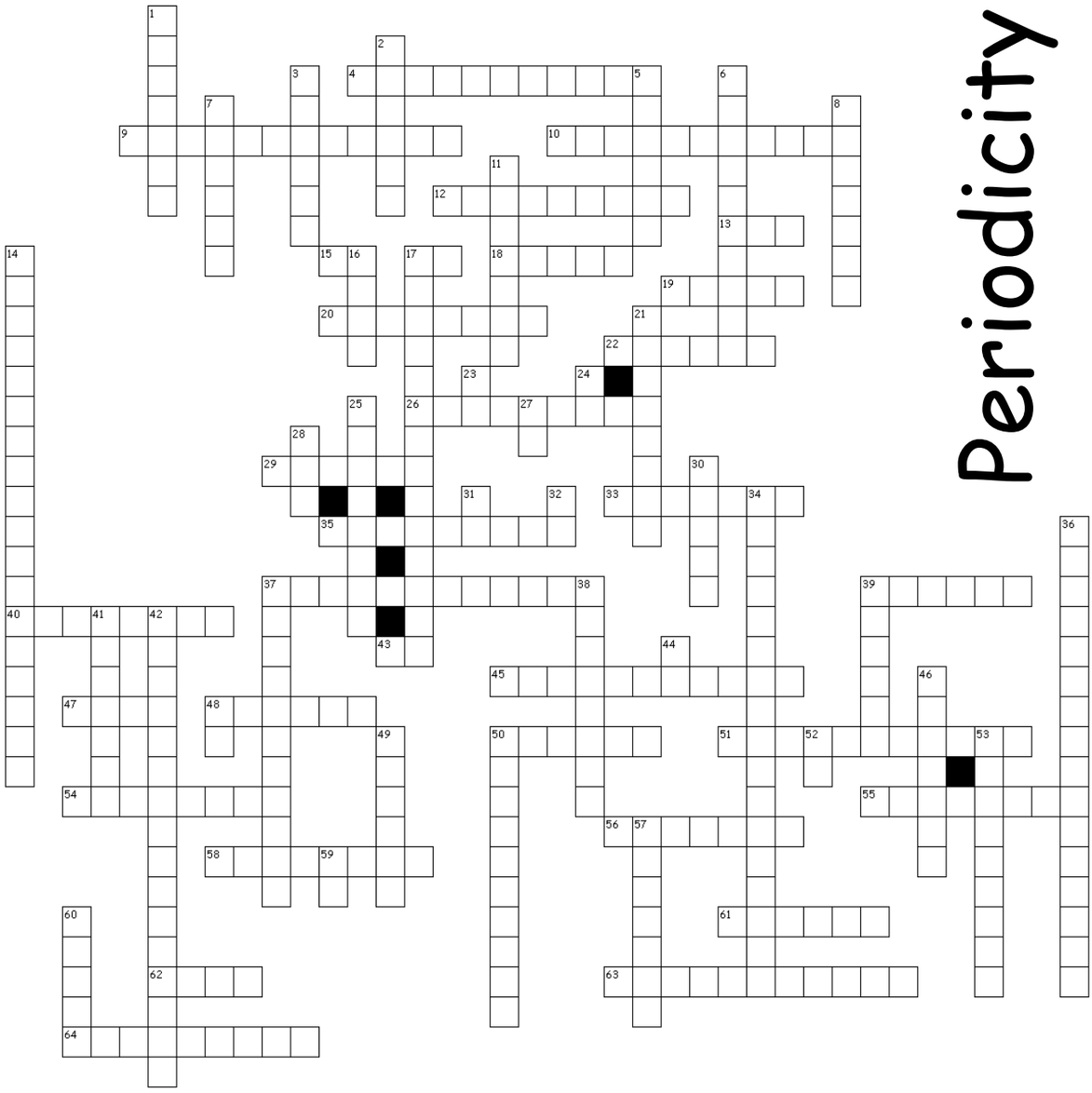
Periodicity



Across

4. elements 57 – 71
9. measurement that gives definite, numeric results
10. measurement that gives descriptive, nonnumerical results
12. element that ends with $4d^2$
13. charged atom or group of atoms
15. higher electronegativity: Li or Na
17. the larger atom: Rb or Sr
18. elements that are shiny, ductile, malleable, and good conductors
19. negatively charged ion
20. pure substance made of two or more elements
22. solid halogen at room temperature
26. element that ends with $5s^2$
29. element with 4 valence electrons in period 2
33. any element in group 17
35. has properties of both metals and nonmetals
37. elements with 1 valence electron
39. positively charged particle in the atom
40. elements with 7 valence electrons
43. smaller atom: Te or Xe
45. the noting and recording of facts and events
47. element that ends with $3d^{10}$
48. element with greatest ionization energy
50. element that ends with $4f^{12}$
51. when elements are arranged in order of increasing atomic number, there is a periodic repetition of their properties
54. element with greatest electronegativity
55. negatively charged particle in the atom
56. mass divided by volume
58. element with largest atomic radius
61. state of matter that has a fixed volume and takes the shape of the container
62. element that ends with $2p^6$
63. region around the nucleus where an electron may be moving
64. element that ends with $5f^6$

Down

1. liquid metal at room temperature
2. positively charged ion
3. anything that takes up space and has mass
5. element with 6 valence electrons in period 3
6. metal found in groups 3-12
7. the capacity to do work
8. neutral particle in the atom
11. liquid nonmetal at room temperature
14. any metal in group 2
16. element that ends with $3d^6$
17. elements in groups 1, 2, & 13 – 18
21. element that are dull in appearance and poor conductors
23. more attractive to electrons: Se or Br
24. greatest electronegativity Al, Ba, Ca, or Si
25. element in group 18
27. the larger atom: He or Ne
28. state of matter with no fixed volume or shape
30. matter with definite shape and volume
31. lower ionization energy: Cl or Ar
32. higher electron affinity: Ag or Cd
34. the tendency for an atom to attract electrons
36. energy required to remove an electron from an atom
37. any metal in group 1
38. element that ends with $4p^4$
39. horizontal row
41. region is space where an electron is found
42. energy that accompanies the addition of an electron to an atom
44. largest atom: As, Ba, Ca, or Fe
46. dense, positively charged central region of an atom
48. higher ionization energy: He or Ne
49. atomic size is measured as a __
50. a carefully controlled, repeatable procedure for gathering data to test a hypothesis
52. the larger atom: Ga or In
53. elements 89 –103
57. substance that cannot be changed into a simpler substance using chemical means
58. higher electronegativity: O or F
59. easier to remove an electron Mg or Ca
60. vertical column of elements