

Question 1: Fill in the table below.

subatomic particle	charge	mass (in amu)
proton		
electron		
neutron		

Question 2: The atomic number of an element is equal to the number of which two subatomic particles?

Question 3: The mass number of an element is equal to the sum of which two subatomic particles?

Question 4: Fill in the table below.

element	protons	electrons	neutrons	atomic number	mass number
potassium					
calcium					
phosphorus					
selenium					
fluorine					
carbon					
iodine					

Question 5: You can determine the identity of an element using the number of subatomic particles. Identify the elements below.

Element that has 10 protons and 10 electrons _____

Element that has 13 electrons and 13 electrons _____

Element that has 92 protons and 92 electrons _____

Question 6: Classify each element below as a metal, non-metal or metalloid.

element	Class (metal, non-metal, metalloid)
lithium	
magnesium	
chlorine	
titanium	
silicon	
neon	
phosphorus	
boron	
chromium	

Question 7: Identify each element below when given the period and group number from the Periodic Table. Then classify them as one of the four special four groups (alkali metal, alkaline earth metal, halogen, or noble gas).

period	group number	element	alkali metal, alkaline earth metal, halogen, or noble gas
4	8A		
2	2A		
1	8A		
5	1A		
3	7A		

Question 8: Circle the element in each pair that is larger in size.

Na vs Al

I vs Br

O vs S

F vs P

Cl vs Ar

Question 9: For each element below, give the number of valence electrons and draw the electron dot structure. Hint: The number of valence electrons in an atom is NOT the same as the total number of electrons in an atom.

element	Number of valence electrons	Electron Dot Structure
hydrogen		
bromine		
nitrogen		
aluminum		
calcium		
argon		
carbon		
francium		
fluorine		
boron		