

No Metal No Magic

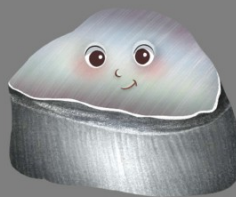
Element 13

Alumna, from The Magical Elements of the
Periodic Table Series,
Presents Aluminum



Alumna

13	26.98
Al	
aluminium	



Aluminum

By Sybrina Durant with Illustrations by Pumudi Gardyawasam

Alumna Presents More Fun Stuff About Aluminum

This book features the periodic table element, Aluminum. It is presented by Alumna, a member of the Metal Horn Unicorn Tribe from Unimaise. Each member of her tribe has a metal horn and hooves. They also have magical powers based on the properties of their metals.

Alumna is just one of the 118 elementals who will present all of the Magical Elements of the Periodic Table to readers who are curious about the wonders of the world.



Alumna introduces the very necessary element, Aluminum, in this book.

The Metal Horn unicorns from Unimaise and their other techno-magical unicorn friends are the perfect group to introduce you to metals and other elements in the Periodic Table. Hopefully, the Magical Elements of this periodic table book will spark an interest in the magical and real world properties of all the metals and other

Each page in this book contains terms that might not be completely familiar to the reader. Refer to the definitions in the back of the book to get a clear understanding of each meaning.

There is also a fun elemental themed Periodic Table at the back of the book. It features 118 elements presented by fanciful characters like unicorns, dragons, wizards, knights and goblins.. They want you to remember that if there's no metal...there's no magic or technology.

Remember, "No metal – No Magic. . .and No Technology".

It's Techo-Magical.

Note: Sybrina Publishing websites are Sybrina.com and MagicalPTElements.com. Follow [sybrinablueunicorn](#) on Instagram, The Blue Unicorn Book Store on Facebook, [@sybrinad](#) on Pinterest and [Sybrina_SPT](#) on Twitter.

Aluminum is a Post-Transition Metal

Aluminum, a remarkable metal with a rich history, was first unearthed in the year 1825 in the country of Denmark. This groundbreaking discovery marked the beginning of a new era in material science and engineering.

This material is definitely solid and completely non-ferrous, making it an extremely reliable and high-quality option.

Aluminum is an exceptional electrical conductor.

This material displays strong paramagnetic properties, making it highly responsive to magnetic fields.

This remarkable material exhibits extraordinary ductility and malleability, surpassing all expectations.

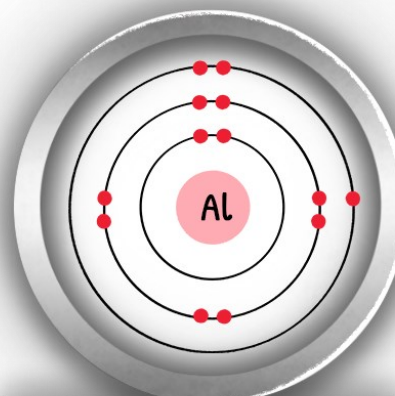
Aluminum is a highly versatile and valuable post-transition metal with a wide range of applications and uses.

LEGEND

Alkali Metals
Alkali Earth Metals
Transition Metals
Post-Transition (or Other Metals)
Metalloids
Non-Metals
Halogens
Noble Gases
Rare Earth Lanthanide Metals
Actinide Metals
Super Heavy—Radioactive



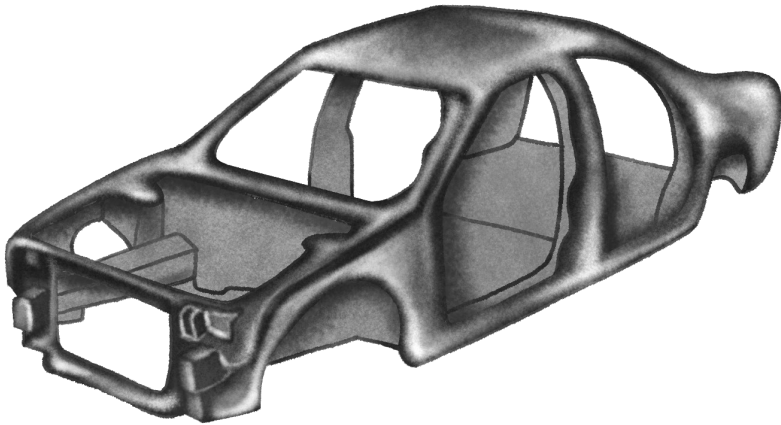
Aluminum Metal



Atomic Structure

Post-Transition (or other Metals) – Elements directly to the right of the transition metals on the periodic table. They are known as “poor metals” and are soft and brittle. These include aluminum, gallium, indium, tin, thallium, lead, bismuth, zinc, cadmium and mercury.

Uses For Aluminum



An Aluminum-Manganese alloy (3105) is used for constructing durable and high-quality car bodies.



Low cost cooking utensils are made from using lightweight and durable Aluminum material.

The Source of Aluminum



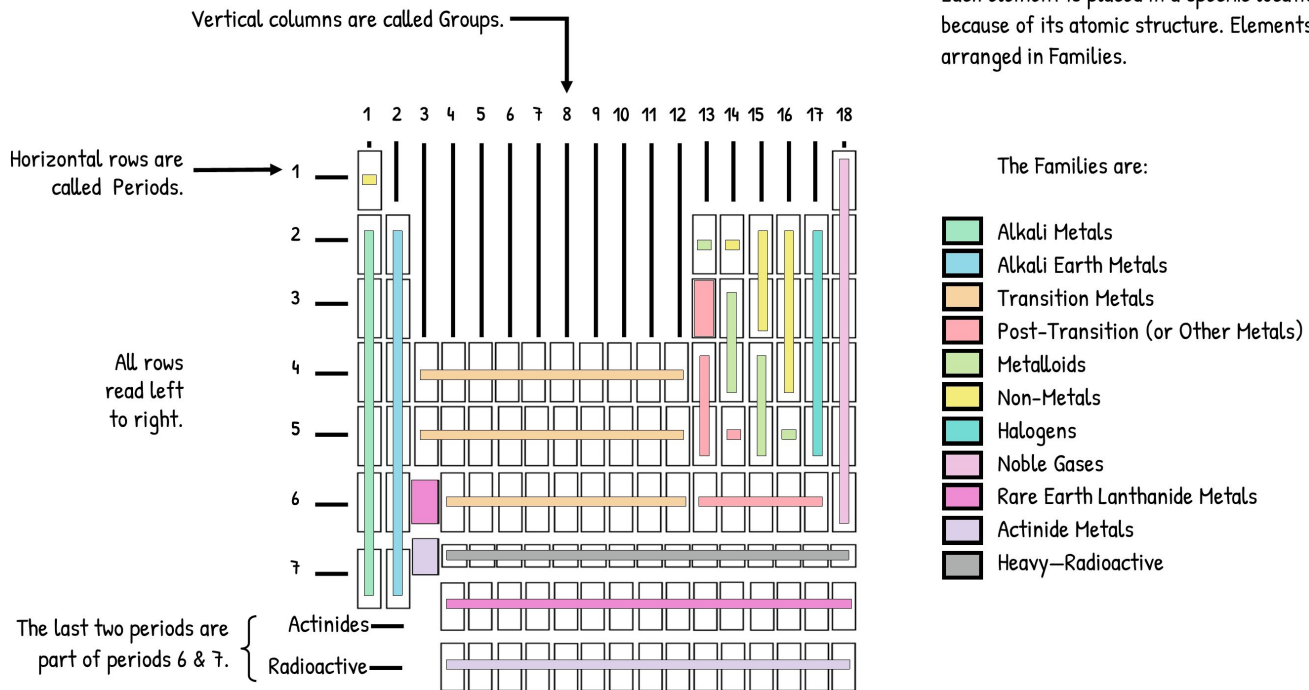
Aluminum
occurs
in many rocks
but is mainly
mined from
Bauxite Ore.
The largest
deposits are
in Australia.

Aluminum, a versatile metal known for its light weight and durability, is found in various rocks worldwide. However, it is primarily extracted from Bauxite Ore, a mineral rich in aluminum often found in tropical and subtropical regions. The largest deposits of Bauxite Ore are located in Australia, making it a key player in the global aluminum production industry. Due to its abundant availability in Australia, the country has become a leading exporter of aluminum, supplying the metal to numerous industries around the world. The process of extracting aluminum from bauxite ore was developed by Charles Hall in 1886 and was later improved upon by Paul Héroult in 1889, leading to the large-scale production of aluminum.

Structure Of Elements In The Periodic Table

Periodic tables are laid out in rows and columns.

Each element is placed in a specific location because of its atomic structure. Elements are arranged in Families.



The term 'Element' is used to describe atoms with specific characteristics.

Every element in the first column or Group has 1 electron in the outer orbital (shell).

Every element in the second column (group two) has two electrons in the element's outer orbital.

The number designation of each Group represents the number of electrons in the element's outer orbital—except for Group 18, Period 1—Helium. It only has 2 electrons.

Those electrons, called Valence Electrons, are what chemically bond with other elements.

Atomic Structure of Element: The atomic structure of an element refers to the arrangement of protons and neutrons in the nucleus of the atom, and the electrons in the electron cloud around the nucleus. Group 1, Period 1—Hydrogen is the only element that has no neutrons.

Atomic Number— Indicates the number of protons in the nucleus and the number of electrons in the atom (Element).

Element Symbol— The identifying letters for the element are an abbreviation of the element name. Only one or two letters are used for element symbols. AL = Aluminum

The Metal Horn Unicorn introducing this Element in the Magical Elements of the Periodic Table book is Alumna the Aluminum-Horned Unicorn.

The picture represents an every day use for the element.
IE: Aluminum is used to make light weight airplane bodies

Atomic Mass (or Weight) — Equals the number of Protons + Neutrons in the Element's nucleus.

Atom (Element)

Electrons

Protons and Neutrons in Nucleus

Atomic Structure

Element Name—
The name of this element is Aluminum

AL—Aluminum

13 26.98

Al

aluminium

Alumna

Airplanes



What Makes Aluminum Seem Magical?

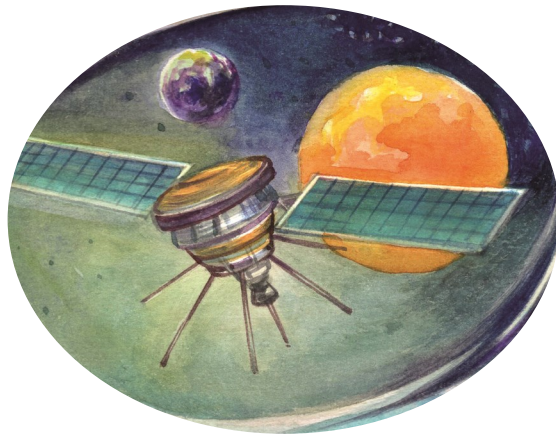
Imagine aluminum as one of those super versatile materials that can do so many cool things, it's almost like magic. Here are some reasons why people think aluminum is magical:

1. ****Lightweight but Strong****: Aluminum is super light, which makes it easy to carry around, but it's also really strong for its weight. Think about a soda can—it's lightweight, yet it can still hold its shape well. This property makes aluminum great for building everything from airplanes to bicycles.
2. ****Corrosion Resistance****: Aluminum doesn't rust like iron or steel. Instead, it forms a thin layer of oxide when exposed to air that protects it from corrosion. It's like aluminum has its own magical shield that keeps it safe from damage!
3. ****Recyclable****: Aluminum is one of the most recyclable materials. This means it can be melted down and reused over and over again without losing quality. In fact, recycling aluminum saves a ton of energy compared to making it from scratch, making it eco-friendly. It's like giving the aluminum a second life!
4. ****Conductive****: Aluminum is a good conductor of electricity, which makes it useful for

Alumna, the rose-red aluminum horned unicorn is a member of the magical Metal Horn Unicorn tribe from Unimaise. She is greatly admired by her tribe because she can see the future.

Because of that, she is known as the Oracle of the tribe of the metal horned unicorns.

Alumna also has unique powers related to the Moon-Star Spirit, Numen, which allow her to access ancient knowledge not known by others. This knowledge helps her understand more about the world around them.



Alumna is a member of the Navigator Herd of the Metal Horned Unicorn Tribe from Unimaise. The crest symbol for this herd is a large crystal ball mounted on an aluminum tripod made up of three majestic unicorns rearing up on their hind legs.

She communicates with the Numen with a red crystal ball, just like the herd crest. It is a sort of 2 way radio that does not work very well and is often full of silence or static.



Numen - The word numen refers to a divine power or spirit that inhabits an object. In this case, the spirit (or Numen) inhabits the Moon-Star. The Numen is an astral entity or you could even say an AI, containing all known unicorn knowledge. It is housed within a satellite known as the Moon-Star that stays in constant orbit around Unimaise. Numen is the acronym for the Nomadic Unicorn Magic Extender Network - the N.U.M.E.N.

CREATE YOUR OWN Magical Unicorn Elemental

Alumna

The Aluminum-Horned
Unicorn

Presents Aluminum

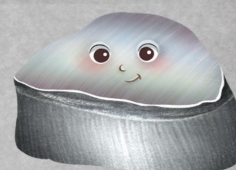
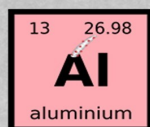
Symbol : AL

Atomic Number : 13

Atomic Mass : 26.98



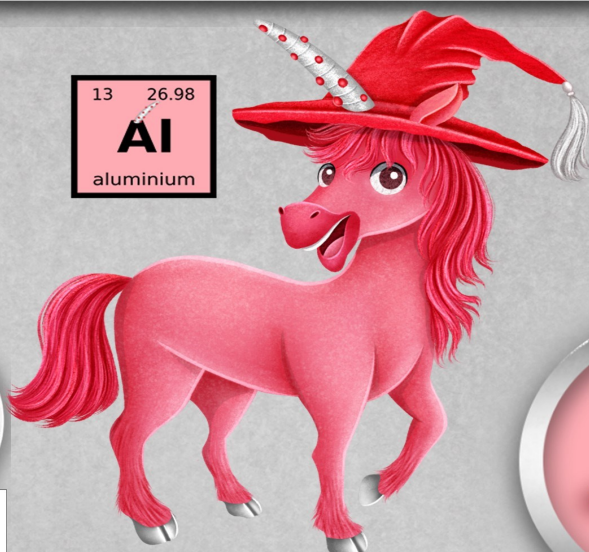
Magical Herd Crest
Symbol



Aluminum is a Post
Transition Metal



Mined From
Bauxite Rocks

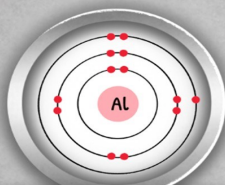


Alumna's Magical Abilities

- She can see the future
- Alumna is the most learned of all the metal horned unicorns
- She is the Oracle of the tribe of the Metal Horned Unicorns

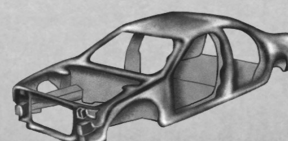
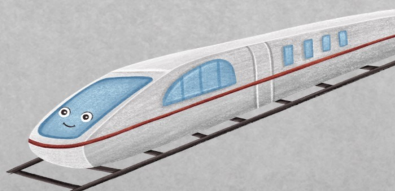
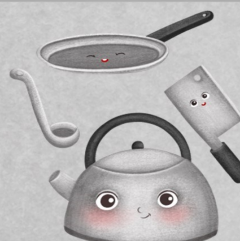
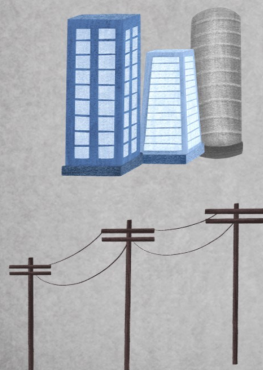


Airplanes



Atomic Structure

Uses For Aluminum



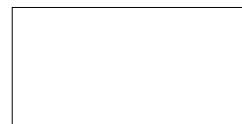
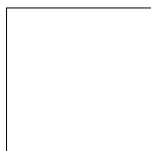


Presents

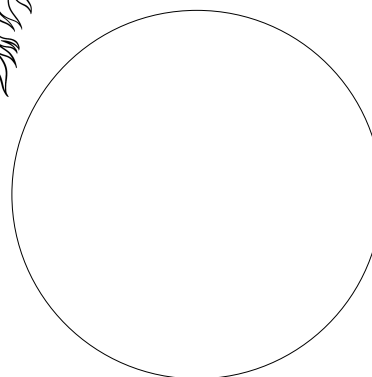
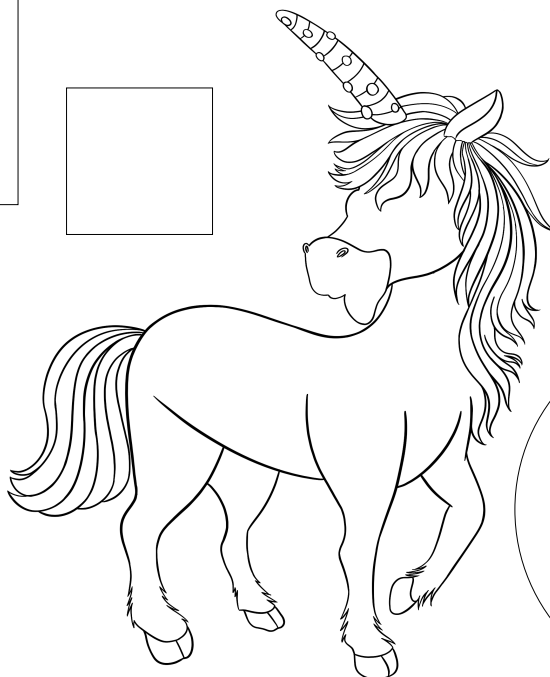
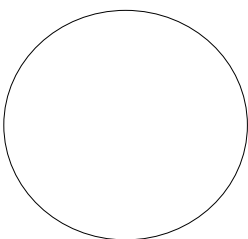
Symbol:

Atomic Number:

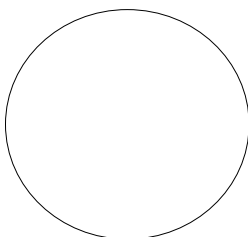
Atomic Mass:



Magical Herd Crest
Symbol



Magical Abilities



Atomic Structure



Uses For



CREATE YOUR OWN Magical Unicorn Elemental

Students may either use a program like power point to cut and paste clip art into a Magical Unicorn Elemental Blank or, if they wish, they may draw everything themselves.

Place your unicorn name and related element here

Draw the periodic Symbol for this Element

Show a cute cartoon picture of the element.

List the element type here. I.e: Rare Earth, Halogen, Etc.

Create a tag containing the element symbol, atomic number, name of element plus a picture of a use for the element.

Personalize this Magical Unicorn Elemental. List 1 or 2 of their magical abilities that are based on the properties of the element.

Show element Name

Draw or place clip art pictures here representing use of element

Draw a Magical Herd Crest Symbol. Represent the elemental magic.

Draw a cute cartoon picture representing ore or other source of extraction

List what this element is mined or extracted From

Show the number of electrons in the atomic structure

Design a border that represents the element properties.

Presents

Symbol: Atomic Number: Atomic Mass:

Magical Herd Crest Symbol

Magical Abilities

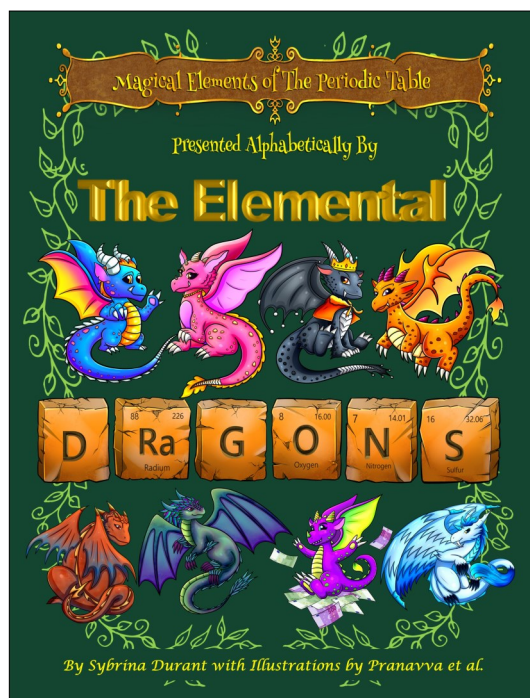
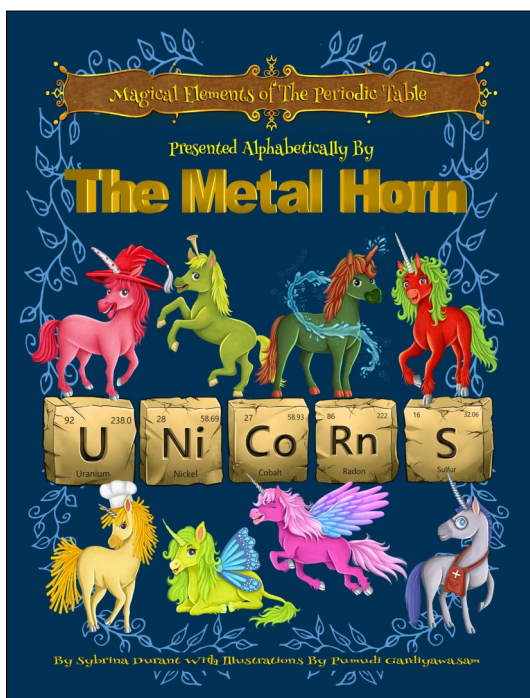
Uses For

Atomic Structure

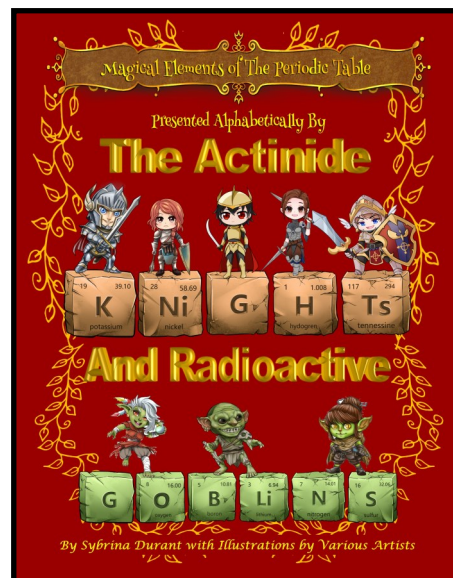
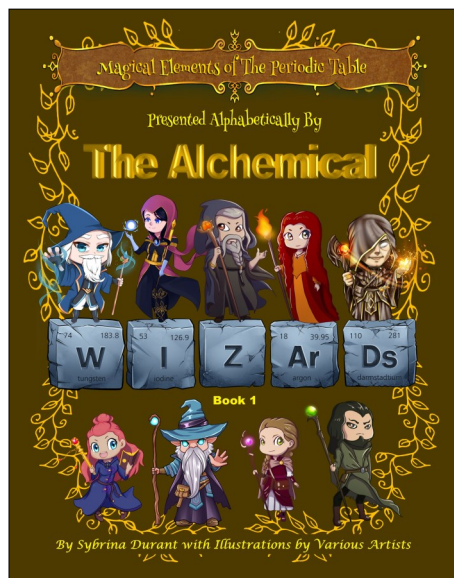
Do Your Middle Graders Want To Know More From The Magical Elements About The Periodic Table?

Get the accompanying books in print at all online book stores. Get the books and accompanying activities at MagicalPTElements.com

Available Now



Coming Soon



Also Available From Sybrina Publishing

Magical Elemental-Themed Periodic Table

1

2

3

4

5

6

7

Magical elements from the Magical Elements of the Periodic Table books present all of the elements of the periodic table in fantastical and real life terms.

In the books, each elemental character has magical powers based on the properties of the elements that come from the land, air and water. They are the perfect group to introduce you to metals, metalloids, non-metals, halogens, noble gases and much more.

Unicorns, dragons, alchemists, knights, and goblins will show you how people of this world always have and always will depend upon the elements that our earth provides for all of our needs.

Use this Periodic Table as you would any other to spark an interest in the magical and real world properties of all the elements known today. You may be surprised at how prominently they feature in our every day lives.

Remember, "No Metal—No Magic."

...And no technology.

No Metal

Actinium To Zirconium

No Magic

1 H Hydrogen Batteries	2 Li Lillian Batteries	3 Be Beryl Musical Instruments	4 B Borok Musical Instruments	5 C Cole Charcoal	6 N Nitro Fertilizer	7 O Ozy Matches	8 F Fluorine Strong Bases and Tails	9 Ne Noble Advertising Signs	10 Na Noble Light Bulbs	11 Mg Magnesium Light Bulbs	12 Al Aluma Airplanes	13 Si Silicon Glass	14 P Phosphorus Fertilizer	15 S Sulfur Matches	16 Cl Chlorine Swimming Pools	17 Ar Argon Light Bulbs	18 He Helium Balloons
19 K Potassium Salt	20 Ca Calcium Teeth	21 Sc Scandium Scissors	22 Ti Titanium Bicycles	23 V Vanadium Aeroplane	24 Cr Chromium Black Printer Ink	25 Mn Manganese Stainless Steel	26 Fe Iron Earth Movers	27 Co Cobalt Bicycle Chains	28 Ni Nickel Magnets	29 Cu Copper Guitar Strings	30 Zn Zinc Money	31 Ga Gallium Burton Lotions	32 Ge Germanium LED Displays	33 As Arsenic Camera Lenses	34 Se Selenium Poison	35 Br Bromine Printers	36 Kr Krypton Photography Film
37 Rb Rubidium Night Vision Goggles	38 Sr Strontium Computer Screens	39 Y Yttrium Microscopes	40 Zr Zirconium Chemical Processes	41 Nb Niobium Mag Lev Trains	42 Mo Molybdenum Cutting Tools	43 Tc Technetium Radio Active Diagrams	44 Ru Ruthenium Electrical Relays	45 Rh Rhodium Finishes for Jewelry	46 Pd Palladium Concert Flutes	47 Ag Silver Silubhra	48 Cd Cadmium Ventilators	49 In Indium Power Tools	50 Sn Tin Liquid Crystal Displays (LCD)	51 Sb Antimony Flame Retardants	52 Te Tellurium Volcanic Rubber	53 I Iodine Glacial Acetic Acid	54 Xe Xenon Used to Coat Windows
55 Cs Cesium Atomic Clocks	56 Ba Barium Spark Plugs	57-71 RARE EARTH LANTHANIDE METALS	72 Hf Hafnium Submarine Engines	73 Ta Tantalum Mobile Phones	74 W Tungsten 3D Printing Nozzles	75 Re Rhenium Engine Valves	76 Os Osmium Fuel Cell Testing	77 Ir Iridium Weight Scales	78 Pt Platinum Pacemakers	79 Au Gold Pacemakers and Stents	80 Hg Mercury Barometers	81 Tl Thallium Toxicology	82 Pb Lead Batteries	83 Bi Bismuth Superconductors	84 Po Polonium Anti-static Brushes	85 At Astatine Thermal Cores	86-103 RARE EARTH LANTHANIDE METALS
87 Fr Francium Cancer Treatment	88 Ra Radium Luminous Watches	89-103 ACTINIDE METALS	104 Rf Rutherfordium Radioactive	105 Db Dubnium Radioactive	106 Sg Seaborgium Radioactive	107 Bh Bohrium Radioactive	108 Hs Hassium Radioactive	109 Mt Meitnerium Radioactive	110 Ds Darmstadtium Radioactive	111 Rg Roentgenium Radioactive	112 Cn Copernicium Radioactive	113 Nh Nihonium Radioactive	114 Fl Flerovium Radioactive	115 Mc Moscovium Radioactive	116 Lv Livermorium Radioactive	117 Ts Tennessine Radioactive	118 Og Oganesson Radioactive
119 La Lanthanum Telescopes	120 Ce Cerium Catalysts	121 Pr Praseodymium Lasers	122 Nd Neodymium Neodymium	123 Pm Promethium Night Light	124 Sm Samarium Magnetic Cores	125 Eu Europium Fluorescent Lamps	126 Gd Gadolinium MRI Contrast Agents	127 Tb Terbium Solar Panels	128 Dy Dysprosium Solar Sensors	129 Ho Holmium Eye Lasers	130 Er Erbium Fiber Optics	131 Tm Thulium Eye Lasers	132 Yb Ytterbium Thermal Cores	133 Lu Lutetium Thermal Cores	134 Ac Actinium Radioactive	135 Th Thorium Nuclear Reactors	136 Pa Protactinium Nuclear Reactors
137 U Uranium Used to Power Submarines	138 Np Neptunium Nuclear Reactors	139 Pu Plutonium Nuclear Reactors	140 Am Americium Nuclear Reactors	141 Cm Curium Nuclear Reactors	142 Bk Berkelium Nuclear Reactors	143 Cf Californium Nuclear Reactors	144 Es Einsteinium Nuclear Reactors	145 Fm Fermium Nuclear Reactors	146 Md Mendelevium Nuclear Reactors	147 No Nobelium Nuclear Reactors	148 Lr Lawrencium Nuclear Reactors	149 Uu Ununium Nuclear Reactors	150 Uub Ununbium Nuclear Reactors	151 Uut Ununtrium Nuclear Reactors	152 Uuq Ununquadium Nuclear Reactors	153 Uup Ununpentium Nuclear Reactors	154 Uuh Ununhexium Nuclear Reactors

LEGEND

- Alkali Metals
- Alkali Earth Metals
- Transition Metals
- Post-Transition (or Other Metals)
- Metalloids
- Non-Metals
- Halogens
- Noble Gases
- Rare Earth Lanthanide Metals
- Actinide Metals
- Super Heavy—Radioactive

Alloys are created when 2 or more metals are combined. Compounds are created when 2 or more non-metals are combined.

EXAMPLE OF A COMPOUND

Quick Lime = **Ca** (Verily) + **O** (Ozy) = **CaO** (Teeth)

Both Carbon and Oxygen are reactive nonmetals.

EXAMPLE OF AN ALLOY

White Wing = **White Gold** (Includes 58.5% gold, 22% copper, 8% zinc, 3% nickel, 4.5% silver and possibly other elements.)

Would you like a 24" x 36" poster of the Magical Elemental-Themed Periodic Table from The Magical Elements of the Periodic Table books? The best place to get a high quality poster size print is at <https://bit.ly/49QMxBT> It will look great on a classroom or kid's room wall.

I hope you enjoyed this sample



**The book is available in PDF and Soft Cover Formats.
Learn more about it at magicalptelements.com**

Sybrina Publishing

**If you love the book,
please spread the word to teachers,
home schoolers and anyone else who might enjoy it.**