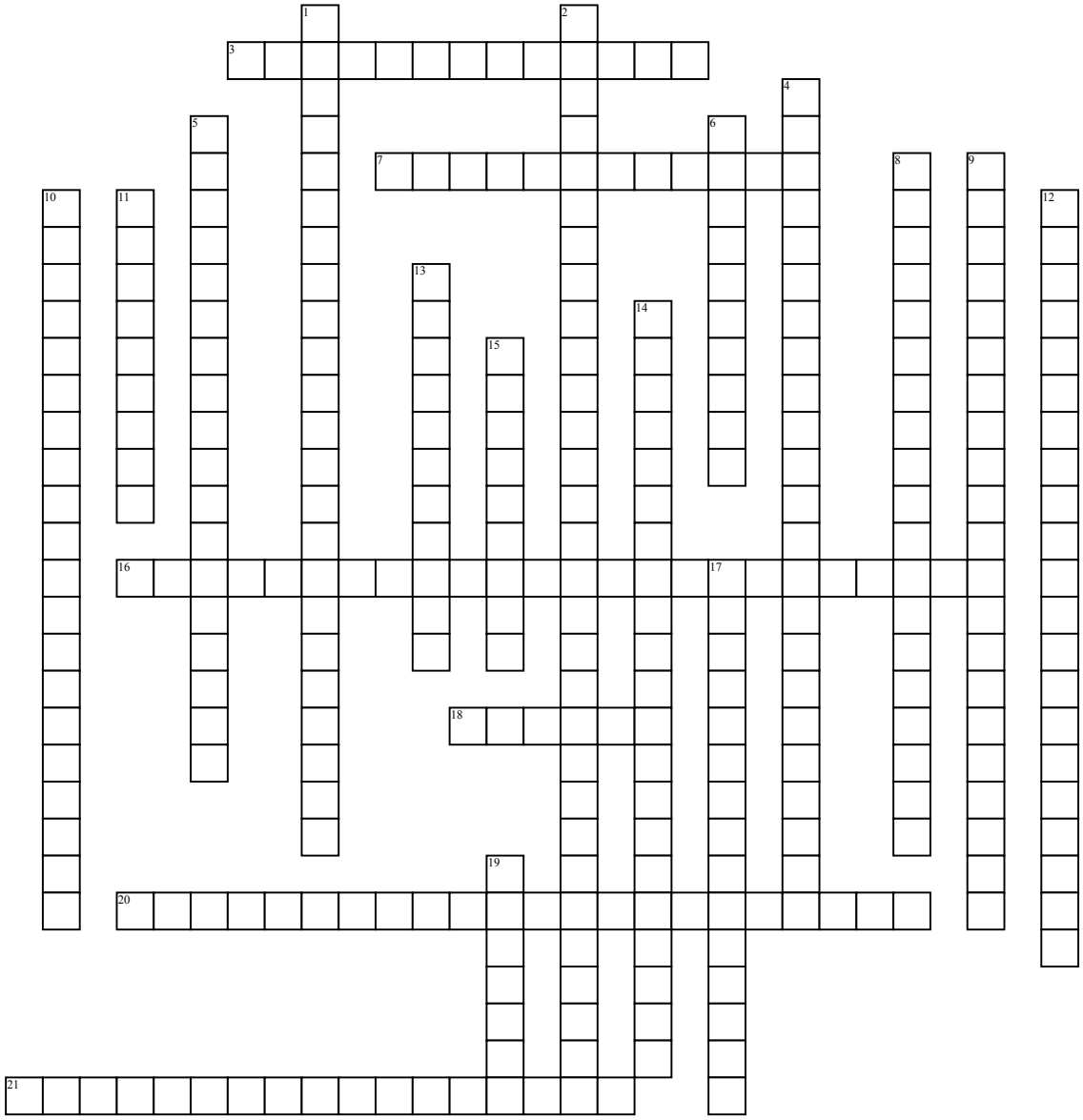
Name: _____ Date: _____ Period: _____

Chapter 4 Chemistry Vocab



Across

3. Describes mathematically the wave properties of electrons and other very small particles.
7. A state in which an atom has a higher potential energy than it has in its ground state.
16. A form of energy that exhibits wavelike behavior as it travels through space.
18. A particle of electromagnetic radiation having zero mass and carrying a quantum of energy.
20. Indicates the main energy level occupied by the electron.
21. Has only two possible values which indicate the two fundamental spin states of an electron in an orbital.

Down

1. Now two electrons in the same atom can have the same set of four quantum numbers.
2. It is impossible to determine simultaneously both the position and the velocity of an electron or any other particle.
4. All forms of electromagnetic radiation.
5. The emission of a continuous range of frequencies of electromagnetic radiation.
6. The distance between corresponding points on adjacent waves.
8. The emission of electrons from a metal when light shines on the metal.
9. Indicates the shape of the orbital.
10. When a narrow beam of the emitted light shines through a prism, it separates into four colors of the visible spectrum.
11. Orbitals of equal energy are each occupied by one electron before any orbital is occupied by a second electron, and all electrons in singly occupied orbitals must have the same spin state.
12. The arrangement of electrons in an atom.
13. The lowest energy state of an atom.
14. Indicates the orientation of an orbital around the nucleus.
15. The number of waves that pass a given point in a specific amount of time, usually one second.
17. An electron occupies the lowest-energy orbital that can receive it.
19. The minimum quantity of energy that can be lost or gained by an atom.

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