1. Know the location, charge and relative size of each of the following:

|  |  |  |
| --- | --- | --- |
| * Proton   Nucleus  Positive  Same as neutron | * Electron   Electron Cloud (around nucleus)  Negative  2000x smaller than a proton | * Neutron   Nucleus  Neutral  Same as proton |

1. What is the center of the atom called? Nucleus
2. How many electrons can fit in the:

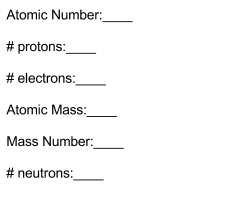
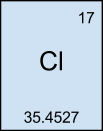
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| --- | --- | --- |
| * 1st energy level: \_\_2\_\_ | * 2nd energy level:\_\_8\_\_ | * 3rd energy level: \_\_8\_\_ |

1. What is the Atomic Number? # of Protons
2. What is the Mass Number? (# of Protons) + (# of Neutrons) or  (rounded atomic mass)
3. What are protons and neutrons made of? Quarks
4. What force holds the nucleus together? Strong Nuclear Force
5. What force holds the electrons around the nucleus? Electromagnetic Force
6. What force is responsible for radioactive decay? Weak Nuclear Force
7. In a neutral atom, what two particles MUST be the same? Protons and Electrons
8. What is an isotope? Atoms with same # protons (atomic number) & different # of neutrons
9. What is an ion? Atom that has lost or gained electrons
10. What is an anion? Atom that has gained electrons (negative charge)
11. What is a cation? Atom that has lost electrons (positive charge)

15. Be able to read an element’s information from the periodic table (you are not responsible for

knowing the chemical names...yet!):

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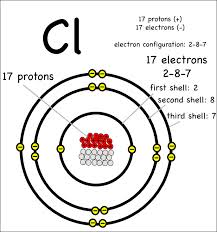
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16. Draw the atom above.



17. For each of the following find the number of protons, neutrons and electrons.

 H2- Na1+

Hydrogen that has gained 2 electrons Sodium that has lost 1 electron

     1 proton 11 protons

3 electrons 10 electrons

0 neutrons 12 neutrons

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Carbon isotope (Atomic mass of 14) Aluminum isotope that has lost 3 electrons

6 protons 13 protons

6 electrons 10 electrons

14 - 6 = 8 neutrons 27 - 13 = 14 neutrons