

Quiz: Elements, Atoms and Ions 2

1. Name one ancient (1000 BC) application of chemistry.

refining ore into metal

2. Define "ELEMENT".

a unique substance that cannot be further broken down into 2 or more simpler substances

3. Who was the man responsible for defining an element?

Robert Boyle

4. How many natural elements are there?

88

List the top two elements by abundance on Earth.

5. Oxygen

6. Silicon

List the top two elements by abundance in the human body.

7. Oxygen

8. Carbon

9. What is the chart called that is made from the systematic organization of all elements?

Periodic Table

10. Who was the man responsible for the development of this chart?

Dmitri Mendeleev

11. Who was the man responsible for the atomic theory?

John Dalton

List the 5 parts of the atomic theory.

12. Elements are made of tiny particles called atoms
13. Atoms of 1 element are identical
14. atoms of different elements are different
15. atoms of 2 or more elements can combine in fixed ratios to create compounds
16. atoms cannot be created or destroyed in a chemical reaction

17. Define "COMPOUND".

the chemical combination of 2 or more elements in a fixed ratio

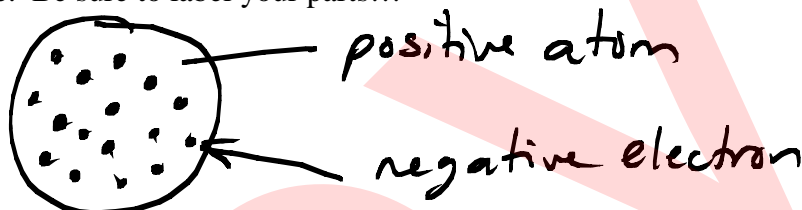
18. What number is never written as a subscript?

1

19. How many atoms of carbon are in one molecule of the compound whose chemical formula is $C_{12}H_{22}O_{11}$?

12

20. Draw a picture of what J.J. Thomson's Plum Pudding/Chocolate Chip Cookie model of an atom looked like. Be sure to label your parts!!!



Please fill in the following chart with the correct relative charges and masses of the three sub atomic particles.

	Relative Charge	Relative Mass
Proton	21. $+1$	22. 1836
Neutron	23. 0	24. 1839
Electron	25. -1	26. 1

27. What is an isotope?

an atom of the same element with a different number of neutrons

28. What does the atomic number tell you about an atom?

Number of protons, Identity of the element

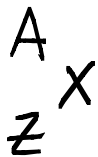
29. The atomic mass indicates the total number of what particle(s) in the atom?

protons & neutrons

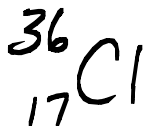
30. In order for the atom to be neutral the number of protons must equal the number of what other subatomic particle?

Number of protons = number of electrons

31. Please write the generic atomic symbol (hint: use the letters A, X, Z)



32. Write the atomic symbol for an isotope of chlorine with 19 neutrons.



33. What are the columns on the periodic table called?

groups

34. What are the rows on the periodic table are called?

periods

35. What is the family name given to the Group 1 elements?

Alkali Metals

36. What is the family name given to the Group 8 elements?

Nobel Gases

37. What is the family name given to the Group 2 elements?

Alkali Earth Metals

38. What is the family name given to the Group 7 elements?

Halogens

39. What is the family name given to the collection of elements between Group 2 and Group

3 (the short columns in the middle of the periodic table)

Transition metals

40. Name one of the two families that are set apart from the rest of the periodic table.

Lanthanide Series

Actinide Series

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41. Are there more metals, non metals or metalloids?

Metals

42. Name one metalloid.

43. Name one element that is a liquid at 25 degrees Celsius.

Bromine, Mercury (Gallium, Cesium @ 30)

44. Name one element that is a gas at 25 degrees Celsius.

Hydrogen, nitrogen oxygen fluorine, chlorine
Helium Neon argon krypton xenon, Radon

Complete the following chart:

Symbol	# of Protons	# of Neutrons	# of Electrons
113 Cd 48	45. 48	46.	47. 48
48. ⁹ ₄ Be	4	5	49. 4

50. What is the mass number for the element listed in #48 from the above chart?

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