	10	11	21	${}^{21}_{10}\text{Ne}^0$
10	10	12	22	${}^{22}_{10}\text{Ne}^0$