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Elements are the purest form of matter which has only one type of atoms. There are total 118 elements found till date. These elements are arranged in a tabular form in increasing order of atomic number such that elements with common properties are arranged together. This tabular arrangement of elements is called Periodic Table of Elements. In this article, we will learn first twenty elements with atomic number 1 to 20 along with their properties.What are the First Twenty Elements? The first twenty elements in the periodic table are as follows: Hydrogen (H), Helium (He), Lithium (Li), Beryllium (Be), Boron (B), Carbon (C), Nitrogen (N), Oxygen (O), Fluorine (F), Neon (Ne), Sodium (Na), Magnesium (Mg), Aluminium (Al), Silicon (Si), Phosphorus (P), Sulfur (S), Chlorine (Cl), Argon (Ar), Potassium (K), Calcium (Ca). Let's discuss the elements listed above in detail. The first 20 elements are tabulated in increasing order of their atomic number along with their symbols and atomic masses:Atomic number Names of elements SymbolsAtomic masses1HydrogenH1.0082HeliumHe4.00263LithiumLi6.944BerylliumBe9.01225BoronB10.811CarbonC12.0117NitrogenN14.0078OxygenO15.9999FluorineF18.99810NeonNe20.1811SodiumNa22.98912MagnesiumMg24.30513AluminiumAl26.98154SiliconSi28.085515PhosphorusP30.97416SulphurS32.0617ChlorineCl35.4518ArgonAr39.94819PotassiumK39.09820CalciumCa40.078Elements 1 to 10The first ten elements in the periodic table are as follows: Hydrogen (H), Helium (He), Lithium (Li), Beryllium (Be), Boron (B), Carbon (C), Nitrogen (N), Oxygen (O), Fluorine (F), Neon (Ne). Let us discuss each of these in detail one by one.Hydrogen (H) Hydrogen is the first element in the periodic table with atomic number 1 and symbol H. It is classified as a nonmetal and exists as a gas at room temperature. Hydrogen has only one electron in its atom. Physical properties of hydrogen include a melting point of -259°C, a boiling point of -253°C, and a density of 0.090 g/L as a gas at 0°C and 1 atm pressure.Helium (He)Helium is a chemical element with the symbol He and atomic number 2.It is a colorless, odorless, tasteless, non-toxic, inert, monatomic gas. Helium has only unique properties such as a low boiling point, low density, low solubility, high thermal conductivity, and inertness. Physical properties of helium include a melting point of 0.95 K (-272.2°C), a boiling point of 4.222 K (-268.928°C), and a density of 0.1786 g/L at STP.Lithium (Li) Lithium is a chemical element with the symbol Li and atomic number 3. It is a soft, silvery-white alkali metal that reacts vigorously with water. Lithium is commonly used to treat mood disorders such as mania and bipolar disorder. Beryllium (Be) Beryllium is a chemical element with the symbol Be and atomic number 4. It is a steel-grey, strong, lightweight, and brittle alkaline earth metal. This silvery-white metal is relatively soft and unaffected by air or water, even at high temperatures.Boron (B) Boron is a chemical element with the symbol B and atomic number 5. It is a metalloid that is not found naturally on Earth. Boron plays important roles in osteogenesis, where its deficiency can negatively impact bone development and regeneration. Carbon (C) Carbon is a chemical element with the symbol C and atomic number 6. It is a nonmetallic, tetravalent element, meaning its atoms can form four bonds.Carbon is solid at room temperature and plays a fundamental role in various forms of life, as well as in industry and technology.Nitrogen (N) Nitrogen is a chemical element with the symbol N and atomic number 7. It is a nonmetal and the lightest member of group 15 of the periodic table. Nitrogen is a colorless, odorless, tasteless gas that is the most plentiful element in the universe.Nitrogen is also involved in numerous biological activities and has significant impacts on ecosystems.Oxygen (O) Oxygen is a chemical element with the symbol O and atomic number 8. It belongs to the chalcogen group in the periodic table and is a highly reactive nonmetal. Oxygen is an essential component of the Earth's atmosphere, constituting about 21%. This colorless, odorless, and tasteless gas is crucial for living organisms as animals use it and convert it to carbon dioxide.Fluorine (F) Fluorine is a chemical element with the symbol F and atomic number 9. It is the lightest halogen and exists as a highly toxic, pale yellow diatomic gas at standard conditions.Fluorine is known for its extreme reactivity, reacting with almost all other elements except for light inert gases like helium and neon. Neon (Ne) Neon is a chemical element with the symbol Ne and atomic number 10. It is the second-lightest noble gas after helium. Like other noble gases, neon is colorless and odorless. It glows reddish-orange in a vacuum discharge tube. Elements from 11 to 20 The elements from 11 to 20 in the periodic table are as follows: Sodium (Na), Magnesium (Mg), Aluminium (Al), Silicon (Si), Phosphorus (P), Sulfur (S), Chlorine (Cl), Argon (Ar), Potassium (K), Calcium (Ca).Sodium (Na) Sodium is a chemical element with the symbol Na and atomic number 11. It is a soft, silvery-white, highly reactive metal that belongs to the alkali metal group of the periodic table. Sodium is predominantly found in the form of sodium chloride (NaCl), which is commonly known as table salt. Magnesium (Mg) Magnesium is an essential mineral with atomic number 12 and atomic mass 24. It belongs to alkaline earth metal group i.e. group 2 of periodic table. It is important for normal bone structure and can be obtained from diet or supplements.Aluminium (Al)Aluminium is a chemical element with the symbol Al and atomic number 13. It is a silvery-white, lightweight, non-magnetic, ductile metal that is the most abundant metal in the Earth's crust. Aluminium is a post-transition metal in the boron group, and it primarily forms compounds in the +3 oxidation state. This metal is known for its high strength-to-weight ratio, making it a popular choice for various applications, such as aircraft construction, automobiles, and building materials.Silicon (Si) Silicon is a chemical element with the symbol Si and atomic number 14. It is a hard, brittle crystalline solid with a blue-grey metallic luster, classified as a nonmetal and semiconductor.It is the second most abundant element in the Earth's crust, making up 27.7%. Silicon plays a significant role in semiconductor industry due to its unique properties and versatility.Phosphorus (P)Phosphorus is a chemical element with the symbol P and atomic number 15. It is a mineral that makes up about 1% of a person's total body weight, being the second most abundant mineral in the body. Phosphorus exists in two major forms: white phosphorus and red phosphorus. Sulphur (S) Sulfur is a chemical element with the symbol S and atomic number 16. It is abundant, multivalent, and nonmetallic. Sulfur atoms typically form molecules with other elements, and under normal conditions, sulfur exists as a yellow crystalline solid. Sulfur has "rotten egg" smell when in certain compounds.Chlorine (Cl) Chlorine is a chemical element with the symbol Cl and atomic number 17. It is a yellow-green gas at room temperature and is extremely reactive, making it a strong oxidizing agent. Chlorine is two and a half times heavier than air and becomes a liquid under high pressure. Argon (Ar)Argon is a chemical element with the symbol Ar and atomic number 18. It is a noble gas, meaning it is primarily found in its elemental form and does not react with most other elements. Argon is the third most abundant gas in Earth's atmosphere, making up about 1% of the air we breathe. This element is colorless, odorless, and non-toxic.Potassium (K) Potassium is a chemical element with the symbol K and atomic number 19. It is classified as an alkali metal and belongs to Group 1 of the periodic table. Potassium has a silvery-white appearance and is soft enough to be easily cut with a knife.Potassium has a melting point of 336.53 K (63.39°C or 146.09°F), a boiling point of 1032 K (759°C or 1398°F), and a density of 0.89 g/cm3.Calcium (Ca) Calcium is a chemical element with the symbol Ca and atomic number 20. It belongs to Group 2 of the periodic table as one of the alkaline-earth metals. Calcium is a solid at room temperature and is the fifth most abundant element and the third most abundant metal in the Earth's crust.Calcium has an atomic weight of 40.078, a melting point of 1115 K (842°C or 1548°F), a boiling point of 1757 K (1484°C or 2703°F), and a density of 1.54 grams per cubic centimeter.What Does an Element's Atomic Number Tell UsAtomic Number of an element tell us about the number of proton in the nucleus of the atom. Proton is the positively charged species found in the nucleus of the element. The atomic number of element is unique for each element. This means the number of protons in different element is different. We often get confused that atomic number is the number of electrons but it is wrong. Atomic number of an element is equal to number of electrons in an element in its ground state only. This is because elements can lose, gain or share electrons for their stability but they can't share protons. Hence, atomic number of an element tell us about the number of protons in the element which ultimately tell about the unique property of each element.Why are Sodium and Potassium denoted by 'Na' and 'K' Respectively?Potassium and Sodium are denoted by K and Na respectively referring to their Latin name which is Kalium for Potassium and Natrium for Sodium. On the similar lines, several other elements are symbolized using the letters of their Latin names. The examples of such elements are mentioned below.Symbol of Iron is Fe which represents its Latin Name 'Ferrum'Symbol of Gold is Au which represents its Latin Name 'Aurum'Symbol of Silver is Ag which represents its Latin Name 'Argentum'Symbol of Copper is Cu which represents its Latin Name 'Cuprum'Symbol of Tin is Sn which represents its Latin Name 'Stannum'Symbol of Mercury is Hg which represents its Latin Name 'Hydrargyrum'Symbol of Antimony is Sb which represents its Latin Name 'Stibium'Symbol of Lead is Pb which represents its Latin Name 'Plumbum'Symbol of Tungsten is W which represents its German Name 'Wolfram'Related ArticlesPeriodic Classification of ElementsDetailed Table Trends Using mnemonic devices can help make memorizing the first 20 elements easier and fun.Connecting each element with a word or phrase makes recalling their names and order simpler.Remembering the atomic numbers can also help understand and memorize the elements' order. If you take a chemistry class there is an excellent chance you will be required to memorize the names and order of the first few elements of the periodic table. Even if you don't have to memorize the elements for a grade, it is helpful to be able to recall that information rather than look it up every time you need it. Here is a mnemonic you can use to help make the memorization process easier. The symbols for the elements are associated with words that form a phrase. If you can remember the phrase and know the symbols for the elements then you can memorize the order of the elements. H!l - HHe - HeLies - LiBecause - BeBoys - BCan - CNot - NOperate - OFireplaces - F New - NeNation - NaMight - MgAlso - AlSign - SiPeace - SClause - Cl A - ARking - KCan - Ca You can devise your own way of memorizing the first 20 elements. It may help to associate each element with a name or a word that makes sense to you. Here are the names and symbols of the first elements. The numbers are their atomic numbers, which is how many protons are in an atom of that element. Hydrogen - HHelium - HeLithium - LiBeryllium - BeBoron - BCarbon - CNitrogen - NOxygen - OFluorine - FNeon - NeSodium - NaMagnesium - MgAluminium (or Aluminium) - AlSilicon - SiPhosphorus - PSulfur - SChlorine - ClArgon - ARPotassium - KCalcium - Ca Download the TestBook APP & Get Pass Pro Max FREE for 7 Days10,000+ Study NotesRealtime Doubt Support71000+ Mock TestsRankers Test Series+ more benefitsDownload App Now H - Hydrogen He - Helium Li - Lithium Be - Beryllium B - Boron C - Carbon N - Nitrogen O - Oxygen F - Fluorine Ne - Neon Na - Sodium Mg - Magnesium Al - Aluminium Si - Silicon P - Phosphorus S - Sulphur Cl - Chlorine Ar - Argon K - Potassium Ca - Calcium The number of the element is its atomic number, that is the number of protons in the nucleus for every atom of that element. While the element symbol is a one- or two-letter abbreviation of the element's name. It can also refer to an old name. (K, for example, stands for kalium). The total mass of one atom of a specific element is defined as the atomic mass of that element. Its unit is termed the unified atomic mass unit and is signified by the symbol 'u'. Standard atomic weight is utilised to deliver the value of the mean of the atomic masses in a mixture of isotopes in a provided sample of an element. About 99% of the mass of the human body is made of six of these elements. The first 20 elements provide a great overview of the various element groups. They can also be found in more common chemical processes. The periodic table lists the elements in order of increasing atomic number. This has been also the number of protons in each atom. The first 20 items are listed in the following order: H stands for hydrogen. Lithium, Beryllium, Sodium, Magnesium, Aluminium, Potassium, and Calcium are metals in the first twenty elements. Hydrogen, Helium, Carbon, Nitrogen, Oxygen, Fluorine, Neon, Phosphorus, Sulphur, Chlorine, and Argon are the non-metals in the first twenty elements. 1) Hydrogen (H): Valency : 1, Valence electrons : 1 2) Helium (He): Valency : 0, Valence electrons : 2 3) Lithium (Li): Valency : 1, Valence electrons : 1 4) Beryllium (Be): Valency : 2, Valence electrons : 2 5) Boron (B): Valency : 3, Valence electrons : 3 Noble gases except He, have complete s and p outer electron shells. So they are not easily involved in chemical reactions and bond formations. There are three noble gases in the first 20 elements: Helium (He), Neon (Ne), and Argon (Ar). Helium has an atomic number 2, Neon has an atomic number of 10, while Argon has an atomic number of 18. The periodic table of the elements lists all of the chemical elements that have been discovered or created; they are organised into seven horizontal periods in the order of their atomic numbers, with the lanthanoids, lanthanum, 57, to lutetium, 71, and actinoids, actinium, 89, to lawrencium, 103 mentioned independently. It's handy knowing the first 20 elements of the periodic table. About 99% of the mass of the human body is made of six of these elements. The first 20 elements provide a good overview of the different element groups. These elements occur in everyday chemical reactions. This is a list of the first 20 elements in order of increasing atomic number. The atomic number is the number of protons in atoms of each element. The first 20 elements and their symbols are:Here are the names, element symbols, and atomic numbers of the first 20 elements of the periodic table.Hydrogen (H)Helium (He)Lithium (Li)Beryllium (Be)Boron (B)Carbon (C)Nitrogen (N)Oxygen (O)Fluorine (F)Neon (Ne)Sodium (Na)Magnesium (Mg)Aluminium (Al)Silicon (Si)Phosphorus (P)Sulfur (S)Chlorine (Cl)Argon (Ar)Potassium (K)Calcium (Ca)At a minimum, matter contains one or more protons to be an element. The number of protons identifies the element. Atoms of elements may also contain neutrons together with protons to form the atomic nucleus. Samples with the same number of protons but different numbers of neutrons are all the same element but are different isotopes. Atoms also have electrons that orbit around the nucleus. Changing the number of electrons around an atom makes it an ion, but doesn't change its identity as an element. Elements are called the building blocks of matter because their atoms can't be divided into smaller parts using any chemical means. Atoms of elements can form chemical bonds with one another to form compounds.Three ways of identifying elements are using their atomic number, element name, or element symbol. The symbol is a one- or two-letter abbreviation of the name. However, some symbols refer to old element names. For example, the symbol for sodium is Na. This refers to the Latin word natrium, which was the old name for caustic soda. The symbol of potassium is K, which stands for the Latin word kalium, which meant alkali or potash. The first letter of an element symbol is capitalized. When there is a second letter, it is lower case.The Element SongNow that you know the first 20 elements, why not learn the names of several more? Try singing "The Element Song" or follow along!The first twenty elements are abundant in daily life.Hydrogen (H): Used in the production of ammonia for fertilizers and as rocket fuel. It is also a key component in fuel cells and hydrogen-powered vehicles.Helium (He): Common in balloons and airships due to its low density and non-flammability. It is also essential for cooling superconducting magnets in MRI machines.Lithium (Li): Widely used in rechargeable batteries for electronics and electric vehicles. It is also used in mood-stabilizing drugs for bipolar disorder.Beryllium (Be): Used in aerospace materials due to its high strength-to-weight ratio and in X-ray windows for its transparency to X-rays.Boron (B): Found in borosilicate glass and detergents. It is also a neutron absorber in nuclear reactors.Carbon (C): The foundation of organic chemistry, used in steel production, as graphite in pencils, and in diamond cutting tools.Nitrogen (N): Used in ammonia production, fertilizers, and as an inert gas in food packaging.Liquid nitrogen is a refrigerant.Oxygen (O): Essential for respiration and used in medical applications and welding. It is also used in water treatment and steelmaking.Fluorine (F): Used in toothpaste and water fluoridation to prevent tooth decay. It is also a key component in Teflon and refrigerants.Neon (Ne): Famous for its use in neon signs. It is also used in high-voltage indicators and cryogenics.Sodium (Na): Found in table salt (sodium chloride) and used in street lighting and soap production.Magnesium (Mg): Used in lightweight alloys for aircraft and automotive parts. It is an essential nutrient in biological systems.Aluminium (Al): Extensively used in construction, packaging (foil and cans), and transportation due to its lightweight and corrosion resistance.Silicon (Si): Found in semiconductors for electronics and as a key component in glass, concrete, and ceramics.Phosphorus (P): Used in fertilizers, detergents, and safety matches. It is also a critical component of DNA and ATP in living organisms.Sulfur (S): Used in the production of sulfuric acid, fertilizers, and rubber vulcanization. It is also used in gunpowder and insecticides.Chlorine (Cl): Essential in water disinfection and in the production of PVC plastic. It is also used in bleach and cleaning products.Argon (Ar): Common as an inert shielding gas in welding and in incandescent light bulbs to protect the filament.Potassium (K): Vital for plant growth, used in fertilizers, and in potassium-based salts for soap production.Calcium (Ca): Found in construction materials like cement and lime. It is essential for bone health and is used in food and supplements.Here is a brief description of each of the first 20 elements, including appearance, state of matter under normal temperature and pressure, atomic number, symbol, atomic mass, electron configuration, and the first element and is the most abundant one in the universe.Hydrogen, 1, s-block, alkali metalMagnesium is a shiny gray solid metal. Atomic Number: 12 Symbol: Mg Atomic Mass: 24.305 Electron Configuration: [Ne] 3s2 3p4 Group: 16 (chalcogens) p-block, nonmetal John Cancalosi / Getty Images Fluorine is a pale yellow gas and liquid and bright yellow solid. Atomic Number: 9 Symbol: F Atomic Mass: 18.998403163(6) Electron Configuration: [He] 2s2 2p5 Group: group 17, p-block, halogen Neon is a colorless gas that emits an orange-red glow when excited in an electric field.Atomic Number: 10 Symbol: Ne Atomic Mass: 20.1797(6) Electron Configuration: [He] 2s2 2p6 Group: group 18, p-block, noble gas Sodium is a soft, silvery-white solid metal. Atomic Number: 11 Symbol: Na Atomic Mass: 22.98976928(2) Electron Configuration: [Ne] 3s1 Group: group 1, s-block, alkali metalMagnesium is a shiny gray solid metal. Atomic Number: 12 Symbol: Mg Atomic Mass: 24.305 Electron Configuration: [Ne] 3s2 3p4 Group: 16 (chalcogens) p-block, nonmetal John Cancalosi / Getty Images Boron is a hard, blue-grey crystalline solid that has a metallic luster. Atomic Number: 5 Symbol: B Atomic Mass: 10.81 (10.806-10.821) Electron Configuration: [He] 2s2 2p1 Group: group 13, p-block, metalloidNatalya Danko / EyeEm / Getty Images Nitrogen is a colorless gas under ordinary conditions. It cools to form colorless liquid and solid forms. Atomic Number: 7 Symbol: N Atomic Mass: 14.007 Electron Configuration: [He] 2s2 2p3 Group: 15 (pnictogens) p-block, usually considered a nonmetal, but sometimes a metalloidEdwin Remsburg / Getty Images Sulfur is a yellow solid. Atomic Number: 16 Symbol: S Atomic Mass: 32.06 Electron Configuration: [Ne] 3s2 3p4 Group: 16 (chalcogens) p-block, nonmetal galitskaya / Getty Images Chlorine is a pale yellow-green gas under ordinary conditions. Its liquid form is bright yellow. Atomic Number: 17 Symbol: Cl Atomic Mass: 35.45 Electron Configuration: [Ne] 3s2 3p5 Group: group 17, p-block, halogen Argon is a colorless gas, liquid, and solid. It is a gas under ordinary conditions. It emits a bright lilac-purple glow when excited in an electric field. Atomic Number: 18 Symbol: Ar Atomic Mass: 39.948(1) Electron Configuration: [Ar] 4s1 Group: group 1, s-block, alkali metalJulius Adamek / EyeEm / Getty Images Helium is a light, colorless gas that forms a colorless liquid. Atomic Number: 2 Symbol: He Atomic Mass: 4.002602(2) Electron Configuration: 1s2 Group: group 18, s-block, noble gas Bloomberg Creative Photos / Getty Images Lithium is a reactive silver metal. Atomic Number: 3 Symbol: Li Atomic Mass: 6.94 (6.938-6.997) Electron Configuration: [He] 2s1 Group: group 1, s-block, alkali metal Myriam Borzev / Getty Images Beryllium is a shiny gray-white metal. Atomic Number: 4 Symbol: Be Atomic Mass: 9.0121831(5) Electron Configuration: [He] 2s2 Group: group 2, s-block, alkaline earth metal Bloomberg Creative Photos / Getty Images Boron is a gray solid with a metallic luster. Atomic Number: 5 Symbol: B Atomic Mass: 10.81 (10.806-10.821) Electron Configuration: [He] 2s2 2p1 Group: group 13, p-block, metalloid Natalya Danko / EyeEm / Getty Images Carbon takes several forms. It's usually a gray or black solid, although diamonds may be colorless. Atomic Number: 6 Symbol: C Atomic Mass: 12.011 (12.0096-12.0116) Electron Configuration: [He] 2s2 2p2 Group: 14 (pnictogens) p-block, usually considered a nonmetal, but sometimes a metalloidEdwin Remsburg / Getty Images Nitrogen is a colorless gas under ordinary conditions. It cools to form colorless liquid and solid forms. Atomic Number: 7 Symbol: N Atomic Mass: 14.007 Electron Configuration: [He] 2s2 2p3 Group: 15 (pnictogens) p-block, nonmetal Oxygen is a colorless gas. Its liquid is blue. Solid oxygen may be any of several colors, including red, black, and metallic. Atomic Number: 8 Symbol: O Atomic Mass: 15.999 or 16.00 Electron Configuration: [He] 2s2 2p4 Group: 16 (chalcogens) p-block, nonmetal John Cancalosi / Getty Images Fluorine is a pale yellow gas and liquid and bright yellow solid. The solid may be either opaque or translucent. Atomic Number: 9 Symbol: F Atomic Mass: 18.998403163(6) Electron Configuration: [He] 2s2 2p5 Group: 17, p-block, halogen Neon is a colorless gas that emits a characteristic orange-red glow when excited in an electric field. Atomic Number: 10 Symbol: Ne Atomic Mass: 20.1797(6) Electron Configuration: [He] 2s2 2p6 Group: group 18, p-block, noble gas Sodium is a soft, silvery-white metal. Atomic Number: 11 Symbol: Na Atomic Mass: 22.98976928(2) Electron Configuration: [Ne] 3s1 Group: group 1, s-block, alkali metal Helmut Feil / Getty Images Magnesium is a shiny gray metal. Atomic Number: 12 Symbol: Mg Atomic Mass: 24.305 Electron Configuration: [Ne] 3s2 Group: group 2, s-block, alkaline earth metal Bloomberg Creative Photos / Getty Images Aluminium is a soft, silver-colored, nonmagnetic metal. Atomic Number: 13 Symbol: Al Atomic Mass: 26.9815385(7) Electron Configuration: [Ne] 3s2 3p1 Group: group 13, p-block, considered a post-transition metal or sometimes a metalloid ALFRED PASIEKA / SCIENCE PHOTO LIBRARY / Getty Images Silicon is a hard, blue-gray crystalline solid that has a metallic luster. Atomic Number: 14 Symbol: Si Atomic Mass: 28.085 Electron Configuration: [Ne] 3s2 3p2 Group: group 14 (carbon group), p-block, metalloid Phosphorus is a solid under ordinary conditions, but it takes several forms. The most common are white phosphorus and red phosphorus. Atomic Number: 15 Symbol: P Atomic Mass: 30.973761998(5) Electron Configuration: [Ne] 3s2 3p3 Group: group 15 (pnictogens) p-block, usually considered a nonmetal, but sometimes a metalloid Edwin Remsburg / Getty Images Sulfur is a yellow solid. Atomic Number: 16 Symbol: S Atomic Mass: 32.06 Electron Configuration: [Ne] 3s2 3p4 Group: group 16 (chalcogens) p-block, nonmetal galitskaya / Getty Images Chlorine is a pale yellow-green gas under ordinary conditions. Its liquid form is bright yellow. Atomic Number: 17 Symbol: Cl Atomic Mass: 35.45 Electron Configuration: [Ne] 3s2 3p5 Group: group 17, p-block, halogen Pramote Polyanate / Getty Images Argon is a colorless gas, liquid, and solid. It emits a bright lilac-purple glow when excited in an electric field. Atomic Number: 18 Symbol: Ar Atomic Mass: 39.948(1) Electron Configuration: [Ne] 3s2 3p6 Group: group 18, p-block, noble gas Aleksei Vel. / Getty Images Potassium is a reactive, silvery metal. Atomic Number: 19 Symbol: K Atomic Mass: 39.0983(1) Electron Configuration: [Ar] 4s1 Group: group 1, s-block, alkali metal seksan Montgkhonkhamsa / Getty Images Calcium is a dull silver metal with a faint yellowish cast. Atomic Number: 20 Symbol: Ca Atomic Mass: 40.078(4) Electron Configuration: [Ar] 4s2 Group: group 2, s-block, alkaline earth metal The first 20 elements of the periodic table are essential for understanding the basics of chemistry. These elements, starting from hydrogen and ending with calcium, provide the foundation for concepts like atomic structure, bonding, and chemical reactions. Each element has unique properties and is important in science and everyday life. For example, oxygen sustains life, carbon forms the basis of organic chemistry, and calcium strengthens our bones. This article offers a detailed guide to the first 20 elements, including their names, symbols, atomic numbers, and uses. Designed for students, beginners, and curious minds, this resource simplifies the complexity of the periodic table and helps make learning interactive and enjoyable. The first 20 Elements with SymbolsThe first 20 elements of the periodic table, which have atomic numbers 1-20, are listed below.Atomic Number Element Symbol1HydrogenH2HeliumHe3LithiumLi4BerylliumBe5BoronB6CarbonC7NitrogenN8OxygenO9FluorineF10NeonNe11SodiumNa12MagnesiumMg13AluminiumAl14SiliconSi15PhosphorusP16SulphurS17ChlorineCl18ArgonAr19PotassiumK20CalciumCaMemorising the first 20 elements of the periodic table can be challenging, but mnemonics make it easier and more engaging. How to Remember the First 20 Elements?To remember the first 10 elements in order—Hydrogen, Helium, Lithium, Beryllium, Boron, Carbon, Nitrogen, Oxygen, Fluorine, and Neon—you can use the following mnemonic: "H He Likes Beans, Brown Cats Need Orange Fluffy Naps."Breakdown of the mnemonic:H: HydrogenHe: HeliumLikes: LithiumBeans: BerylliumBrown: BoronCats: CarbonNeed: NitrogenOrange: OxygenFluffy: FluorineNaps: NeonMnemonic for the Next 10 Elements (11-20)For the next 10 elements—Sodium, Magnesium, Aluminium, Silicon, Phosphorus, Sulfur, Chlorine, Argon, Potassium, and Calcium—you can use the following mnemonic: "Silly Monkeys Always Sing Perfect Songs Clapping Around Kind Cows."Here's the breakdown:Silly – Na (Sodium)Monkeys – Mg (Magnesium)Always – Al (Aluminium)Sing – Si (Silicon)Perfect – P (Phosphorus)Songs – S (Sulfur)Clapping – Cl (Chlorine)Around – Ar (Argon)Kind – K (Potassium)Cows – Ca (Calcium)The Role of Atomic Numbers and Symbols in the Periodic TableThe periodic table organises elements using atomic numbers and symbols, which are essential for identifying and understanding elements. The atomic number defines the number of protons in an atom, while the symbol serves as a shorthand for the element's name. Together, they help classify elements and predict their behaviour, making them fundamental to the study of chemistry.Atomic Numbers: The Building Blocks of OrderThe atomic number is the number of protons in an atom's nucleus and is the fundamental organising principle of the periodic table. It determines the element's identity and its position in the table. For example,Hydrogen (H) has an atomic number of 1, making it the first element.Oxygen (O) has an atomic number of 8, defining its unique properties.The atomic number also reflects the number of electrons in a neutral atom, influencing its chemical reactivity and bonding behaviour.Symbols: The Universal Language of ChemistryElement symbols are one- or two-letter abbreviations derived from their English or Latin names, making them a concise and universal way to identify elements.H: HydrogenAu: Gold (from Latin "Aurum")Fe: Iron (from Latin "Ferrum")These symbols simplify communication, especially in complex chemical equations and formulas, providing clarity and global understanding.Why are Atomic Numbers and Symbols Important?Order and Classification: Atomic numbers arrange elements systematically, revealing trends in properties like electronegativity and atomic radius.Universal Identification: Symbols transcend language barriers, enabling scientists worldwide to collaborate effectively.Predicting Properties: Atomic numbers help predict an element's chemical and physical behavior, essential for research and innovation.Applications of Elements in Real LifeFacts for some of the most important elements in the periodic table.ElementSymbolKey FactHydrogenLightest element, forms water with oxygen, and is a key component of organic molecules.HeliumInert noble gas, used in balloons and as a coolant in cryogenics.CarbonBasis of all known life, forms diamonds and graphite, and is found in fossil fuels.NitrogenMakes up ~78% of Earth's atmosphere and is essential for amino acids and DNA.OxygenEssential for respiration and combustion, and forms water when combined with hydrogen.FluorineThe most reactive element, used in toothpaste and water fluoridation.SodiumFound in table salt (NaCl) and is essential for nerve and muscle function.MagnesiumVital for human health, involved in over 300 enzymatic reactions in the body.AluminiumLightweight and corrosion-resistant, widely used in packaging and transportation.SiliconKey material in electronics and semiconductors, and found in sand and glass.ChlorineUsed in water purification and as a disinfectant, forms common table salt with sodium.CalciumStrengthens bones and teeth, and is crucial for muscle function and nerve signaling.ConclusionHence knowing about the first twenty elements of the periodic table is the basic step to gaining knowledge about all the elements. This article will develop an understanding of atomic numbers and symbols of elements. The first 20 elements are ordered by their atomic number, which is the number of protons they have.Element symbols are one- or two-letter abbreviations that sometimes refer to an element's older name.Different element name endings can indicate properties like being a gas, reactive, or a metal. One common chemistry assignment is to name or even memorize the first 20 elements and their symbols. The elements are ordered in the periodic table according to increasing atomic number. This is also the number of protons in each atom. These are the first 20 elements, listed in order: H - HydrogenHe - HeliumLi - LithiumBe - BerylliumB - BoronC - CarbonN - NitrogenO - OxygenF - FluorineNe - NeonNa - SodiumMg - MagnesiumAl - AluminiumSi - SiliconP - PhosphorusS - SulfurCl - ChlorineAr - ArgonK - PotassiumCa - Calcium The number of the element is its atomic number, which is the number of proton in each atom of that element. The element symbol is a one- or two-letter abbreviation of the element's name. Sometimes it refers to an old name. (For instance, K is for kalium). The element name can tell you something about its properties. Elements with names ending with -gen are nonmetals that are gases in pure form at room temperature.Elements that have names ending with -ine belong to a group of elements called halogens. Halogens are extremely reactive and readily form compounds.Element names ending with -on are noble gases, which are inert or nonreactive gases at room temperature.Most element names end with -ium. These elements are metals, which are usually hard, shiny, and conductive. What you cannot tell from an element name or symbol is how many neutrons or electrons an atom possesses. To know the number of neutrons, you need to know the isotope of the element. This is indicated using numbers (superscripts, subscripts, or following the symbol) to give the total number of protons and neutrons. For example, carbon-14 has 14 protons and neutrons. Since all atoms of carbon have 6 protons, the number of neutrons is 14 - 6 = 8. Ions are atoms that have different numbers of protons and electrons. Ions indicated using a superscript after the element symbol that states whether the charge on the atom is positive (more protons) or negative (more electrons), and the quantity of the charge. For example, Ca2+ is the symbol for a calcium ion that has a positive 2 charge. Since the atomic number of calcium is 20 and the charge is positive, this means the ion has 20 - 2 = 18 electrons. To be an element, a substance has to at least have protons, since these particles define the type of element. Elements consist of atoms, which contain a nucleus of protons and neutrons surrounded by a cloud or shell of electrons. Elements are considered the basic building blocks of matter because they are the simplest form of matter that cannot be divided using any chemical means. Knowing the first 20 elements is a good way to start learning about elements and the periodic table. Next, review the full element list and learn how to memorize the first 20 elements. Once you feel comfortable with the elements, test yourself by taking the 20 element symbol quiz.