# OYO's

LeahColton

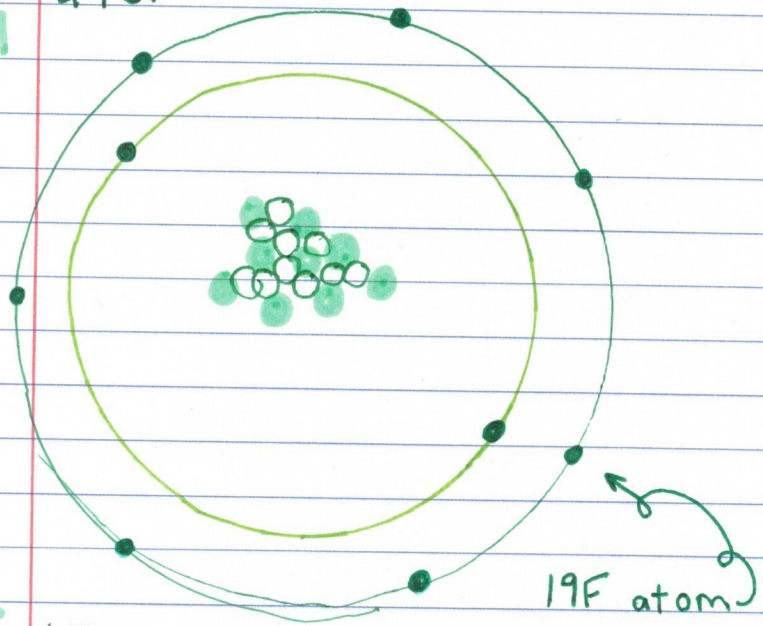
Module 13

13.1 p: 11
e: 11
n: 11

13.2 oxygen-16, 8 electrons.

13.3 a $\frac{1}{1}$ C.

13.4




13.5 4th orbit with 27 electrons.

13.6 it is longer than nuclear force but shorter than electromagnetic force.

13.7 $^{90}Y$.

13.8 $^{237}Np$.

13.9 alpha $\frac{1}{1}$ beta particals.

13.10 5 grams.

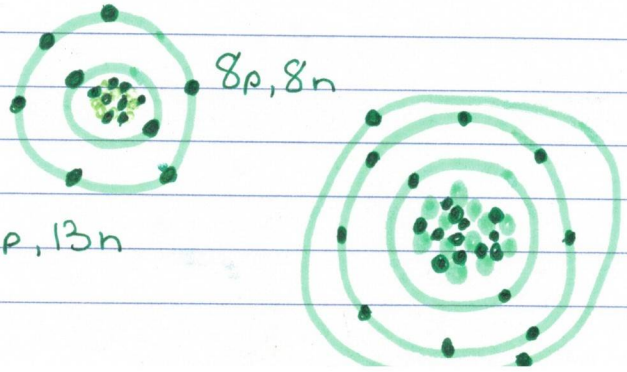
# STUDY GUIDES

Study guides

Leah Colton Module 13

1.
a: MODEL- a schematic description of a system that accounts for its known properties.
b: NUCLEUS - the center of an atom.
c: ATOMIC NUMBER - # of protons in an atom.
d: MASS NUMBER - sum of the # of ~~neo~~ neutrons + protons in the nucleus.
e: ISOTOPES - atoms with the same amout of protons but not the same amount of neutrons.
f: ELEMENT - collection of atoms that all have the same amount of protons.
g. RADIOACTIVE ISOTOPE - atom with unstable nucleus.
h. HALF-LIFE - the time it takes for half of the origenal sample of a radioactive isotope to decay.

2. ~~electrons,~~ protons, neutrons, electrons
3. Mutal attraction force
4. I littarally couldnt find the answer so now I'm just writting radom stuff. I think it's electrical attractions
5. Protons
6. 34 Se
7. P: a: 10p, 10e, 10n
M: b: 26p, 26e, 30n
E: c: 57p, 57e, 82n
d: 12p, 12e, 12n
8. 18
9. 2nd, 4th, 6th
10. 8p, 8n



11. 12p, 13n

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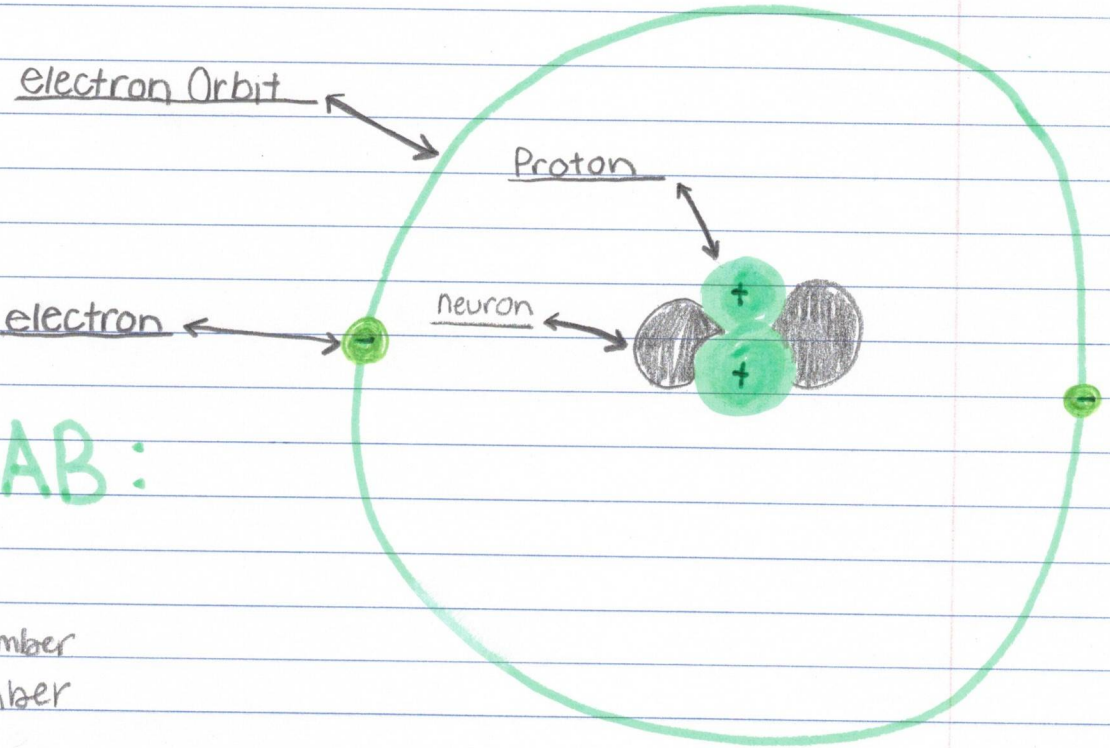
12. the 5th one.
13. because pions have very short lifetimes.
14. a: $^{98}Ru$ b: $^{125}Xe$
15. a: $^{208}Tl$ b: $^{220}Rn$
16. gama decay.
17. 2.5 grams
18. 0.125 grams
19. because assumsions are required and mostly, those assumsions are erroneous.
20. alpha, beta gamma rays.

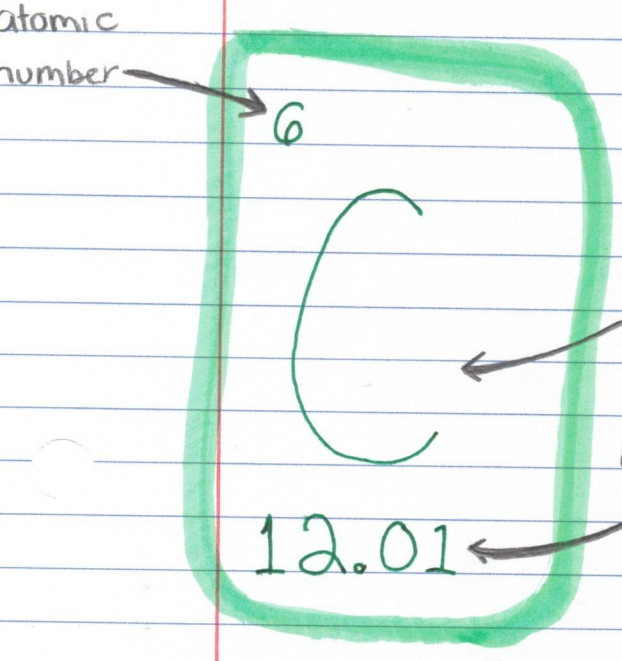
# NOTES

Leah Module 13




## VOCAB:

- model
- nucleus
- atomic number
- mass number
- Isotopes
- element
- Radio-active Isotope
- Half-Life




## Remember:

- Bohr Orbits.
- energy levels.
- electron shells.
  - Proton.
  - electron.
  - ~~Neuron~~ Neutron.
    - Nuclear force.
    - Pions.
    - Short-lived particals.
      - radio-active decay.
      - beta decay.
      - alpha-decay