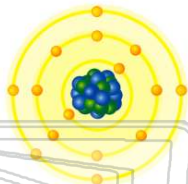




Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

- 1 Which atom in the ground state has **five electrons** in its outer level and **ten electrons** in its kernel?

A C  
B Cl  
C Si  
D P



- 2 When an atom **loses an electron**, the atom becomes an ion that is

A positively charged and gains a small amount of mass  
B positively charged and loses a small amount of mass  
C negatively charged and gains a small amount of mass  
D negatively charged and loses a small amount of mass

- 3 Experiments performed to reveal the **structure of atoms** led scientists to conclude that an atom's

A positive charge is evenly distributed throughout its volume  
B negative charge is mainly concentrated in its nucleus

- 4 Which pair of atoms is held together by a **covalent bond**?

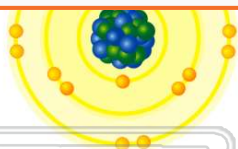
A HCl  
B LiCl  
C NaCl  
D KCl



## PREVIEW

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C K<sup>+</sup>  
D Ca<sup>2+</sup>



B increases  
C remains the same

- 9 The **mass of a proton** is approximately equal to the total mass of **1,836**

A electrons  
B neutrons  
C helium nuclei  
D alpha particles



- 10 A carbon-14 atom **spontaneously decayed** to form a nitrogen-14 atom. This change took place because

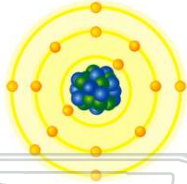
A a transmutation occurred without particle emission  
B a transmutation occurred with particle emission  
C nitrogen-14 has an unstable nucleus  
D carbon-14 has a stable nucleus



## ANSWER KEY

Which atom in the ground state has **five electrons** in its outer level and **ten electrons** in its kernel?

- A C
- B Cl
- C Si
- D P



(c)

When an atom **loses an electron**, the atom becomes an ion that is

- A positively charged and gains a small amount of mass
- B positively charged and loses a small amount of mass
- C negatively charged and gains a small amount of mass
- D negatively charged and loses a small amount of mass

(b)

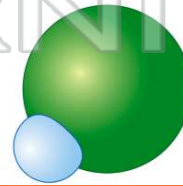
Experiments performed to reveal the **structure of atoms** led scientists to conclude that an atom's

- A positive charge is evenly distributed throughout its volume
- B negative charge is mainly concentrated in its nucleus
- C mass is evenly distributed throughout its volume

(d)

Which pair of atoms is held together by a **covalent bond**?

- A HCl
- B LiCl
- C NaCl
- D KCl



(a)

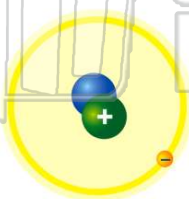


## PREVIEW

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The **mass of a proton** is approximately equal to the total mass of **1,836**

- A electrons
- B neutrons
- C helium nuclei
- D alpha particles



(a)

A carbon-14 atom **spontaneously decayed** to form a nitrogen-14 atom. This change took place because

- A a transmutation occurred without particle emission
- B a transmutation occurred with particle emission
- C nitrogen-14 has an unstable nucleus
- D carbon-14 has a stable nucleus

(b)