

# Study Guide #13

- 1: A: A schematic description of a system  
B: the center of an atom  
C: the number of protons in an atom  
D: the number of protons and neutrons in an atom  
E: Atoms with a different number of protons to neutrons  
F: A collection of atoms with the same amount of protons  
G: An unstable nucleus  
H: the time it takes for a sample to split in half

2: Neutron, Proton, and Electron

3: Strongforce, the exchange of pions

4: electromagnetic

5: protons and neutrons

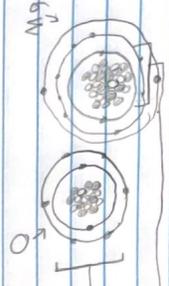
6:  $34:Se$

7: A:10 C:57

B:26 D:12

8: 40

9:  $O$



10:  $[$

11:  $]$

12: the fifth: 8

13: it requires close proximity in order to exchange neutrons

14: A: Ru B: Xe

15: A: Tl B:

16: Gamma decay

17: 2.5 g

18: 0.125 g

19:  $^{14}\text{C}$  is only one thing that tends to make it useful

20: Beta, Alpha, and Gamma



Oyo

1: pro: 11 elect: 11 neutrons: 12

2:  $O^8$  / 8 ↓

3:

A

C

4:

→

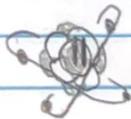
5: Orbit. 4.

II: 27

6: it is slightly longer than strong force, but much weaker than electro magnetic force

7:  $^{90}Y$

8:  $Np$



9: Alpha particles

10: 5 grams

protons: 9  
neutrons: 10  
electrons: 9