

## 100 Facts Chemistry

1. The unit for mass is Kg (Kilograms).
2. The unit for volume is ml (millilitres).
3. The unit for length is m (meters).
4. The unit for temperature is °C (degrees centigrade).
5. An atom is a very small particle.
6. Solids have a fixed volume and shape.
7. Liquids have a fixed volume but take up the shape of the container they are in.
8. Gases take up the volume of the container they are in.
9. Density is how heavy something is for its volume.
10. The three states of matter are solid liquid and gas.
11. Malleable means it can be bent and shaped.
12. Ductile means it can be drawn out into a thin wire.
13. In a solid particles are tightly packed in rows and columns.
14. In a liquids particles are closely packed in a random arrangement.
15. In a gas particles are far apart.
16. In a solid the particles move by vibrating about a fixed position.
17. In a liquid particles move by flowing over each other.
18. In a gas, particles move very fast and in random directions.
19. All matter is made up of particles.
20. An element is made up of one type of atom.
21. The periodic table has 8 groups.
22. The rows in the periodic table are called periods.
23. The atomic number of an element is the number of protons.
24. The mass number of an element is the number of proton + neutrons.
25. In a neutral atom the number of protons = number of electrons.
26. The scientist who came up with the idea of atoms as tiny balls was John Dalton.
27. The scientist who came up with the plum pudding model was JJ Thompson.

28. The scientist who discovered the nucleus was Ernest Rutherford.
29. The scientist who came up with the idea that electrons were held in shells around the nucleus was Bohr.
30. The molecular formula for hydrogen gas is  $H_2$
31. A molecule is two or more atoms chemically bonded together
32. A compound is two or more different elements chemically bonded together.
33. Gases can be compressed
34. Atoms contain protons, neutrons and electrons
35. Protons have a positive charge
36. Neutrons have no charge
37. Electrons have a negative charge
38. Atoms have a nucleus at their centre
39. Protons and neutrons are held in the nucleus
40. Electrons orbit the nucleus in shells
41. The molecular formula for oxygen gas is  $O_2$ .
42. The molecular formula for methane is  $CH_4$ .
43. The molecular formula for carbon dioxide is  $CO_2$ .
44. The molecular formula for water is  $H_2O$ .
45. The molecular formula for chlorine is  $Cl_2$ .
46. The molecular formula for ammonia is  $NH_3$ .
47. The test for carbon dioxide is that it turns limewater milky.
48. The test for hydrogen is it burns with a squeaky pop.
49. The test for oxygen is it relights a glowing splint.
50. The test for chlorine is it bleaches litmus paper.
51. Evidence of a chemical reaction are colour change, temp change, gas given off, sound, flame
52. Iron + sulphur  $\rightarrow$  Iron sulphide
53. Change of state from solid to liquid is called melting
54. Change of state from liquid to gas is called evaporation
55. Change of state from liquid to solid is called solidification or freezing
56. Change of state from gas to liquid is called condensing
57. Change of state from solid to gas is called sublimation

58. To cause a change of state you must add or remove energy from the particles
59. An alloy is a mixture of two or more metals
60. A mixture is made up of two or more substances not chemically bonded together
61. Acid + Alkali  $\rightarrow$  salt + water
62. The formula for hydrochloric acid is HCl
63. The formula for nitric acid is HNO<sub>3</sub>
64. The formula for sulphuric acid is H<sub>2</sub>SO<sub>4</sub>
65. The formula for potassium hydroxide is KOH
66. The formula for sodium hydroxide is NaOH
67. The metals in the middle block of the periodic table are called transition metals
68. Acid + alkali is called a neutralisation reaction
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75. Acids have a pH of 1-6
76. Alkalis have a pH of 8-14
77. pH of 7 is neutral
78. Seven properties of metals are: strong, malleable, ductile, good conductor of heat, good conductor of electricity, sonorous, tough.
79. Diffusion is the movement of particles from an area of high concentration to an area of low concentration
80. Gas pressure is caused by particles colliding with the side of the container
81. The independent variable is the one you choose to change in an investigation
82. The dependent variable is the result that you measure in your investigation

83. The control variables are the ones you keep the same to ensure a fair test
84. When plotting a line graph the independent variable goes on the x axis
85. When plotting a line graph the dependent variable goes on the y axis
86. To calculate the mean you add the numbers together and divide by the number of values you have used
87. Metals are on the left hand side of the Periodic Table
88. Non metals are on the right hand side of the Periodic Table
89. Group 1 elements are often called the alkali metals because they form an alkali when they react with water
90. Group 7 elements are called the halogens
91. Group 8 elements are called the Noble gases and they are inert.
92. "Inert" means unreactive.
93. Boiling point of water is 100°C.
94. Melting point of ice is 0°C.
95. Viscosity of a liquid is how 'thick' the liquid is.
96. Acid + metal carbonate → salt + water + carbon dioxide
97. Acid + metal → salt + hydrogen
98. acid + metal oxide → salt + water
99. Combustion is a chemical reaction often referred to as burning.
100. Thermal decomposition means breaking down by heating.