

THE PERIODIC TABLE'S 150TH ANNIVERSARY

Darryl Francis
Brampton, Cumbria, England
darryl.francis@yahoo.co.uk

As most readers probably know, the periodic table, or periodic table of elements, is a tabular arrangement of the chemical elements, arranged by atomic number, electron configuration, and recurring chemical properties, whose structure shows periodic trends. The seven rows of the table, called periods, generally have metals on the left and non-metals on the right. The columns, called groups, contain elements with similar chemical behaviours. Six groups have accepted names as well as assigned numbers: for example, group 17 elements are the halogens; and group 18 are the noble gases. The organization of the periodic table can be used to derive relationships between the various element properties, and also to predict chemical properties and behaviours of undiscovered or newly synthesized elements. Russian chemist Dmitri Mendeleev published the first recognizable periodic table in 1869 (150 years ago this year), developed mainly to illustrate periodic trends of the then-known elements. He also predicted some properties of unidentified elements that were expected to fill gaps within the table. Most of his forecasts proved to be correct. (Most of this paragraph is taken from Wikipedia.)

However, during this 150th anniversary, I've been seeking logological relationships between the elements, and can report that every chemical element has some form of relationship with at least one other chemical element. My researches are shown below, but readers are encouraged to find additional relationships.

ACTINIUM	It contains TIN
ACTINIUM	Spelled out in full in PROTACTINIUM
ALUMINUM	It contains 2 occurrences of UM; the only other element with 2 occurrences of UM is PLUMBUM, the old name for LEAD
ALUMINUM	Its last 3 letters are the same as the last 3 letters of LANTHANUM, MOLYBDENUM and PLATINUM
ALUMINUM	The first 4 letters are the same as the last 4 letters of TANTALUM
AMERICIUM	All its letters occur in LAWRENCIUM
AMERICIUM	It contains the letters of CERIUM
ANTIMONY	It contains the letters of TIN
ANTIMONY	Its alternative name is STIBIUM, which is a substitute-letter transposal of BISMUTH
ARGON	A substitute-letter transposal of RADON
ARSENIC	The last 3 letters are the first 3 letters of NICKEL
ASTATINE	It contains TIN
BARIUM	A substitute-letter transposal of ERBIUM and RADIUM
BARIUM	The letters can be found in SEABORGIUM
BERKELIUM	It ends with the same 5 letters as HELIUM and NOBELIUM
BERYLLIUM	The 2 L's can be swapped for 2 T's, and then rearranged to get YTTERBIUM

BISMUTH	A double substitute-letter transposal of THULIUM
BISMUTH	A substitute-letter transposal of STIBIUM, an earlier name for ANTIMONY, which explains why ANTIMONY's symbol is Sb
BOHRIUM	A substitute-letter transposal of RHODIUM and THORIUM
BORON	All the letters appear in CARBON
BORON	The last 3 letters are the same as the last 3 letters of IRON
BROMINE	It contains the letters of BORON
BROMINE	It contains the letters of IRON
CADMIUM	The first 2 letters and the last 3 letters are the same as CALCIUM and CALIFORNIUM
CALCIUM	The first 3 letters and the last 3 letters are same as CALIFORNIUM
CALIFORNIUM	It contains 6 of the 7 letters of SILICON
CALIFORNIUM	It contains the letters of FRANCIUM
CALIFORNIUM	It contains the letters of IRON
CALIFORNIUM	The first 2 letters and the last 3 letters are the same as CADMIUM
CALIFORNIUM	The first 3 letters and the last 3 letters are the same as CALCIUM
CARBON	Assigning the values A=1, B=2, etc, the sum total of CARBON's letters is 52, the same as the total for COBALT's letters
CARBON	It contains all the letters of BORON
CERIUM	A substitute-letter transposal of CESIUM
CERIUM	A substitute-letter transposal of CURIUM
CERIUM	All its letters occur in AMERICIUM
CERIUM	All its letters occur in LAWRENCIUM
CERIUM	The letters of MERCURY can be rearranged to spell the non-word CERRYUM, which is a homophone of CERIUM
CESIUM	A substitute-letter transposal of CERIUM
CHLORINE	It contains the letters of IRON
CHROMIUM	It contains 6 of the 7 letters of HOLMIUM
COBALT	Assigning the values A=1, B=2, etc, the sum total of COBALT's letters is 52, the same as the total for CARBON's letters
COPERNICIUM	It contains the letters of IRON
COPPER	It is composed of the symbols of CARBON, OXYGEN, PHOSPHORUS, PHOSPHORUS and ERBIUM
CURIUM	A substitute-letter transposal of CERIUM
CURIUM	It has the same last 5 letters as TELLURIUM
DARMSTADTIUM	It contains the letters of RADIUM
DUBNIUM	Its earlier proposed name was HAHNIUM, only one letter different from HAFNIUM
DYSPROSIUM	It contains the letters of SODIUM
EINSTEINIUM	It contains the letters of TIN
ERBIUM	A substitute-letter transposal of BARIUM
ERBIUM	It can be front-hooked to give TERBIUM
ERBIUM	Its letters appear in order in YTTERBIUM
EUROPIUM	All its letters appear in PRASEODYMIUM and PROMETHIUM
FERMIUM	All its letters appear in FLEROVIUM

FLEROVIUM	Beheading this name gives LEROVIUM, which is a once proposed name for NOBELIUM
FLEROVIUM	It contains 7 of the 8 letters in FLUORINE
FLUORINE	7 of its 8 letters appear in FLEROVIUM
FLUORINE	It contains the letters of IRON
FRANCIUM	All its letters appear in CALIFORNIUM
GADOLINIUM	It contains the letters of GOLD
GADOLINIUM	It contains the letters of INDIUM
GALLIUM	It has the same last 6 letters as THALLIUM
GALLIUM	It rhymes with THALLIUM
GERMANIUM	A substitute-letter transposal of MAGNESIUM
GOLD	Its letters can be found in the first 5 letters of GADOLINIUM
HAFNIUM	This is a gammagram of HAHNIUM, an earlier name of DUBNIUM
HASSIUM	It rhymes with POTASSIUM
HASSIUM	It shares the last 6 letters with POTASSIUM
HELIUM	It ends with the same 5 letters as BERKELIUM and NOBELIUM
HOLMIUM	6 of the 7 letters appear in CHROMIUM
HOLMIUM	A double substitute-letter transposal of THULIUM
HYDROGEN	It has the same first 4 letters as HYDRARGYRUM, the old name for MERCURY
HYDROGEN	It has the same last 5 letters as NITROGEN
INDIUM	All letters appear in GADOLINIUM
INDIUM	It has the same last 5 letters as SCANDIUM
IODINE	Its letters all appear in ANTIMONIDE, a compound of ANTIMONY
IRIDIUM	All the letters appear in RUBIDIUM
IRIDIUM	The last 5 letters are the same as the last 5 letters of RUBIDIUM
IRON	Its letters appear in BROMINE, CHLORINE, COPERNICIUM, FLUORINE, NITROGEN, PROTACTINIUM, STRONTIUM and ZIRCONIUM
IRON	Its letters appear in order in NITROGEN and ZIRCONIUM
KRYPTON	Its letters appear in the term 'pony truck' (a two-wheeled swivel truck used under the front end of a locomotive), where CU are the 2 additional letters - and Cu is the symbol for COPPER
LANTHANUM	Its last 3 letters are the same as the last 3 letters of ALUMINUM, MOLYBDENUM and PLATINUM
LAWRENCIUM	It contains all the letters of AMERICIUM
LAWRENCIUM	It contains the letters of CERIUM
LEAD	The old name is PLUMBUM, which contains 2 occurrences of UM; the only other element with 2 occurrences of UM is ALUMINUM
LITHIUM	A substitute-letter transposal of THULIUM
LITHIUM	It has the same last 5 letters as PROMETHIUM
LIVERMORIUM	The first 5 letters can be rearranged to give the last 5 letters of SILVER
LUTETIUM	It has the same last 5 letters as TECHNETIUM
MAGNESIUM	A substitute-letter transposal of GERMANIUM
MAGNESIUM	The first 6 letters are the only letters in MANGANESE
MANGANESE	All the letters appear in MAGNESIUM
MEITNERIUM	It contains letters of TIN

MENDELEVIUM	9 of its 11 letters appear in SELENIUM
MERCURY	Its letters can be rearranged to spell CERRYUM, which is a homophone of CERIUM
MERCURY	Its old name was HYDRARGYRUM, which has the same first 4 letters as HYDROGEN
MOLYBDENUM	Its last 3 letters are the same as the last 3 letters of ALUMINUM, LANTHANUM and PLATINUM
MOLYBDENUM	The name appears in NEOMOLYBDENUM, an earlier proposed name for TECHNETIUM
MOSCOVIUM	It contains the letters of OSMIUM
NEODYMIUM	It begins with the same 3 letters as NEON
NEODYMIUM	The last 8 letters are the same as the last 8 letters of PRASEODYMIUM
NEON	All its letters appear in NITROGEN
NEON	All its letters appear in OGANESSION
NEON	All its letters appear in ROENTGENIUM
NEON	All its letters appear in XENON
NEON	It begins with the same 3 letters as NEODYMIUM
NEPTUNIUM	A double substitute-letter transposal of PLUTONIUM
NEPTUNIUM	It contains the letters of TIN
NICKEL	The first 3 letters are the last 3 letters of ARSENIC
NIHONIUM	It ends with the same 5 letters as PLUTONIUM, POLONIUM and ZIRCONIUM
NIOBIUM	All the letters appear in NOBELIUM
NITROGEN	All its letters can be found in ROENTGENIUM
NITROGEN	It contains letters of IRON in order
NITROGEN	It contains the letters of NEON
NITROGEN	It contains TIN in reverse order
NITROGEN	It has the same last 5 letters as HYDROGEN
NOBELIUM	A once proposed name for NOBELIUM was LEROVIUM, a beheadment of FLEROVIUM
NOBELIUM	It ends with the same 5 letters as BERKELIUM and HELIUM
OGANESSION	It contains the letters of NEON, in order
OSMIUM	A substitute-letter transposal of SODIUM
OSMIUM	Its letters all appear in MOSCOVIUM
OXYGEN	It contains all the letters of XENON
PALLADIUM	It can be transformed to RADIUM thus: PALLADIUM > 16 + 1 + (12/12) + ADIUM > 18 + ADIUM > RADIUM
PALLADIUM	It ends with the same 5 letters as RADIUM
PHOSPHORUS	It contains all the letters of SULPHUR except the L
PLATINUM	It contains TIN
PLATINUM	Its last 3 letters are the same as the last 3 letters of ALUMINUM, LANTHANUM and MOLYBDENUM
PLUTONIUM	A double substitute-letter transposal of NEPTUNIUM
PLUTONIUM	It contains the letters of TIN
PLUTONIUM	It ends with the same 5 letters as NIHONIUM, POLONIUM and ZIRCONIUM

POLONIUM	It ends with the same 5 letters as NIHONIUM, PLUTONIUM and ZIRCONIUM
POLONIUM	It has a similar sequence of letters to SELENIUM ((ie consonant-vowel-L-same vowel-NIUM))
POTASSIUM	It rhymes with HASSIUM
POTASSIUM	It shares the last 6 letters with HASSIUM
PRASEODYMIUM	It contains the letters of OSMIUM
PRASEODYMIUM	It contains the letters of SODIUM in order
PRASEODYMIUM	It contains the letters of RADIUM in order
PRASEODYMIUM	The last 8 letters are the same as the last 8 letters of NEODYMIUM
PROMETHIUM	It contains the letters of THORIUM
PROMETHIUM	It has the same last 5 letters as LITHIUM
PROTACTINIUM	It contains ACTINIUM
PROTACTINIUM	It contains the letters of IRON
PROTACTINIUM	It contains TIN
RADIUM	A substitute-letter transposal of BARIUM
RADIUM	It ends with the same 5 letters as PALLADIUM
RADIUM	Its letters can be found in order in DARMSTADTIUM
RADON	A substitute-letter transposal of ARGON
RHENIUM	A double substitute-letter transposal of RHODIUM
RHENIUM	The 2 letters UT can be added to give RUTHENIUM
RHODIUM	A double substitute-letter transposal of RHENIUM
RHODIUM	Substitute-letter transposals of BOHRIUM and THORIUM
ROENTGENIUM	It contains the letters of NEON
ROENTGENIUM	It contains the letters of NITROGEN
ROENTGENIUM	It contains the letters of TIN
RUBIDIUM	It contains all the letters of IRIDIUM
RUBIDIUM	The last 5 letters are the same as the last 5 letters of IRIDIUM
RUTHENIUM	It contains the letters of TIN
RUTHENIUM	The letters UT can be deleted to give RHENIUM
RUTHERFORDIUM	It contains the letters of THORIUM in order
SAMARIUM	A substitute-letter transposal of MASURIUM, an earlier proposed name for TECHNETIUM
SCANDIUM	It has the same last 5 letters as INDIUM
SEABORGIUM	It contains the letters of BARIUM
SELENIUM	7 of its 8 letters appear in MENDELEVIUM
SELENIUM	It has a similar sequence of letters to POLONIUM ((ie consonant-vowel-L-same vowel-NIUM))
SILICON	6 of its 7 letters appear in CALIFORNIUM
SILVER	The last 5 letters can be rearranged to give the first 5 letters of LIVERMORIUM
SODIUM	A substitute-letter transposal of OSMIUM
SODIUM	All the letters appear in DYSPROSIUM
SODIUM	Its earlier name was NATRIUM, which is a substitute-letter transposal of URANIUM
SODIUM	Its letters can be found in PRASEODYMIUM

STRONTIUM	It contains the letters of IRON
STRONTIUM	It contains the letters of TIN
SULFUR / SULPHUR	6 of SULPHUR's letters appear in PHOSPHORUS
SULFUR / SULPHUR	The last 2 letters are the first 2 letters of URANIUM
TANTALUM	The last 4 letters are first 4 letters of ALUMINUM
TECHNETIUM	An earlier proposed name was MASURIUM, which is a substitute-letter transposal of SAMARIUM
TECHNETIUM	An earlier proposed name was NEOMOLYBDENUM, with the last 10 letters being MOLYBDENUM
TECHNETIUM	It contains the letters of TIN
TECHNETIUM	It has the same last 5 letters as LUTETIUM
TELLURIUM	It has the same last 5 letters as CURIUM
TENNESSINE	It contains letters of TIN in order
TERBIUM	2 letters can be added at front to give YTTERBIUM
TERBIUM	It can be beheaded to give ERBIUM
THALLIUM	It has the same last 6 letters as GALLIUM
THALLIUM	It rhymes with GALLIUM
THORIUM	Its letters can be found in order in RUTHERFORDIUM
THORIUM	Its letters can be found in PROMETHIUM
THORIUM	It is a substitute-letter transposal of both BOHRIUM and RHODIUM
THULIUM	A double substitute-letter transposal of BISMUTH
THULIUM	A double substitute-letter transposal of HOLMIUM
THULIUM	A substitute-letter transposal of LITHIUM
TIN	Its letters appear in ACTINIUM, ANTIMONY, ASTATINE, EINSTEINIUM, MEITNERIUM, NEPTUNIUM, NITROGEN, PLATINUM, PLUTONIUM, PROTACTINIUM, RUTHENIUM, STRONTIUM, TECHNETIUM, TENNESSINE, TITANIUM
TIN	Its letters appear together in order in ACTINIUM, PLATINUM, PROTACTINIUM
TIN	Its letters appear together in reverse order in NITROGEN
TITANIUM	It contains the letters of TIN in order
TUNGSTEN	It begins and ends with the same letters as TIN
URANIUM	A substitute-letter transposal of NATRIUM, an earlier name for SODIUM, which explains why SODIUM's symbol is Na
URANIUM	Its first 2 letters are the last 2 letters of SULPHUR/SULFUR
VANADIUM	It has the same last 5 letters as RADIUM
XENON	A transaddition of NEON
XENON	All the letters appear in OXYGEN
YTTERBIUM	It contains ERBIUM
YTTERBIUM	It contains TERBIUM
YTTERBIUM	It contains the letters of YTTRIUM
YTTERBIUM	The 2 T's can be swapped for 2 L's, and rearranged to give BERYLLIUM
YTTRIUM	Its letters can be found in order in YTTERBIUM
ZINC	Its letters appear in ZIRCONIUM

ZIRCONIUM

It contains the letters of IRON, in order

ZIRCONIUM

It contains the letters of ZINC

ZIRCONIUM

It ends with the same 5 letters as NIHONIUM, PLUTONIUM and
POLONIUM