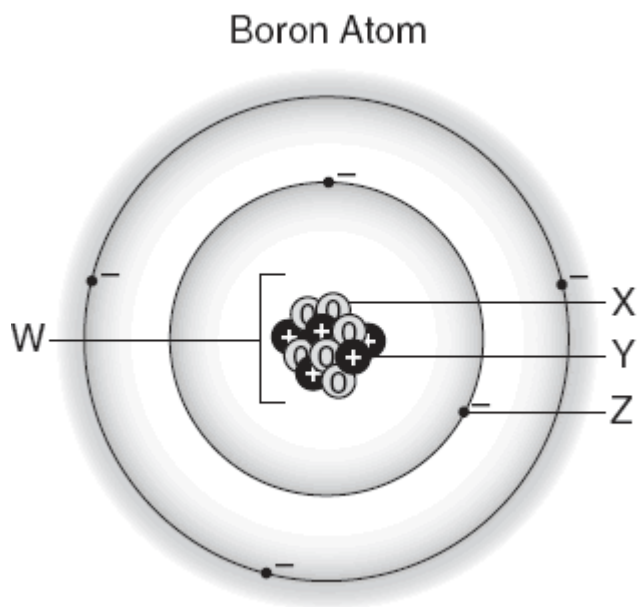


Review - Hampton Science 5A 5B 5C 5D

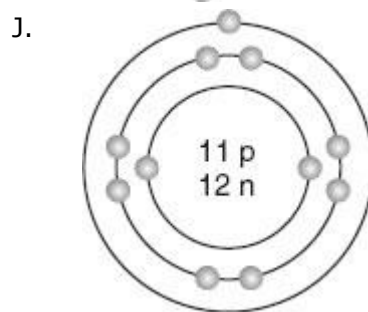
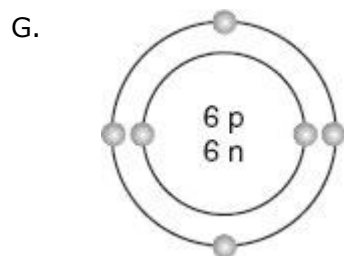
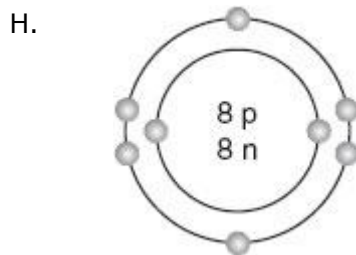
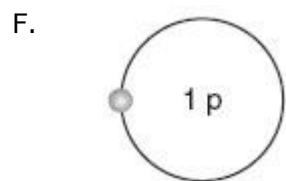
1.



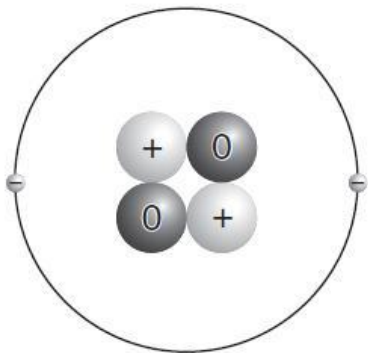
Which letter in this model of a boron atom represents a neutron?

- A. W
- B. X
- C. Y
- D. Z

2. According to the periodic table, which of the following best represents a carbon atom?



3. Bohr Model of a Helium Atom



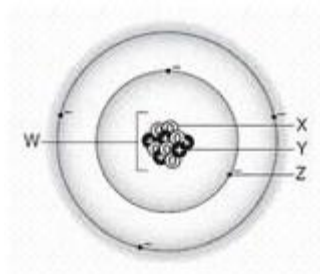
Which of the following correctly lists the particles in a helium atom?

- A. 1 proton, 1 neutron, 1 electron
 - B. 1 proton, 2 neutrons, 2 electrons
 - C. 2 protons, 2 neutrons, 2 electrons
 - D. 2 protons, 2 neutrons, 4 electrons
4. Which of the following is found between the nucleus and the electrons of an atom?
- F. Air
 - G. Empty space
 - H. Water vapor
 - J. Smaller atoms
5. What is the sum of all the protons and neutrons in an atom?
- A. atomic number
 - B. nucleic number
 - C. elemental number
 - D. mass number
6. If an atom of fluorine has an atomic mass of 18.998 , how many neutrons are in the nucleus?
- F. 9
 - G. 10
 - H. 19
 - J. 28

7. How many protons are in the nucleus of an atom of uranium-235?

- A. 235
- B. 143
- C. 118
- D. 92

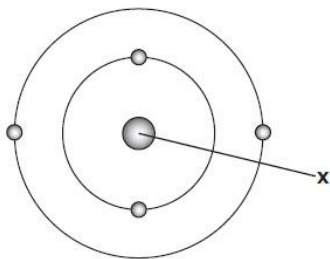
8.



Each letter in the diagram represents an atomic structure found in atoms. Which two letters correctly identifies the atomic mass of an atom?

- F. W and X
- G. X and Y
- H. Y and Z
- J. W and Z

9. Look at the model of an atom shown below.



Which statement best describes one of the subatomic particles that could be found at location X?

- A. It has mass but no charge.
- B. It has no mass and a positive charge.
- C. It has a large mass and a negative charge.

10. Which best represents the number of electrons in a Sodium +1 ion?

- F. More than 11
- G. Exactly 11
- H. Less than 11
- J. More than 12

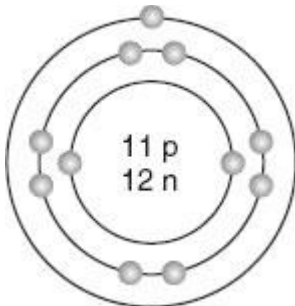
11. How many neutrons are in a found in the nucleus of most carbon atoms (not an isotope)?

- A. 12
- B. 8
- C. 7
- D. 6

12. An atom has 25 protons, 30 neutrons, and 25 electrons. What is the charge of the atom's nucleus?

- F. +25
- G. +30
- H. -25
- J. -30

13.



Which of the following words cannot be used to describe the atom above?

- A. Neutral
- B. Reactive
- C. Nonmetal
- D. Stable

14. Which of the following is the total number of electrons found in an atom of a nonmetal element?

- F. 21
- G. 12
- H. 7
- J. 3

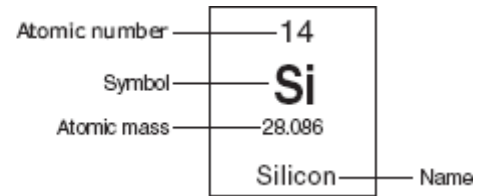
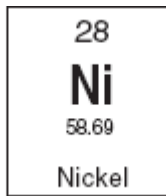
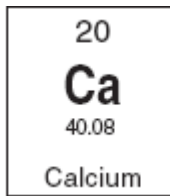
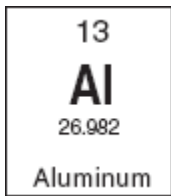
15. Which of the following is the total number of electrons found in an atom of a metalloid element?

- A. 47
- B. 32
- C. 20
- D. 6

16. Which subatomic particle determines an atom's atomic number?

- F. Protons
- G. Photons
- H. Electrons
- J. Neutrons

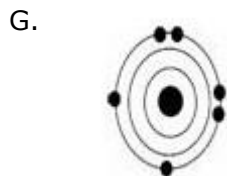
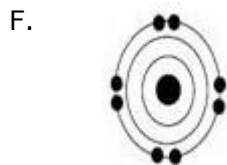
17. Look at the elements below from the periodic table.



Which of these elements has atoms with the highest atomic mass?

- A. Calcium (Ca)
- B. Aluminum (Al)
- C. Nickel (Ni)

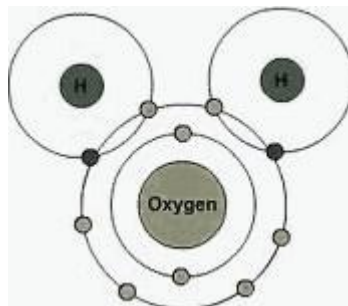
18. Which of these atomic models of an element would readily bond with one Chlorine atom?



19. How many protons are found in the nucleus of each atom of nitrogen?

- A. 6
- B. 7
- C. 8
- D. 14

20.

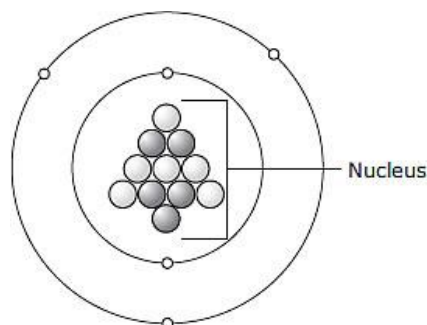


Observe the diagram of a water molecule. Choose a statement that best describes why the chemical formula for water is H_2O .

- F. Oxygen is a nonmetal and Hydrogen is a gas.
 - G. The two elements bond together because both elements are gases.
 - H. Oxygen has six valence electrons which bond with two Hydrogen valence electrons making the last energy level complete.
 - J. Hydrogen loses its valence electrons making it a negative ion, and Oxygen gains those electrons making it a positive ion.
21. The formula for table salt is NaCl . Choose the best statement that correctly explains why only one atom is included for each of the elements in the formula.
- A. Both elements are found in the same period so only one atom is needed to complete the formula.
 - B. Sodium is a metal and Chlorine is a nonmetal. The bonding of the two elements only requires one atom of each.
 - C. One atom for each element is required when there is a bonding between Sodium which is a soft metal and Chlorine which is a gas.
 - D. Sodium is found in group one and has one valence electron, and Chlorine has seven valence electrons. The bonding completes the last energy level for each element.

22. A student is comparing an atom of lithium to an atom of sodium using the Periodic Table. Which statement is the correct conclusion made by the student?
- F. Sodium has a lower atomic mass than lithium.
 - G. Lithium is more chemically reactive than sodium.
 - H. Lithium has one proton in its nucleus and sodium has two.
 - J. Sodium and lithium have the same number of valence electrons.
23. Which isotope contains six protons, six electrons and eight neutrons?
- A. Carbon-12
 - B. Carbon-14
 - C. Oxygen-6
 - D. Oxygen-12
24. The element Barium (Ba) is made of particles with different atomic charges. Boron has how many neutrons located in it?
- F. 80 Neutrons
 - G. 81 Neutrons
 - H. 56 Neutrons
 - J. 137 Neutrons
25. **The element Tellurium (Te) is one of the elements on the Periodic Table. Although a rare element, it can be used to make metal stronger and in ceramics. When researching the element Te, a student finds that-**
- A. Has 6 valence electrons and is classified as a metalloid.
 - B. Has 6 valence electrons and is classified as a metal.
 - C. Has 6 valence electrons and is a nonmetal
 - D. Has 6 valence electrons and a noble gas.

26. A model of an atom is shown below.



An atom of which element is represented by this model?

- F. Boron (B)
 - G. Carbon (C)
 - H. Neon (Ne)
 - J. Sodium (Na)
27. When trying to identify an unknown element, a scientist determines what other elements the unknown element reacts with chemically. Which property of the unknown element determines the other elements it reacts with?
- A. The total number of neutrons in the unknown element
 - B. The total number of particles in the nucleus of the unknown element
 - C. The number of protons in the nucleus of the unknown element
 - D. The number of valence electrons in the unknown element
28. How many protons are found in a Sodium +1 ion?
- F. 12
 - G. 11
 - H. 10
 - J. 6
29. As the atomic number increases across a period, which statement best describes a pattern found on the periodic table?
- A. Atomic size decreases.
 - B. Atomic mass decreases.
 - C. Elements become denser.
 - D. Elements become more metallic.

30. Which of the following elements is classified as a metal?
- F. Oxygen
 - G. Nitrogen
 - H. Lithium
 - J. Helium
31. Which of the following elements has the greatest metallic properties?
- A. Nitrogen
 - B. Phosphorus
 - C. Antimony
 - D. Bismuth
32. Which of the following Group 1 elements has the greatest metallic properties?
- F. Lithium
 - G. Phosphorus
 - H. Potassium
 - J. Rubidium
33. Which of the following elements is considered a noble gas?
- A. Nitrogen
 - B. Oxygen
 - C. Fluorine
 - D. Neon
34. Which of the following Group 15 elements most likely has the greatest metallic character?
- F. Nitrogen
 - G. Phosphorus
 - H. Antimony
 - J. Bismuth
35. Which group on the periodic table of elements is considered the noble gases?
- A. 18
 - B. 16
 - C. 15
 - D. 2

36. Which list of elements contains at least one metalloid?

- F. C, Se, Cl
- G. O, I, Pb
- H. N, As, Cl
- J. N, O, Br

37. Elements on the periodic table are arranged according to their -

- A. atomic mass
- B. number of neutrons
- C. number of electrons
- D. atomic number

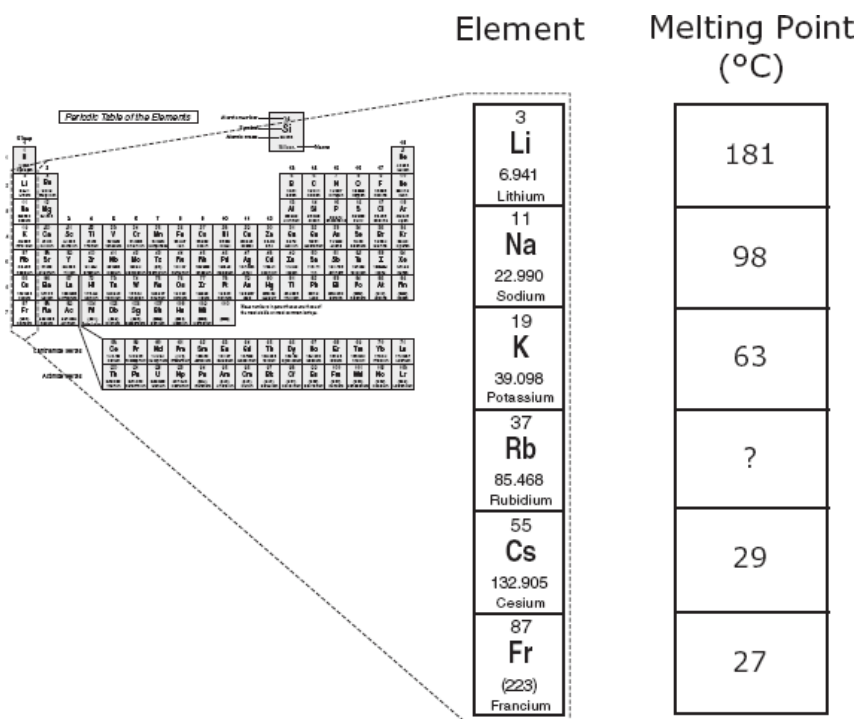
38. According to the periodic table, which element in its solid state is malleable and conducts electricity?

- F. carbon
- G. sulfur
- H. chlorine
- J. gold

39. Which of the following is the element in Group 16 and Period 2 on the Periodic Table?

- A. sulfur
- B. nitrogen
- C. oxygen
- D. fluorine

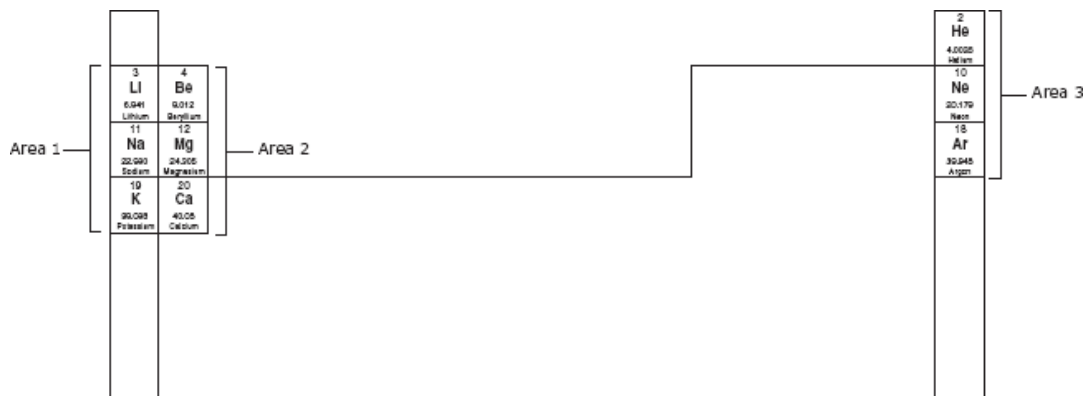
40. Look at the diagram below. It shows the periodic table and information about some Group 1 elements.



Which is the best estimate of the melting point of rubidium (Rb)?

- F. 25°C
- G. 40°C
- H. 75°C

41. Look at the areas of the periodic table shown below.



Which area includes an element that is a gas at room temperature?

- A. Area 1
- B. Area 2
- C. Area 3

42. Elements in the modern periodic table are arranged in order of increasing-

- F. atomic number.
- G. atomic mass.
- H. number of neutrons.
- J. number of valence electrons.

43. According to the periodic table, all of the following are metals except —

- A. sodium
- B. zinc
- C. fluorine
- D. calcium

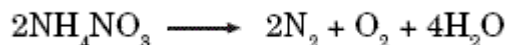
44. The chemical equation shown below represents a reaction that produces fuel for certain cars.



Which substance represented in this equation is classified as an element?

- F. CO
- G. H₂O
- H. CO₂
- J. H₂

45. Examine the following equation. The number 4 in "4H₂O" indicates that the reaction-



- A. produces 4 atoms of hydrogen.
- B. produces 4 molecules of water.
- C. produces 4 atoms of water.
- D. reaction uses 4 atoms of water.

46. The chemical formula for aspirin is C₉H₈O₄. Which best describes the number of atoms of each element in the formula?

- F. 9 chlorines, 8 heliums, 4 oxygens
- G. 9 carbons, 17 hydrogens, 21 oxygens
- H. 9 carbons, 8 hydrogens, 4 oxygen
- J. 9 chlorines, 8 heliums, 21 oxygen

47. Aluminum hydroxide $\text{Al}(\text{OH})_3$ is used for the relief of heartburn. Which best represents the number of atoms found in the chemical formula?
- A. 3 aluminums, 3 oxygens, 3 hydrogens
B. 1 aluminum, 3 oxygens, 3 hydrogens
C. 1 aluminum, 3 hydroxides
D. 3 aluminums, 1 oxygen, 3 hydrogens
48. The chemical formula for baking soda is made from one atom of sodium, carbon, hydrogen and three atoms of oxygen. Which of the following best represents the correct formula?
- F. SHCO_3
G. NaHCO_3
H. NaHCO_3
J. $\text{NaH}(\text{CO})_3$
49. One molecule of vinegar is composed of two atoms of carbon and oxygen, and four atoms of hydrogen. Which of the following best represents the correct formula?
- A. $2\text{CH}_2\text{O}$
B. $\text{C}_2\text{H}_4\text{O}_2$
C. $\text{C}_2\text{H}_2\text{O}_4$
D. $2\text{C}_2\text{H}_4\text{O}$
50. Compare these two chemical formulas and determine the number of atoms involved: C_3H_8 and C_2H_6
- F. 24 and 12
G. 11 and 8
H. 11 and 12
J. 24 and 8
51. Which chemical formula contains 18 atoms of oxygen?
- A. $18 \text{Al}(\text{OH})_3$
B. $5 \text{Cr}(\text{CO}_3)_2$
C. $6 \text{Ca}(\text{NO}_3)_2$
D. $6 \text{Al}(\text{OH})_3$

Element	Number of Protons
T	7
Q	15
X	12
Z	17

52. The table above shows the number of protons in an atom of four different elements. According to the periodic table, which of these elements is a metal?

- F. T
- G. Q
- H. X
- J. Z

	GROUPS			
PERIODS	S		W	Y
		U		
		V		
	T			Z
			X	

53. Using the section of the Periodic Table above, which element most likely has the most metallic properties?

- A. Element T
- B. Element W
- C. Element X
- D. Element Z

54. Using the section of the Periodic Table above, which element most likely has the most nonmetallic properties?

- F. Element T
- G. Element U
- H. Element Y
- J. Element Z

55. Using the section of the Periodic Table above, which element most likely has the greatest atomic mass?

- A. Element T
- B. Element V
- C. Element X
- D. Element Z

56. Using the section of the Periodic Table above, which element most likely has the lowest atomic mass?

- F. Element Y
- G. Element W
- H. Element T
- J. Element S