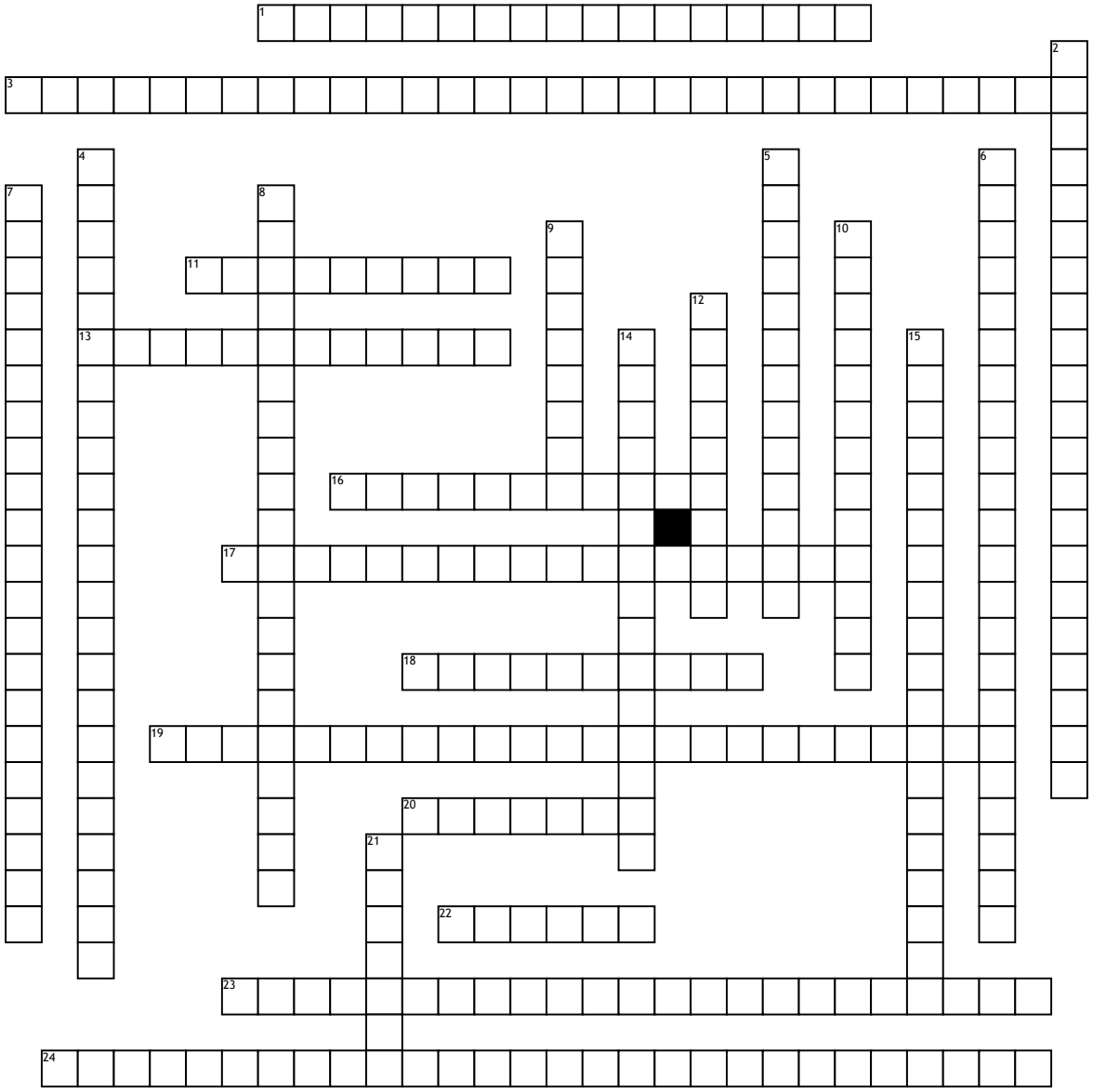
Name: _____ Date: _____

Electron Arrangement



Across

1. the quantum number that describes the intrinsic angular movement of a particle

3. the principle that states that determining both the position and velocity of an electron or any other particle simultaneously is impossible

11. the rule that states that for an atom in the ground state, the number of unpaired electrons is the maximum possible and these unpaired electrons have the same spin

13. a state in which an atom has more energy than it does at its ground state

16. the lowest energy state of a quantized system

17. the uninterrupted broad band of all colors (wavelengths) emitted by incandescent solids

18. the distance from any point on a wave to an identical point on the next wave

19. the radiation associated with an electric and magnetic field; it varies periodically and travels at the speed of light

20. a region in an atom where there is a high probability of finding electrons

22. a unit or quantum of light; a particle of electromagnetic radiation that has zero rest mass and carries a quantum of energy

23. all of the frequencies or wavelengths of electromagnetic radiation

24. the quantum number that indicates the shape of an orbital

Down

2. the arrangement of electrons in an atom

4. the principle that states that two particles of a certain class cannot be in exactly the same energy state

5. the study of the structure and behavior of the atom and of subatomic particles from the view that all energy comes in tiny, indivisible bundles

6. the quantum number that indicates the energy and orbital of an electron in an atom

7. the quantum number that corresponds to the alignment of the angular momentum component with a magnetic field

8. a diagram or graph that indicates the degree to which a substance emits radiant energy with respect to wavelength

9. one of the elements of Group 18 of the periodic table (helium, neon, argon, krypton, xenon, and radon); noble gases are unreactive

10. a number that specifies the properties of electrons

12. the number of cycles or vibrations per unit of time; also the number of waves produced in a given amount of time

14. the principle that states that the structure of each successive element is obtained by adding one proton to the nucleus of the atom and one electron to the lowest-energy orbital that is available

15. the emission of electrons from a material when light of certain frequencies shines on the surface of the material

21. the basic unit of electromagnetic energy; it characterizes the wave properties of electrons