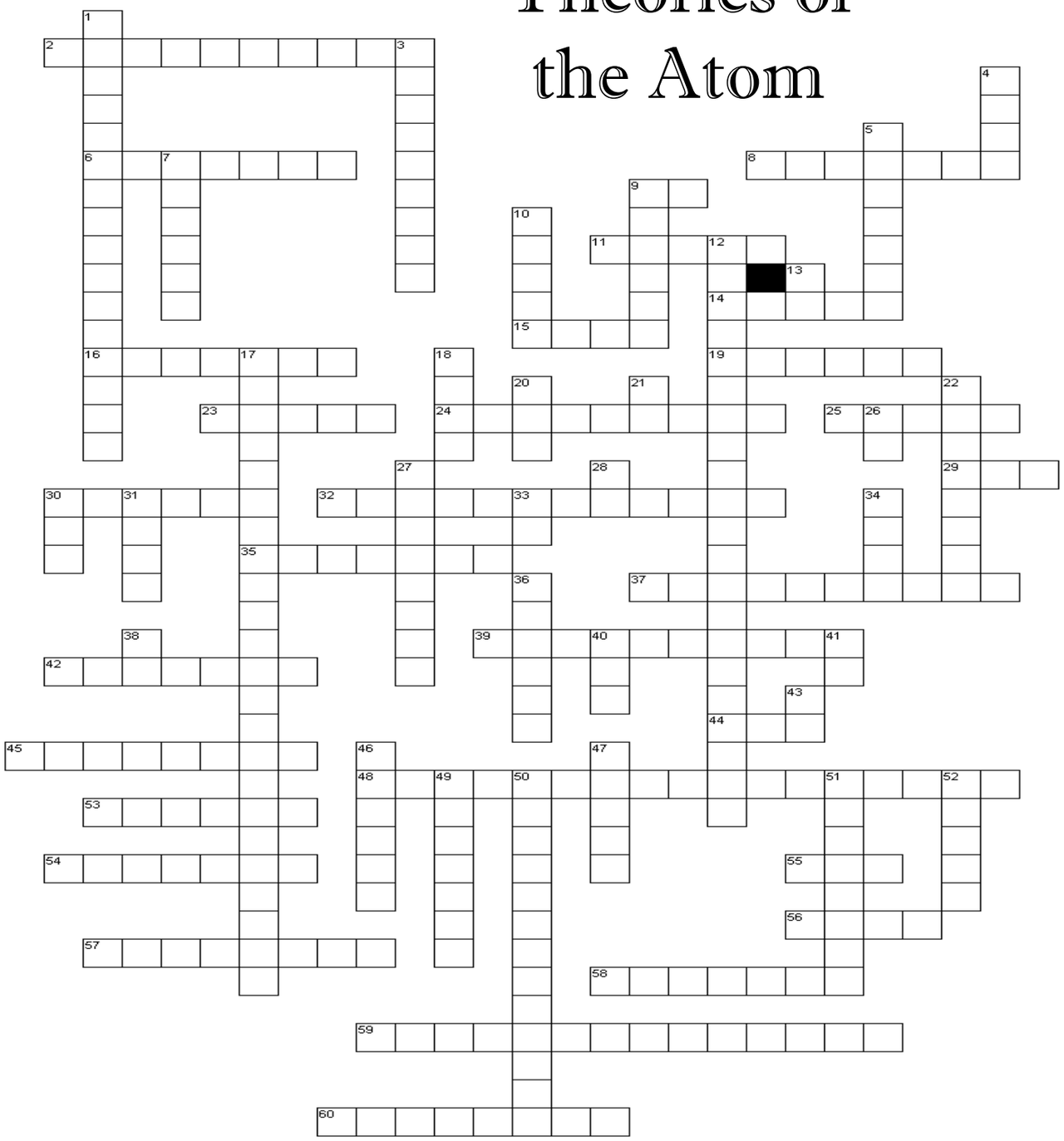
Theories of the Atom



Across

2. experimented with alpha particles
6. element with 92 protons
8. same atomic #, different mass #
9. curium
11. first model of the atom
14. # electrons in an oxygen atom
15. element with 26 protons
16. center of atom
19. all electrons are in the lowest energy level when the atom is in its __ state
23. like charges __
24. electrons at same sublevel will not pair until all orbitals at same level are half full
25. # of p orbitals
29. Sn
30. Ag
32. number of protons
35. particle in the nucleus
37. mass of an atom
39. spectrum containing all colours of visible light
42. neutral particle
44. # electrons in the s sublevel
45. experiment indicated that an atom had a nucleus
48. based on the relative abundance of isotopes
53. Na
54. region of space where an electron is most likely to be found
55. charged atom
56. spectrum which contains only certain frequencies
57. two or more elements bonded together
58. discrete package of energy
59. 1/12 mass of C-12
60. # electrons in the f sublevel

Down

1. study of laws describing motion of particles of very small mass
3. Rutherford was shocked when alpha particles were __
4. # of d orbitals
5. unlike charges __
7. __ principle: fill lowest level first
9. element with 6 protons
10. __ Exclusion Principle
12. lists # electrons occupying each energy level
13. mercury
17. distribution of electrons among various orbitals of an atom
18. __ model: energy of an electron is quantized
20. # of s orbitals
21. zirconium
22. mass # - atomic #
26. hafnium
27. smallest particle of a compound with all of its properties
28. copper
30. # electrons in the p sublevel
31. Pb
33. chlorine
34. smallest particle of an element that has all the chemical properties of that element
36. positivly charged particle
38. gold
40. # electrons in the d sublevel
41. antimony
43. molybdenum
46. his model explains the laws of chemical change
47. # of f orbitals
49. pure substance which cannot be broken down into simpler substances by chemical means
50. helium nucleus
51. element with 24 protons
52. atomic # of neodymium