



SCIENCE LESSON WORKSHEET DECODING MOLECULAR FORMULAS

Molecular formulas tell us what elements and atoms are in a molecule. Learn how to decode them with help from the Periodic Table of Elements.

HOW TO DECODE A MOLECULAR FORMULA

Use these steps to figure out what each molecules below are made of.

Take a look at the CO₂ sample below, then move on to the next page.

Step 1: Underline the Capital Letters. This will tell you how many elements are in your molecule.

Step 2: Symbols-Write the symbols the molecule has in the symbol column.

Step 3: Element Name-Use the periodic table to identify what elements the symbol represents and write the down in the element column.

Step 4: How many atoms? - Write the number of atoms of each element in the How many atoms column. If there is a small number beside the symbol, this indicates how many atoms of this element there are in the molecule. If there is NO small

Molecular Formula: CO₂ (Carbon Dioxide)

Symbol	Element Name	How many atoms?
C	Carbon	1
O	Oxygen	2





NAME THAT MOLECULE CHALLENGE

Use the Periodic Table of Elements to decode the following molecules.

Molecular Formula: NH₃ (Ammonia)

Symbol	Element Name	How many atoms?

Molecular Formula: CH₄ (Methane)

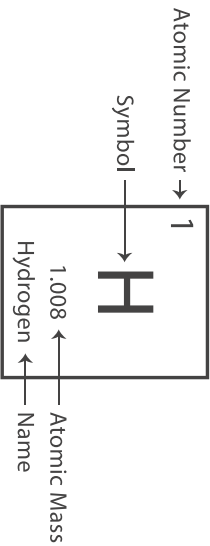
Symbol	Element Name	How many atoms?

Molecular Formula: H₂SO₄ (Sulfuric Acid)

Symbol	Element Name	How many atoms?



1	H Hydrogen 1.008	2	He Helium 4.002602
3	Li Lithium 6.94	4	Be Beryllium 9.0121831
11	Na Sodium 22.98976928	12	Mg Magnesium 24.305
19	K Potassium 39.0983	20	Ca Calcium 40.078
37	Rb Rubidium 85.4678	38	Sr Strontium 87.62
55	Cs Cesium 132.90545196	56	Ba Barium 137.327
87	Fr Francium 223	88	Ra Radium 226
103	Fr Francium 223	103	Fr Francium 223
103	Fr Francium 223	103	Fr Francium 223



21	Sc Scandium 44.955908	22	Ti Titanium 47.867	23	V Vanadium 50.9415	24	Cr Chromium 51.9961	25	Mn Manganese 54.938044	26	Fe Iron 55.845	27	Co Cobalt 58.933194	28	Ni Nickel 58.6934	29	Cu Copper 63.546	30	Zn Zinc 65.38	31	Ga Gallium 69.723	32	Ge Germanium 72.630	33	As Arsenic 74.921595	34	Se Selenium 78.971	35	Br Bromine 79.904	36	Kr Krypton 83.798
39	Y Yttrium 88.90584	40	Zr Zirconium 91.224	41	Nb Niobium 92.90637	42	Mo Molybdenum 95.95	43	Tc Technetium 98	44	Ru Ruthenium 101.07	45	Rh Rhodium 102.90550	46	Pd Palladium 106.42	47	Ag Silver 107.8682	48	Cd Cadmium 112.414	49	In Indium 114.818	50	Sn Tin 118.710	51	Sb Antimony 121.760	52	Te Tellurium 127.60	53	I Iodine 126.90447	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 200.592	81	Tl Thallium 204.38	82	Pb Lead 207.2	83	Bi Bismuth 208.98040	84	Po Polonium 209	85	At Astatine 210	86	Rn Radon 222		
104	Rf Rutherfordium 267	105	Db Dubnium 268	106	Sg Seaborgium 269	107	Bh Bohrium 270	108	Hs Hassium 269	109	Mt Meitnerium 278	110	Ds Darmstadtium 281	111	Rg Roentgenium 281	112	Cn Copernicium 285	113	Uut Ununtrium 286	114	Flerovium 289	115	Uup Ununpentium 289	116	Livermorium 293	117	Ununseptium 294	118	Ununoctium 294		

57	La Lanthanum 138.90547	58	Ce Cerium 140.116	59	Pr Praseodymium 140.90766	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 164.93033	68	Er Erbium 167.259	69	Tm Thulium 168.93422	70	Yb Ytterbium 173.054	71	Lu Lutetium 174.9668
89	Ac Actinium 227	90	Th Thorium 232.0377	91	Pa Protactinium 231.03588	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 288	102	No Nobelium 259	103	Lr Lawrencium 266

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