

- \_\_\_\_\_ 1) Which elements have the most similar chemical properties?  
1) Si, As, and Te      3) Mg, Sr, and Ba  
2) N<sub>2</sub>, O<sub>2</sub>, and F<sub>2</sub>    4) Ca, Cs, and Cu
- \_\_\_\_\_ 2) Which elements are malleable and good conductors of electricity?  
1) iodine and silver    3) tin and silver  
2) iodine and xenon    4) tin and xenon
- \_\_\_\_\_ 3) Which element has properties of electrical conductivity and luster and exists as a liquid at STP?  
1) Hg    2) Br    3) C    4) I
- \_\_\_\_\_ 4) At STP, which element is solid, brittle, and a poor conductor of electricity?  
1) Al    2) K    3) Ne    4) S
- \_\_\_\_\_ 5) Which element is classified as a nonmetal?  
1) Be    2) Al    3) Si    4) Cl
- \_\_\_\_\_ 6) Which element is an active nonmetal?  
1) neon                      3) zinc  
2) oxygen                    4) chromium
- \_\_\_\_\_ 7) An atom of argon in the ground state tends *not* to react with an atom of a different element because the argon atom has  
1) more protons than neutrons  
2) more neutrons than protons  
3) a total of two valence electrons  
4) a total of eight valence electrons
- \_\_\_\_\_ 8) Which group in the Periodic Table contains elements that are all monatomic gases at STP?  
1) 15    2) 16    3) 17    4) 18
- \_\_\_\_\_ 9) The number of atoms in a molecule of helium is  
1) 1    2) 2    3) 3    4) 4
- \_\_\_\_\_ 10) Which list of elements consists of metalloids, only?  
1) B, Al, Ga                3) O, S, Se  
2) C, N, P                 4) Si, Ge, As
- \_\_\_\_\_ 11) In which section of the Periodic Table are the most active metals located?  
1) upper right corner  
2) lower right corner  
3) upper left corner  
4) lower left corner
- \_\_\_\_\_ 12) Which quantity identifies an element?  
1) atomic number  
2) mass number  
3) total number of neutrons in an atom of the element  
4) total number of valence electrons in an atom of the element
- \_\_\_\_\_ 13) Most of the groups in the Periodic Table of the Elements contain  
1) nonmetals, only  
2) metals, only  
3) nonmetals and metals  
4) metals and metalloids
- \_\_\_\_\_ 14) Which element is an alkali metal?  
1) Na    2) Mg    3) Al    4) Cl
- \_\_\_\_\_ 15) Which of the following Period 4 elements has the most metallic characteristics?  
1) Ca    2) Ge    3) As    4) Br
- \_\_\_\_\_ 16) Which Group 15 element exists as a diatomic molecule at STP?  
1) phosphorus              3) bismuth  
2) nitrogen                 4) arsenic
- \_\_\_\_\_ 17) Elements in the Periodic Table are arranged according to their  
1) atomic number      3) relative activity  
2) atomic mass         4) relative size
- \_\_\_\_\_ 18) All of the atoms of the elements in Period 2 have the same number of  
1) protons  
2) neutrons  
3) valence electrons  
4) occupied energy levels (shells)
- \_\_\_\_\_ 19) Which group contains both metals and nonmetals?  
1) 1    2) 3    3) 15    4) 7

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- \_\_\_\_\_ 20) Which group contains elements composed of diatomic molecules at STP?  
1) 11    2) 2    3) 7    4) 17
- \_\_\_\_\_ 21) Which group is known as the halogens?  
1) 1    2) 2    3) 17    4) 18
- \_\_\_\_\_ 22) Alkali metals, alkaline earth metals, and halogens are elements found respectively in Groups  
1) 1, 2, and 18    3) 1, 2, and 14  
2) 2, 13, and 17    4) 1, 2, and 17
- \_\_\_\_\_ 23) The two forms of oxygen,  $O_2(g)$  and  $O_3(g)$ , have  
1) different molecular structures and identical properties  
2) different molecular structures and different properties  
3) identical molecular structures and identical properties  
4) identical molecular structures and different properties
- \_\_\_\_\_ 24) At STP, both diamond and graphite are solids composed of carbon atoms. These solids have  
1) the same crystal structure and the same properties  
2) the same crystal structure and different properties  
3) different crystal structures and the same properties  
4) different crystal structures and different properties
- \_\_\_\_\_ 25) Which group contains elements in three phases of matter at STP?  
1) Group 2    3) Group 15  
2) Group 6    4) Group 17
- \_\_\_\_\_ 26) Which group in the Periodic Table contains elements that are all gases at STP?  
1) 11    2) 17    3) 12    4) 18
- \_\_\_\_\_ 27) The nonmetal that is a liquid at STP is  
1) chlorine    3) bromine  
2) mercury    4) calcium
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