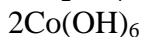
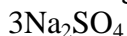


1. Empedocles came up with the _____ element model which was adopted by Aristotle. What were the elements in this model?
2. Who was the first person to say that matter was made up of tiny particles that could not be broken down any further? What did he call these particles?
3. What does atom mean?
4. Who were the first people to conduct experiments?
5. The people from question 4 wanted two things. What did they want?
6. Who said that science should be built on experimentation, not just on philosophical speculation?
7. This man said that elements were simple and pure and could be combined to form compounds.
8. What did Antoine de Lavoisier define an element as?
9. What are the four points of John Dalton's atomic theory?
10. What was John Dalton's model known as?
11. What was J.J. Thomson's model known as?
12. Describe how Thomson's model added to the understanding of the structure of the atom. In other words, what did he add to Dalton's model?
13. Ernest Rutherford discovered that the atom was made up of mostly this:
14. How did Ernest Rutherford describe the structure of an atom?
15. The size of the nucleus in the atom can be compared to a _____ in a _____.
16. How did Neils Bohr describe the structure of the atom?
17. How many electrons can be on each of the first three orbitals?
18. Who developed the first periodic table? How did he arrange the elements?
19. How did Henry Moseley arrange the elements to improve the periodic table?
20. Who discovered the electron?
21. Who discovered that protons were in the nucleus of the atom?
22. Who discovered neutrons?
23. What is the mass of atoms measured in?
24. Where are electrons located, what is their charge and what is their mass?
25. Where are protons located, what is their charge and what is their mass?
26. Where are neutrons located, what is their charge and what is their mass?
27. What can the atomic number be used to identify?
28. How do you find the mass number of an atom?
29. Remember the following formulas:
electrons = # protons = atomic number
protons + # neutrons = mass number
Mass number – atomic number = # neutrons
30. Know how to draw Bohr diagrams.
31. Know the first 20 elements on the periodic table and their symbols
32. Be able to locate atoms based on the period and group number. Also, be able to mention what group an element is in when given either the name or symbol for that element.
33. What is a period?
34. What is a group?
35. How are groups numbered?

36. Why are groups also referred to as families?
37. Why is hydrogen in a group by itself?
38. How many outer shell electrons do alkali metals have? Do alkali metals lose or gain electrons when they react? How many electrons do they gain or lose?
39. How many outer shell electrons do alkaline earth metals have? Do alkaline earth metals gain or lose electrons when they react? How many electrons do they gain or lose?
40. How many outer shell electrons do chalcogens have? Do chalcogens gain or lose electrons when they react? How many electrons do they gain or lose?
41. How many outer shell electrons do halogens have? Do halogens gain or lose electrons when they react? How many electrons do they gain or lose?
42. How many outer shell electrons do noble gases (inert gases) have? Why are they so stable?
43. Why do all elements that are not noble gases want to become noble gases?
44. What are the three types of elements?
45. Review the properties of metals.
46. How do the properties of non-metals compare to the properties of metals?
47. Metalloids are semi-conductors. What are these semi-conductors used for?
48. What must take place for a new material to be formed?
49. What happens when a metal and a non-metal react? Which one gains electrons and which one loses electrons? What type of bond is formed when this reaction occurs?
50. What happens when two non-metals react? What type of bond is formed in this case?
51. Do compounds show the same characteristics (have the same properties) as the elements they are made up of? Give an example.
52. Define the following:
 - a. Element
 - b. Atom
 - c. Compound
 - d. Molecule
53. When given a chemical formula be able to:
 - a. Determine how many elements are in the formula
 - b. Which elements are present in the formula
 - c. How many atoms of each element are present
 - d. How many total atoms there are.

Try the following:



54. What is an isotope?
55. What is an ion?
56. When given a periodic table and an element name be able to give the element symbol and state how many protons, electrons and neutrons are located in the atom.
57. Write one nice thing about every person in your class.