

SCH4U: Chemistry, Grade 12, University Preparation

Periodic Table of Elements with Molecular Weight

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

1

H

Hydrogen

1.00794

2

He

Helium

4.002602

3

Li

Lithium

6.941

4

Be

Beryllium

9.012182

11

Na

Sodium

22.98976928

12

Mg

Magnesium

24.3050

19

K

Potassium

39.0983

20

Ca

Calcium

40.078

37

Rb

Rubidium

85.4678

38

Sr

Strontium

87.62

55

Cs

Cesium

132.9054519

56

Ba

Barium

137.327

87

Fr

Francium

(223)

88

Ra

Radium

(226)

Atomic #

Symbol

Name

Atomic Mass

C

Solid

Hg

Liquid

H

Gas

Rf

Unknown

Metals

Alkali metals

Alkaline earth metals

Lanthanoids

Actinoids

Transition metals

Poor metals

Other nonmetals

Noble gases

5

B

Boron

10.811

6

C

Carbon

12.0107

7

N

Nitrogen

14.0064

8

O

Oxygen

15.9994

9

F

Fluorine

18.9984032

10

Ne

Neon

20.1797

13

Al

Aluminum

26.9815386

14

Si

Silicon

28.0855

15

P

Phosphorus

30.973762

16

S

Sulfur

32.065

17

Cl

Chlorine

35.453

18

Ar

Argon

39.948

21

Sc

Scandium

44.955912

22

Ti

Titanium

47.887

23

V

Vanadium

50.9415

24

Cr

Chromium

51.9961

25

Mn

Manganese

54.938045

26

Fe

Iron

55.845

27

Co

Cobalt

58.933195

28

Ni

Nickel

58.6934

29

Cu

Copper

63.546

30

Zn

Zinc

65.38

31

Ga

Gallium

69.723

32

Ge

Germanium

72.64

33

As

Arsenic

74.9216

34

Se

Selenium

78.96

35

Br

Bromine

79.904

36

Kr

Krypton

83.798

39

Y

Yttrium

88.90585

40

Zr

Zirconium

91.224

41

Nb

Niobium

92.90638

42

Mo

Molybdenum

95.96

43

Tc

Technetium

(97.9072)

44

Ru

Ruthenium

101.07

45

Rh

Rhodium

102.90550

46

Pd

Palladium

106.42

47

Ag

Silver

107.8682

48

Cd

Cadmium

112.411

49

In

Indium

114.818

50

Sn

Tin

118.710

51

Sb

Antimony

121.760

52

Te

Tellurium

127.60

53

I

Iodine

126.905447

54

Xe

Xenon

131.293

72

Hf

Hafnium

178.49

73

Ta

Tantalum

180.94788

74

W

Tungsten

183.84

75

Re

Rhenium

186.207

76

Os

Osmium

190.23

77

Ir

Iridium

192.217

78

Pt

Platinum

195.084

79

Au

Gold

196.966569

80

Hg

Mercury

200.59

81

Tl

Thallium

204.3833

82

Pb

Lead

207.2

83

Bi

Bismuth

208.98040

84

Po

Polonium

(209)

85

At

Astatine

(210)

86

Rn

Radon

(222.0176)

104

Rf

Rutherfordium

(261)

105

Db

Dubnium

(262)

106

Sg

Seaborgium

(266)

107

Bh

Bohrium

(264)

108

Hs

Hassium

(277)

109

Mt

Meitnerium

(268)

110

Ds

Darmstadtium

(271)

111

Rg

Roentgenium

(272)

112

Uub

Ununbium

(285)

113

Uut

Ununtrium

(284)

114

Uuq

Ununquadium

(289)

115

Uup

Ununpentium

(288)

116

Uuh

Ununhexium

(292)

117

Uus

Ununseptium

118

Uuo

Ununoctium

(294)

57–71

89–103

For elements with no stable isotopes, the mass number of the isotope with the longest half-life is in parentheses.

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57

La

Lanthanum

138.90547

58

Ce

Cerium

140.116

59

Pr

Praseodymium

140.90768

60

Nd

Neodymium

144.242

61

Pm

Promethium

(145)

62

Sm

Samarium

150.36

63

Eu

Europium

151.964

64

Gd

Gadolinium

157.25

65

Tb

Terbium

158.92535

66

Dy

Dysprosium

162.500

67

Ho

Holmium

164.93032

68

Er

Erbium

167.259

69

Tm

Thulium

168.93421

70

Yb

Ytterbium

173.054

71

Lu

Lutetium

174.9668

89

Ac

Actinium

(227)

90

Th

Thorium

232.03806

91

Pa

Protactinium

231.03688

92

U

Uranium

238.02891

93

Np

Neptunium

(237)

94

Pu

Plutonium

(244)

95

Am

Americium

(243)

96

Cm

Curium

(247)

97

Bk

Berkelium

(247)

98

Cf

Californium

(251)

99

Es

Einsteinium

(252)

100

Fm

Fermium

(257)

101

Md

Mendelevium

(258)

102

No

Nobelium

(259)

103

Lr

Lawrencium

(262)

First 10 Alkanes

# of Carbon atoms	Name	Molecular Formula
1	methane	CH ₄
2	ethane	C ₂ H ₆
3	propane	C ₃ H ₈
4	butane	C ₄ H ₁₀
5	pentane	C ₅ H ₁₂
6	hexane	C ₆ H ₁₄
7	heptane	C ₇ H ₁₆
8	octane	C ₈ H ₁₈
9	nonane	C ₉ H ₂₀
10	decane	C ₁₀ H ₂₂

Ions

Ion formula	Ion name	Ion formula	Ion name
NH ₄ ⁺	Ammonium		
CH ₃ CO ₂ ⁻	Acetate	PO ₄ ³⁻	Phosphate
CN ⁻	Cyanide	HPO ₄ ²⁻	Hydrogen phosphate
NO ₂ ⁻	Nitrite	H ₂ PO ₄ ⁻	Dihydrogen phosphate
NO ₃ ⁻	Nitrate	ClO ⁻	Hypochlorite
CO ₃ ²⁻	Carbonate	ClO ₂ ⁻	Chlorite
HCO ₃ ⁻	Hydrogen carbonate (or bicarbonate)	ClO ₃ ⁻	Chlorate
SO ₃ ²⁻	Sulfite	ClO ₄ ⁻	Perchlorate
SO ₄ ²⁻	Sulfate	CrO ₄ ²⁻	Chromate
HSO ₄ ⁻	Hydrogen sulfate (or bisulfate)	Cr ₂ O ₇ ²⁻	Dichromate
MnO ₄ ⁻	Permanganate	O ₂ ²⁻	Peroxide