



## Atomic Structure and the Periodic Table

### Quick Fire Questions

1. What element is represented by W?
2. What element is represented by Na?
3. What element is represented by Si?
4. What element is represented by Co?
5. What element is represented by Fe?
6. What group is oxygen in?
7. What group is argon in?
8. What group is potassium in?
9. What group is sulfur in?
10. What group is chlorine in?
11. What period is phosphorous in?
12. What period is nitrogen in?
13. What period is calcium in?
14. What period is gallium in?
15. What period is carbon in?
16. What is a compound?
17. What is a mixture?
18. Give three ways of separating out mixtures
19. What is the name for  $CO_2$ ?
20. What is the name for  $H_2O$ ?
21. What did Chadwick discover?
22. What experiment did Rutherford do?
23. What type of foil did Rutherford use?
24. What did Rutherford fire at the foil?
25. What model of the atom was Rutherford testing?
26. What did Rutherford discover?
27. What was the new model of the atom called?
28. Where are electrons?
29. Where are protons?
30. Where are neutrons?
31. What charge do protons have?



32. What charge do neutrons have?
33. What charge do electrons have?
34. What mass do protons have?
35. What mass do electrons have?
36. What mass do neutrons have?
37. What does the atomic number tell us?
38. What does the mass number tell us?
39. How do you find the number of protons in an atom?
40. How do you find the number of electrons in an atom?
41. How do you find the number of neutrons in an atom?
42. How do you find the number of protons in an ion?
43. How do you find the number of electrons in an ion?
44. How do you find the number of neutrons in an ion?
45. How many electrons fit on the first shell?
46. How many electrons fit on the second shell?
47. How many electrons fit on the third shell?
48. What element has the electronic structure 2,8,1?
49. What element has the electronic structure 2,3?
50. What element has the electronic structure 2,8,5?
51. What element has the electronic structure 2?
52. What element has the electronic structure 2,8,8,1?
53. What type of ions do metals form (positive/negative)?
54. What type of ions do non-metals form (positive/negative)?
55. What bonding occurs between two non-metals?
56. What bonding occurs between a metal and a non-metal?
57. What happens to the electrons in covalent bonding?
58. What happens to the electrons in ionic bonding?
59. How did Mendeleev organise his periodic table?
60. Why did Mendeleev have gaps in his periodic table?
61. On which side (left/right) of the periodic table are metals found?
62. On which side (left/right) of the periodic table are non-metals found?
63. What is another name for group 1?
64. How reactive are group 1 elements?
65. How does reactivity change as you go down group 1?
66. How does sodium react with water?



67. How does sodium react with oxygen?
68. How does sodium react with chlorine?
69. What is another name for group 0/8?
70. How reactive are group 0 elements?
71. How does boiling point change as you go down group 0?
72. What is another name for group 7?
73. How reactive are group 7 elements?
74. How does boiling point change as you go down group 7?
75. How does reactivity change as you go down group 7?

### GCSE Chemistry Separate Science Only

76. What are the properties of transition metals?
77. Give a use for transition metals
78. What colour does iron (II) go?
79. What colour does iron (III) go?
80. What colour does copper (II) go?



## Answers

1. Tungsten
2. Sodium
3. Silicon
4. Cobalt
5. Iron
6. 6
7. 0
8. 1
9. 6
10. 7
11. 3
12. 2
13. 4
14. 4
15. 2
16. Two or more different elements chemically combined
17. Lots of different element which may or may not be chemically combined
18. Distillation, chromatography, filtration, crystallisation
19. Carbon dioxide
20. Water
21. Neutrons
22. Testing the model of an atom
23. Gold
24. Alpha particles
25. Plum pudding
26. That there was a positive part of an atom
27. Nuclear
28. In outer shell
29. Nucleus
30. Nucleus
31. +1
32. 0
33. -1
34. 1
35. Very small



- 36.1
- 37.The number of protons
- 38.The number of protons plus neutrons
- 39.The atomic number
- 40.The atomic number
41. Mass number minus atomic number
- 42.The atomic number
- 43.The atomic number minus the charge on the ion
- 44.Mass number minus atomic number
- 45.2
- 46.8
- 47.8
- 48.Sodium
- 49.Boron
- 50.Phosphorus
51. Helium
- 52.Potassium
- 53.Positive
- 54.Negative
- 55.Covalent
- 56.Ionic
- 57.Sharing electrons
- 58.Transfer of electrons
- 59.By mass number
- 60.For undiscovered elements
61. Left
- 62.Right
- 63.Alkali metals
- 64.very
- 65.Increase
- 66.Exothermic reactive that give sodium hydroxide and hydrogen gas
- 67.Shiny metal reacts to form a dull metal oxide
- 68.Give a white powder, sodium chloride
- 69.Noble gases
- 70.Not at all
71. Increase
- 72.Halogens



73.Very

74.Increase

75.Decrease

76.Shiny, hard, dense, malleable

77.Catalyst, colorant

78.Green

79.Brown

80.blue