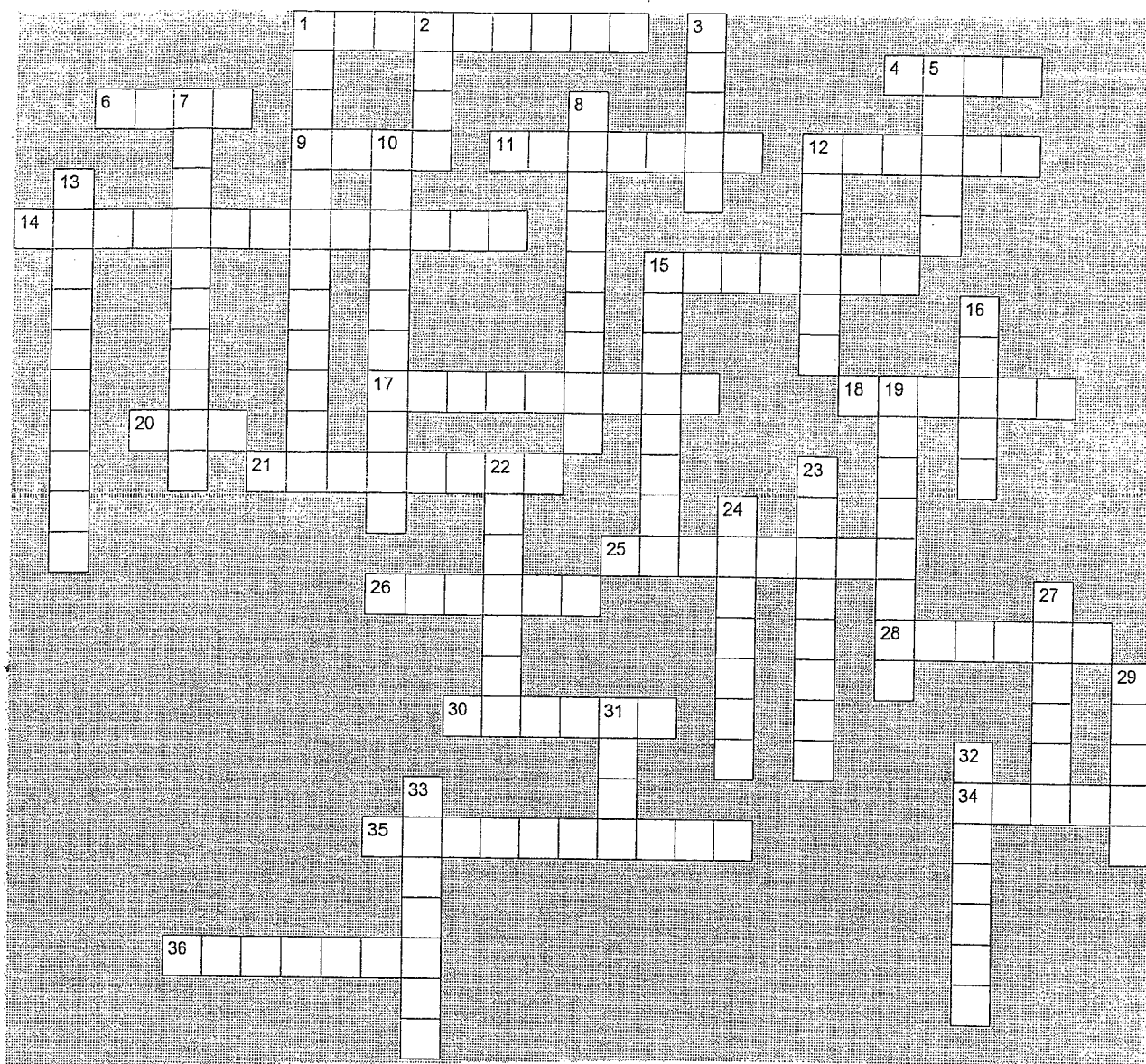


# Chemistry: The Atom



## Across

## Down

1. s, p, d, and f are the names given to the \_\_\_\_\_ (plural)
4. developed planetary model of the atom
6. Pauli exclusion principle: electrons in same orbital must have opposite \_\_\_\_\_
7. the inner electrons of an atom
11. in nucleus, no charge
12. a packet of light energy
14. the arrangement of the electrons in an atom is called electron \_\_\_\_\_
15. electrons which have extra energy and have moved to higher energy levels
17. the number of waves which pass a given point per unit of time
18. principal \_\_\_\_\_ level tells the relative size of the electron cloud
20. a \_\_\_\_\_ diagram shows how electrons are arranged in the orbitals
21. ionization energy tends to \_\_\_\_\_ as you go left across a row on the periodic table

25. atomic size tends to \_\_\_\_\_ as you go down a column on the periodic table
26. the element with the highest ionization energy
28. the \_\_\_\_\_ principle says that electrons fill the lowest energy spot available
30. the lowest point of a wave
34. \_\_\_\_\_ rule says that electrons are arranged to maximize unpaired electrons
35. the linear distance between corresponding points on consecutive waves
36. of these, the one with the highest ionization energy: As, Kr, Br, Ca

1. device used to see emission spectra of elements
2. metals tend to \_\_\_\_\_ electron(s) when they form ions
3. an atom which has gained one or more electrons
5. atoms gain or lose electrons to get a full \_\_\_\_\_ of valence electrons
7. \_\_\_\_\_ energy is the energy required to remove an electron from an atom
8. energy in all atoms is \_\_\_\_\_ meaning that only certain levels are allowed
10. discovered the nucleus
12. in nucleus, +1 charge
13. an electron \_\_\_\_\_ is a visual representation of the valence electrons (2 words)
15. outside nucleus, -1 charge

16. the unit of frequency
19. this group has a complete octet
22. elements of the same family have \_\_\_\_\_ electron configurations
23. the element with the lowest ionization energy
24. 90% probability graphs of where electrons are found
27. an atom which has lost one or more electrons
29. the highest point of a wave
31. nonmetals tend to \_\_\_\_\_ electron(s) when they form ions
32. discovered the electron
33. the electrons at the highest energy level