

Name:

Date:

Period:

1.1 Tracked Assignment (Obj. 1; 2)

Part A: Answer the following questions

1. What is an atom?

smallest particle that retains an element's identity

2. What property is used to identify the type of element?

atomic # / # of protons

3. What makes isotopes of elements different from one another? What makes them the same?

diff mass# and neutrons
same protons

4. In Hydrogen-3, what does the number next to the element name mean?

mass #

5. What does each of the numbers next to the element symbol mean for the symbol below?

$^{235}_{92}\text{U}$ 235 mass#
92 atomic # U symbol

6. What is the difference between atomic mass and mass number?

atomic mass is average all of isotopes' mass #
is for single atom

7. What would be the most common isotope of Au (gold)? (Hint: use your periodic table)

197

8. How can there be over a 1000 different atoms when there are less than 120 elements that have been identified?

elements have isotopes which are diff atoms of the
same element

9. Given ^{35}Cl and ^{36}Cl what makes the two atoms isotopes of each other? What would be different about the two elements?

same protons
neutrons and mass#

10. Would $^{40}_{20}\text{X}$ and $^{42}_{20}\text{X}$ be isotopes of the same element? Why or why not?

Yes same protons/atomic #

Part B: Fill in the following charts

Subatomic Particle	Relative Charge	Location in Atom	Relative Mass (amu)
Proton	+1	nucleus	1
Neutron	0	nucleus	1
Electron	-1	orbitals	0

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Element Shorthand (^A X)	Atomic #	Protons	Neutrons	Electrons	Mass #
¹⁹ F	9	9	10	9	19
²⁹ Si	14	14	15	14	29
⁴⁷ Ti	22	22	25	22	47
⁵⁸ Ni	28	28	30	28	58
³⁹ K	19	19	20	19	39
⁸³ Kr	44 36	40 36	47	36	83
⁴⁹ Sc	21	21	28	21	49

	Chromium-52	Chromium-56		Sulfur-32	Sulfur-35
Protons	24	24	Protons	16	16
Neutrons	28	32	Neutrons	16	19
Electrons	24	24	Electrons	16	16

	¹⁴ C	¹⁶ C		¹⁵ N	²⁰ N
Protons	6	6	Protons	7	7
Neutrons	8	6	Neutrons	8	13
Electrons	6	6	Electrons	7	7

	⁴² Mn	⁴⁰ Mn		⁷² Ge	⁷⁴ Ge
Protons	25	25	Protons	32	32
Neutrons	17	15	Neutrons	40	42
Electrons	25	25	Electrons	32	32