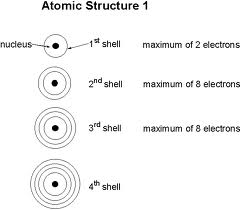
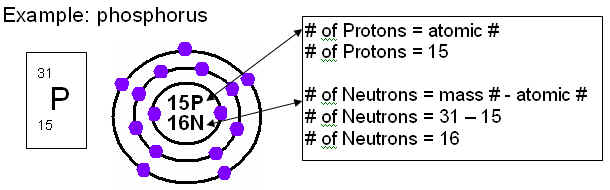
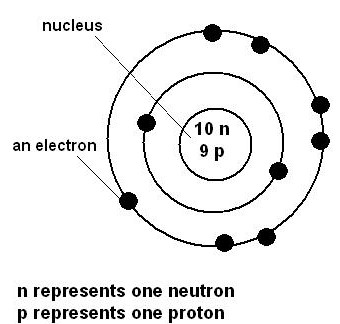
**Bohr Diagrams – Notes Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**What are they?** A way of **drawing** an atom – to show **protons**, **neutrons** and **electrons**

**[](http://www.google.ca/imgres?um=1&hl=en&sa=X&biw=1366&bih=572&tbm=isch&tbnid=GJozA-WF8HA_bM:&imgrefurl=http://doctorether.posterous.com/?tag=chemistry&docid=BjeiG_bRGkNJvM&imgurl=http://getfile5.posterous.com/getfile/files.posterous.com/temp-2011-09-15/gohonqxcgldIEpqnnuBouccvrdFyhuFGdezzljnqnEgzttFBgqFxgBtIAwFp/electron-shells.gif.scaled1000.gif&w=623&h=544&ei=VSlSULXzCqHKigL9xoDYDg&zoom=1&iact=hc&vpx=324&vpy=224&dur=5365&hovh=210&hovw=240&tx=172&ty=148&sig=118121164134147447415&page=1&tbnh=115&tbnw=132&start=0&ndsp=24&ved=1t:429,r:10,s:0,i:101)How do you draw them?**

1. Draw a **circle** for the nucleus
2. Include the protons (**p**) and the neutrons (**n**) in the nucleus
3. Draw **shells** and fill them with the appropriate **electrons**
   1. Shell 1 – can have 2 electrons
   2. Shell 2 – can have 8 electrons
   3. Shell 3 – can have 8 electrons
4. We will only draw the first **20** elements as Bohr diagrams – so we will only use the first **3** shells.
5. When drawing an **ion** – add or subtract the appropriate # of **electrons** to make the outer shell **full**

**Now let’s practice together:**

|  |  |
| --- | --- |
| Atom of Nitrogen | Ion of Nitrogen N3- |
|  |  |
| Atom of Beryllium | Ion of hydrogen H+ |
|  |  |

**Now – you practice on your own**

Draw – the following – as neutral atoms

**Now, draw the following as ions:**

|  |  |
| --- | --- |
| Beryllium 2+ | Chlorine -1 |
|  |  |
| Calcium 2+ | Phosphorus -3 |
|  |  |