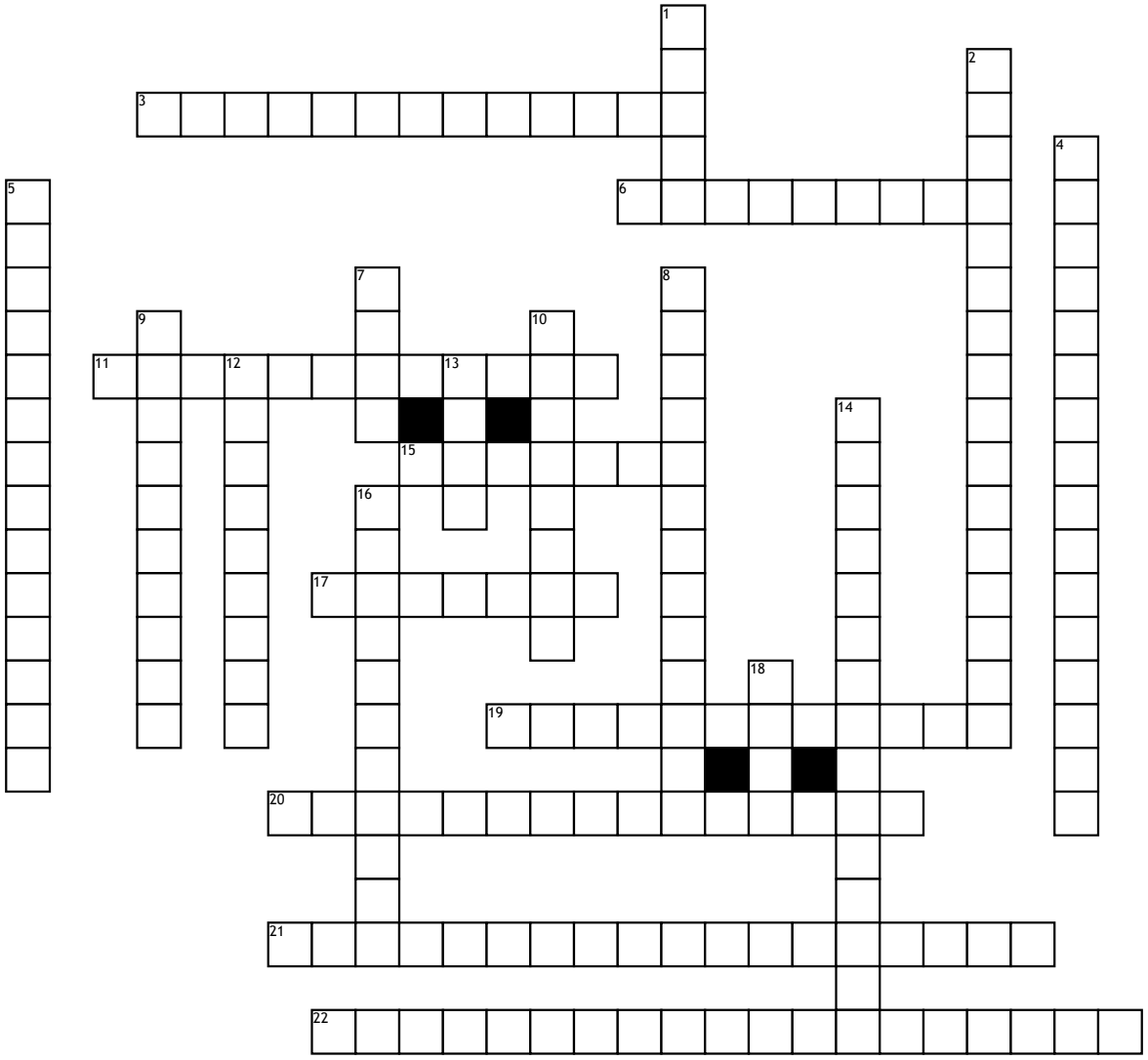
Name: _____ Date: _____

Vocabulary - Chemistry



Across

3. A table illustrating the periodic system, in which the chemical elements, formerly arranged in the order of their atomic weights and now according to their atomic numbers, are shown in related groups.

6. What are stable subatomic particles with a charge of negative electricity, found in all atoms and acts as the primary carrier of electricity in solids?

11. The number of protons in the nucleus of an atom, which determines the chemical properties of an element and its place in the periodic table.

15. What is each of two or more forms of the same element that contain equal numbers of protons but different numbers of neutrons in their nuclei, and hence differ in relative atomic mass but not in chemical properties; in particular, a radioactive form of an element?

17. What are stable subatomic particles occurring in all atomic nuclei, with a positive electric charge equal in magnitude to that of an electron, but of opposite sign?

19. What is the theory that all matter is made up of tiny indivisible particles (atoms)?

20. The number of atoms or molecules in one mole of a substance, equal to 6.023 × 1023.

21. What are characteristics of a material that become evident when the material undergoes a chemical reaction or chemical change?

22. Analysis using the fact that physical quantities added to or equated with each other must be expressed in terms of the same fundamental quantities (such as mass, length, or time) for inferences to be made about the relations between them.

Down

1. Consists of one or more subshells, and each subshell consists of one or more atomic orbitals.

2. A property (as color, hardness, boiling point) of matter not involving in its manifestation a chemical change

4. A property or characteristic of a substance that is observed during a reaction in which the chemical composition or identity of the substance is changed.

5. A nuclear reaction in which a heavy nucleus splits spontaneously or on impact with another particle, with the release of energy.

7. What are atoms or molecules that have gained or lost one or more of their valence electrons, giving it a net positive or negative electrical charge?

8. What is the process in which the nuclei of atoms are joined?

9. The mass of an atom of a chemical element expressed in atomic mass units. It is approximately equivalent to the number of protons and neutrons in the atom (the mass number) or to the average number allowing for the relative abundances of different isotopes.

10. What are subatomic particles of about the same mass as a proton but without an electric charge, present in all atomic nuclei except those of ordinary hydrogen?

12. The mass of a sample of that compound divided by the amount of substance in that sample, measured in moles.

13. A coherent, typically large body of matter with no definite shape.

14. A single electron or one of two or more electrons in the outer shell of an atom that is responsible for the chemical properties of the atom.

16. The fundamental force that mediates interactions between particles with color charge, such as quarks and gluons.

18. The basic unit of a chemical element.