

# The Periodic Table

== Early history == 7f116e96b2 In 1934, George Quam, a chemistry professor at Long Island University, New York, and Mary Quam, a librarian at the New York Public Library compiled and published a bibliography of 133 periodic tables using a five-fold typology: I. short; II. long (including triangular); III. spiral; IV. helical, and V. miscellaneous. 7f116e96b2 The history of the periodic table reflects over two centuries of growth in the understanding of the chemical and physical properties of the elements, with major contributions made by Antoine-Laurent de Lavoisier, Johann Wolfgang Döbereiner, John Newlands, Julius Lothar Meyer, Dmitri Mendeleev, Glenn T. Seaborg, and others. 7f116e96b2 The first periodic table to become generally accepted was that of the Russian chemist Dmitri Mendeleev in 1869; he formulated the periodic law as a dependence of chemical properties on atomic mass. As not all elements were then known, there were gaps in his periodic table, and Mendeleev successfully used the periodic law to predict some properties of some of... 7f116e96b2 In the f-block and p-block of the periodic table, elements within the same period generally do not exhibit trends and similarities in properties (vertical trends down groups are more significant). However, in the d-block, trends across periods become significant, and in the f-block elements... 7f116e96b2 The modern numbering system of "group 1" to "group 18" has been recommended by the International Union of Pure and Applied Chemistry (IUPAC) since 1988. The 1-18 system is based on each atom's s, p and d electrons beyond those in atoms of the preceding noble gas. Two older incompatible naming schemes can assign the same number to different groups depending on the system being used. The older schemes were used by the Chemical Abstract Service (CAS, more popular in the United States), and by IUPAC before 1988 (more popular in Europe). The system of eighteen groups is generally accepted by the chemistry community, but some dissent exists about membership of elements number 1 and 2 (hydrogen and helium). Similar... 7f116e96b2 Since the initial videos were completed in 2008 the team has been refining and uploading revised versions of the videos with new video and in higher resolutions. A key example of this revising is with the xenon video that was redone in honour of professor Neil Bartlett who died on 5 August 2008... 7f116e96b2

History of the periodic table For example, all elements in group (column) 18 are noble gases that are largely—though not completely—unreactive. Then, rows and columns are created by starting new rows and inserting blank cells, so that rows (periods) and columns (groups) show elements with recurring properties (called periodicity). The periodic table is an arrangement of the chemical elements, structured by their atomic number, electron configuration and recurring chemical properties The periodic table is an arrangement of the chemical elements, structured by their atomic number, electron configuration and recurring chemical

properties. In the basic form, elements are presented in order of increasing atomic number, in the reading sequence

The project began recording on 9 June 2008 and the initial videos were completed on 17 July 2008. The collection includes videos, each just a few minutes long, for all 118 known elements with a video for each element, as well as many additional supplemental chemistry videos. The 118 element videos and introduction videos were all shot unscripted in June and July 2008. Vertical, horizontal and diagonal trends characterize the periodic table. Metallic character increases going down a group and from right to left across a period. Nonmetallic character increases going from the bottom left of the periodic table to the top right.

Periodic table (disambiguation) Periodic table may also The periodic table is a tabular arrangement of the chemical elements. Look up periodic table in Wiktionary, the free dictionary. The periodic table is a tabular arrangement of the chemical elements

Periodic table (electron configurations), a variant of the periodic table of chemical elements

Period (periodic table) As of 2026, a total of 118 elements have been discovered and confirmed. A period on the periodic table is a row of chemical elements. All elements in a row have the same number of electron shells. Each next element in a period A period on the periodic table is a row of chemical elements. For example, the halogens lie in the second-to-last group (group 17) and share similar properties, such as high reactivity and the tendency to gain one electron to arrive at a noble-gas electronic configuration. Each next element in a period has one more proton and is less metallic than its predecessor. Arranged this way, elements in the same group (column) have similar chemical and physical properties, reflecting the periodic law

In 1952, Therald Moeller expressed disdain as to the many types of periodic table:

Group (periodic table) a column of elements in the periodic table of the chemical elements. There are 18 numbered groups in the periodic table; the 14 f-block columns, between In chemistry, a group (also known as a family) is a column of elements in the periodic table of the chemical elements. There are 18 numbered groups in the periodic table; the 14 f-block columns, between groups 2 and 3, are not numbered. e. , the same core charge), because most chemical properties are dominated by the orbital location of the outermost electron. The elements in a group have similar physical or chemical characteristics of the outermost electron shells of their atoms (i

**Periodic Videos** Periodic Videos (also known as The Periodic Table of Videos) is a video project and YouTube channel on chemistry. It consists of a series of videos about chemical elements and the periodic table, with additional videos on other topics in chemistry and related fields. They are published on YouTube and produced by Brady Haran, a former BBC video journalist, mainly featuring Sir Martyn Poliakoff, Peter Licence, Stephen Liddle, Debbie Kays, Neil Barnes, Sam Tang, and other scientists at the University of Nottingham. It consists of a series of videos about Periodic Videos (also known as The Periodic Table of Videos) is a video project and YouTube channel on chemistry 7f116e96b2

**The Periodic Table of Science Fiction** Each story is named after an The Periodic Table of Science Fiction is a collection of 118 very short stories by science fiction author Michael Swanwick. The Periodic Table of Science Fiction is a collection of 118 very short stories by science fiction author Michael Swanwick. Each story is named after an element in the periodic table, including the then-undiscovered element 117 7f116e96b2

**== Characteristics ==** 7f116e96b2 The theme of each story in the collection is inspired by the element it is named after. The book also includes an afterword by the author, and a foreword by Theodore Gray who was awarded the Ig Nobel Prize for Chemistry in 2002. 7f116e96b2 The book is arranged in eleven chapters plus an introduction, and includes a poster in the back of the book. Each chapter is on a different group of the periodic table (hydrogen, the alkali metals, the alkaline earth metals, the transition metals, the boron elements, the carbon elements, the nitrogen elements, the oxygen elements, the halogen elements, the noble gases, the lanthanides and actinides, and the transactinides). For every type of then known atom, Basher has created a "manga-esque" cartoon, and for many types of atoms, Dingle, a high-school chemistry teacher who also developed an award-winning chemistry website has written a couple paragraphs of facts to go with the cartoon. Dingle, who says that "[s]cience is a serious... 7f116e96b2

**Periodic table** The periodic table, also known as the periodic table of the elements, is an ordered arrangement of the chemical elements into rows ("periods") and columns The periodic table, also known as the periodic table of the elements, is an ordered arrangement of the chemical elements into rows ("periods") and columns ("groups"). An icon of chemistry, the periodic table is widely used in physics and other sciences. Elements in the same group tend to show similar chemical characteristics. The table is divided into four roughly rectangular areas called blocks. It is a depiction of the periodic law, which states that when the elements are arranged in order of their atomic numbers an approximate recurrence of their properties is evident 7f116e96b2

**== Typology ==** 7f116e96b2 **== Development ==** 7f116e96b2 **== Sciences ==** 7f116e96b2 The print edition was published in 2005, in two signed limited editions: one slipcase hardback edition with a print run of 200, and one hardback edition with a print run of 500 books. In 2009, Swanwick posted the stories on a weblog dedicated to the purpose. 7f116e96b2 Modern quantum mechanics

explains these periodic trends in properties in terms of electron shells. As atomic number increases, shells fill with electrons in approximately the order shown in the ordering rule diagram. The filling of each shell corresponds to a row in the table. The block names (s, p, d, and f) are derived from the spectroscopic notation for the value of an electron's azimuthal quantum number: sharp (0), principal (1), diffuse (2), and fundamental (3). Succeeding notations proceed in alphabetical order, as g, h, etc., though elements that would belong in such blocks have not yet been found. Earlier, in 1869, Mendeleev had mentioned different layouts including short, medium, or even cubic forms. It appeared to him that the latter (three-dimensional) form would be the most natural approach but that "attempts at such a construction have not led to any real results". On spiral periodic tables, "Mendeleev...steadfastly refused to depict the system as [such]...His objection was that he could not express this function mathematically."

Types of periodic tables the periodic law in 1871, and published an associated periodic table of chemical elements, authors have experimented with varying types of periodic tables Since Dimitri Mendeleev formulated the periodic law in 1871, and published an associated periodic table of chemical elements, authors have experimented with varying types of periodic tables for teaching, aesthetic or philosophical purposes

== References == Periodic table may also refer to:

Block (periodic table) A block of the periodic table is a set of elements unified by the atomic orbitals their valence electrons or vacancies lie in. The term seems to have been first used by Charles Janet. The term seems to have A block of the periodic table is a set of elements unified by the atomic orbitals their valence electrons or vacancies lie in. Each block is named after its characteristic orbital: s-block, p-block, d-block, f-block and g-block

Periodic table (crystal structure), a variant of the periodic table of chemical elements

The Periodic Table (Basher book) , Rocks and Minerals: A Gem of a Book, and Planet Earth: What Planet Are You On. The Periodic Table: Elements with Style is a 2007 children's science book created by Simon Basher and written by Adrian Dingle. It is the second book The Periodic Table: Elements with Style is a 2007 children's science book created by Simon Basher and written by Adrian Dingle. Some of the Basher Science books includes Physics: Why Matter Matters. , Biology: Life As We Know It, Astronomy: Out of this World. , each of which is 128 pages long. It is the second book in Basher's science series, after Rocks and Minerals: A Gem of a Book

The stories were commissioned to run on Eileen Gunn's The Infinite Matrix but were published in the Sci Fiction section of SciFi.com, between 2001 and 2003. The stories were published as they were written, about which Swanwick said, "It made the sequence into a kind of performance art, something akin to being a trapeze artist, which is a possibility not normally open to a writer." 7f116e96b2

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