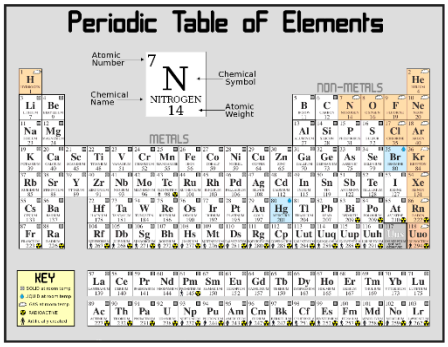
Pescadero Post

The Student Journal of Pescadero Middle/High School

Volume 2, Number 2 ***Chemical Element Edition*** ***April 2015***

Welcome to the second (6th grade) edition of the world famous Pescadero Post for the 2014-15 school year.



The Periodic Table of Elements & History

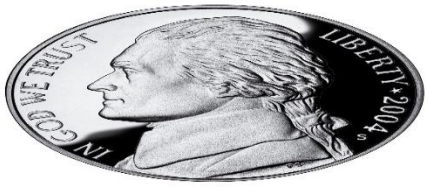
From the website of author Sam Kean:

"Why did Gandhi hate iodine (I, 53)? How did radium (Ra, 88) nearly ruin Marie Curie's reputation? And why is gallium (Ga, 31) the go-to element for laboratory pranksters?*

The Periodic Table is a crowning scientific achievement, but it's also a treasure trove of adventure, betrayal, and obsession. These fascinating tales follow every element on the table as they play out their parts in human history, and in the lives of the (frequently) mad scientists who discovered them. THE DISAPPEARING SPOON masterfully fuses science with the classic lore of invention, investigation, and discovery--from the Big Bang through the end of time.

**Though solid at room temperature, gallium is a moldable metal that melts at 84 degrees Fahrenheit. A classic science prank is to mold gallium spoons, serve them with tea, and watch guests recoil as their utensils disappear."*

Mr. Vail was so inspired by the history of the elements described in "The Disappearing Spoon" that he thought the 6th graders would benefit from studying the discovery, history, and uses of chemical elements. Enjoy!



Can you spare a Nickel?

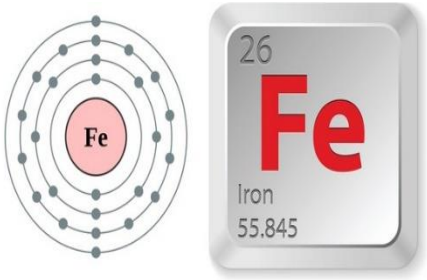
By Edith Sanchez

In 1751, Axel Fredrik Cronstedt discovered the nickel. The symbol of the nickel is Ni and the atomic number is 28. Some of the characteristics are that the nickel is hard, silvery-white metal and which is malleable. The nickel belongs to the transition metals. Also the nickel does not occur as Native metal. Pure nickel shows a significant chemical activity, which the nickel can be observed when nickel is powered to maximize the exposed surface area on which reactions can occur. Nickel is one of the four elements that are ferromagnetic around room temperature.

The nickel main minerals are sulfides, the silicates and the arsenides. The nickel can be used for many things as corrosion- resistant alloys, such as stainless. Copper nickel alloy is desalination plant. The proper name for the nickel is Nikolaus, compare English old nickel the devil.'' The nickel can also be used for household utensils such as silverware. The nickel is used in many specific ways. The Nickel is rarely found on Earth's surface.

The one cent coin in India is introduced in 1859. Whitish metal element, 1755,coin in 1754 by Swedish mineralogist Axel Von Cronstedt (1722-1765) from shortening of Swedish kopparnickel "copper-colored ore." Nickel was originally applied to the copper.

What we call a nickel, a five cent coin, is % nickel. Thomas Jefferson is on one side, and his house (which he designed) "Monticello" is on the other side. The nickel has more copper than a 75 cent coin because the nickel is the nickel.



Ironic!?

By Adriana Gonzalez

Believe it or not iron is awesome, Iron is the sixth most common element in the universe. Its great to consume iron but its bad if you consume too much of it. The symbol of Iron is (Fe), irons atomic number is 26. The Iron metal has been use since ancient times. The element iron occurs in meteoroids and other low oxygen environments. Fresh Iron surface appears lustrous silvery gray. Iron chemical compounds have many uses. Iron forms binary compounds with the halogens and the chalcogens.

Iron plays an important role in biology, forming complexes with molecular oxygen in hemoglobin and myoglobin. These two compounds are common oxygen transport proteins in vertebrates. Iron is also the metal at the active site of many important redox enzymes dealing with cellular respiration in plants and animals. The mechanical properties of iron and its alloy can be evaluated using a variety test including the Brinell test. Iron represents an example of allotropy in a metal.

As a molten iron cools it crystallizes at 1538 °C into its allotrope. There is at least four allotropic forms of iron known as α, γ, δ, and ε: at very high pressures. The data on iron is so consistent that is often used to calibrate measurements or to compare test. Pure iron is relatively soft because it is unobtainable by smelting. Iron oxides occupy more volume than the metal and thus flake off, exposing fresh surfaces for corrosion.

Neon

By Mckenzie Majors

Neon is a colorless and odorless element on the periodic table. When it is mixed with different types of glass and lighting it can become red, orange, blue, and even green. The name Neon comes from a greek word veov meaning "new". Neon is a chemically reactive gas. For special reasons Neon is a rare gas in our atmosphere. Neon has no true chemical compounds.

Neon was discovered and founded by William Ramsay and Morris Travers at the University college in the year 1898. Both of them knew that an element must sit between helium and argon on the periodic table of elements and they were wondering where would they find and how to make more of it's kind.

William Ramsay the discoverer of Neon found it by chilling a sample of air until it became a liquid, he then warmed the liquid and captured the gases as they boiled off. People after awhile knowing about the new element neon and, then wanted to tamper with it and found that it can change colors with the right materials. Neon got it actual title Neon on July, 1898.

Neon is most commonly used in signs at bars, clubs, and stores. It produces an unmistakable bright neon color. Also Neon is sometimes used in vacuum tubes, high voltage indicators. Both Neon gas and liquid are very expensive, Neon can only be obtained by air unlike helium.

The element Neon was found and discovered through the study of liquified air. Neon is also commonly found in stars. Neon is spelt the same way in six different languages. To get Neon to change different colors you need to change the type of glass you put it in. Finally you conduct different amounts of electricity and you get different colors. The biggest Neon sign is Vegas Vic and is in Las Vegas and is 40 feet tall.

- *The human body contains enough carbon to provide 'lead' (which is really graphite) for about 9,000 pencils.*

Aluminum is Everywhere

By Maegan Neidig

Aluminum was a difficult metal from the start. It was first extracted in pure form in 1825. Hans Christian Oersted was the first man to produce very small amounts of aluminum. Because of difficulties to obtain aluminum, it was considered more valuable than gold and silver. It costed around $1200 per kilogram in 1852 and in 1859 it's prices dropped to only around $40 per kilogram. A man named Friedrich Wöhler figured out a way to obtain aluminum. In 1845 he found a way to produce large enough amounts of aluminum to be able to figure out its main properties. In the 1880's aluminum became easier to obtain. Someone invented a new process for obtaining aluminum from aluminum oxide. As time went on, so did the discoveries of the ways of processing aluminum.

Aluminum is widely used across the globe today. Because it is recyclable, many people don't mind consuming aluminum products. Many use it for cooking and storing their food in aluminum foil. It also is used in construction. Many of the tools and projects are made out of aluminum. The building bridges, ladders, and railings all have aluminum. Do you have skylights in your house? If yes, chances are that they contain aluminum. Aluminum is also in anti perspirant. The allnew 2015 Ford F-150 pickup truck has an aluminum body. It weighs up to 700 pounds lighter than before because of the new lightweight parts.

Aluminum is found in many places, but that might not be such a great thing. Many people have said that it can cause Osteoporosis and Alzheimer's. It is even said that it could be a cause to cancer. When you wrap your food up in aluminum foil, and then unwrap it, some of the aluminums content could get in your food. When you buy a drink in an aluminum can, it may be cheaper, but some of the aluminum particles can get in your drink, then into your body. Products purchased in aluminum containers might not be what you want.

"Scientists believe in things, not in persons"
~Marie Curie

Mercury is Cool?

By Chris Lyles

There are many reasons why Mercury is cool. It is the only liquid metal at room temperature. Unlike iron or gold that has to be melted to be liquid Mercury just flows - which is cool. Mercury is so cool l that stuff with a density 7.6g/cm or less will float on it, because of combination of buoyant float and surface tension. If you don't like it liquid, you can freeze it at -38.83 ℃, or boils at 356.73 ℃.

Still not convinced? OK, well maybe all the cool things you can make out of it will change your mind. You wanna know the temperature of something? Boom, thermometer! And that's thanks to mercury. Mercury and its compounds are used for medicine. There's also an increasing amount of mercury in fluorescent lamps. And don't forget, it's used in liquid mirror telescopes. Swoosh!

Just so you know, its also extremely toxic. Pre-industrial deposition rates from the atmosphere is 4 ng, and 50% of emissions is from volcanoes. Unfortunately, it has been dumped in the oceans by humans, and now fish, like sharks and swordfish, have unusually concentrations of mercury in their bodies.

Finally, here are some other random facts. Mercury has been found in Egyptian tombs that date back to 1500 B.C.! In China and Tibet it was thought to prolong life, heal fractures. Qin Shi Huang allegedly buried rivers of mercury in his tomb. The place of discovery and date is unknown. It was found in temples of Chinese and Hindus before 2000 B.C. In Lamanai, an ancient Maya civilization they found a pool of mercury. The Greeks used it for ointments 'and Roman's used it in cosmetics. And the phrase "mad as a hatter" comes from the fact that hat makers used mercury in their work, and it made the crazy.

In conclusion, we know that Mercury is cool, it flows, and even has a cool pseudonym: Quicksilver. But while you can admire it, don't get it on you, or in you! Now, go tell your friends and stuff.

Antimony: The Not-Quite Metal

By Emerald Webb

Antimony is a unique element that was discovered around 3000 BC. It has 51 electrons and it's atomic number is 51, the mass of Antimony is 121.76 amu.

Antimony is a metal but does not have all of the characteristics of a metal. So it is classified as a metalloid or semi-metal. It has a silver coloring and is hard and brittle. Antimony and many of its other compounds are toxic.

Antimony can sometimes be found in the areas local metals. Some producers of the world are Russia, Bolivia and Tajikistan (in between Afghanistan, Uzbekistan, Kyrgyzstan, and China) China is the producer of 88% of the world's Antimony. The discoverer of Antimony is unknown.

The name Antimony comes from the Greek word "anti-monos" which means not alone. Kohl (an eye cosmetic made of Antimony) eventually became any reactive powder also is the word that *alkohol* originated from. Antimony was once used as a solution for healthy skin yet causes skin cancer and even death.

In ancient Egypt (4-5,000 years ago) Antimony was made into an eye cosmetic called Kohl. There was also an Egyptian vase made from antimony that was discovered. Antimony has been mentioned in a 16th century papyrus from Egypt. It was also used in medieval times as a pill, the pill, once used could and usually was, salvaged by the doctors (the same pill) to be reused on another patent.

Antimony is used in electronics, and batteries. It is also a catalyst to make CFCs, it is also added to finishes to add hardness and smoothness, and is sometimes used to make lead, plastic, and other chemicals harder.

The melting point of Antimony is 630.63 °C and the boiling point is 1587 °C. Antimony can also be made into bullets. When cooled, antimony sings, or crys depending on how you listen.

"We think there is color, we think there is sweet, we think there is bitter, but in reality there are atoms and a void." ***DEMOCRITUS, 460-370***

Pass the Salt

By Darlene Corona

Sodium was discovered in 1807 by Sir Humphry Davy. The place that he discovered it at was England. Until the 18th century ne distinction was made between potassium and sodium. The symbol of sodium is Na. Sodium belongs to group 1 that is alkaline metals. Sodium is the sixth most abundant element in the earth's crust. The most important sodium salts found in nature are sodium chloride and sodium carbonate. The production of salt is around 200 million tons per year; this huge amount is mainly extracted from salt deposits by pumping water down boreholes to dissolve it and pumping up brine. The sun and many other stars shine with visible light in which the yellow component dominates and this is given out by sodium atoms in a high energy state.

Sodium has been used as a form of currency, medical treatments, and trade product for thousands of years. Typical fire extinguishers are ineffective on sodium fires and can actually increase the emergency. Sodium is a soft, silvery white metal. It is soft enough to cut with the edge of a coin. Sodium chloride exists in the ocean water in enormous amounts, occurring equally in great halite deposits formed by the evaporation of prehistoric seas, or still in dry salted lake beds. Sodium is required for nerve and muscle functioning. Too much sodium can damage our kidneys and increases the chances of high blood pressure. Contact of sodium with water, including perspiration causes the formation of sodium hydroxide fumes, which are highly irritating to skin, eyes, nose and throat.

Did you know that sodium itself is explosive? Combined with chlorine, it's table salt. That's sodium for you, a wild and wooly element that reacts easily and mixes with other elements to make some of the most common substances in daily life. When mixed with water, sodium reacts spectacularly. The combination produces sodium hydroxide, hydrogen gas and heat. The heat is so intense that it ignites the hydrogen gas, creating an impressive explosion. Scientists have even caught this reaction on high speed video, capturing the blast and explaining why the reaction happens so quickly. It turns out that when the water and sodium first combine, the sodium releases electrons negatively charged particles leaving the element in a positively charged state.

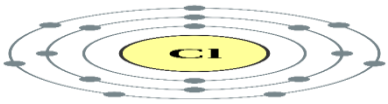
Have a Banana!

By Sebastian Lopez

This article is about the element Potassium. Potassium is a very important element because we need it to survive. It is an electrolyte. Potassium is important for muscle function, and gets lost in sweat. Sports drinks contain potassium so active people stay energized. Potassium is also naturally found in bananas, avocados, and other foods. It dissipates lactic acid build up, thus athletes need it.

Most industrial chemical applications of potassium employ relatively high solubility in water of potassium compounds, such as potassium soaps. Potassium metal has only a few special applications, being replaced in most chemical reactions with sodium metal. BTW, the symbol is K, and the electron configuration is 4s1.

Potassium ions are necessary for the function of all living cells. Potassium ion diffusion is a key mechanism in nerve transmission, and potassium depletion in animals, including humans, result in various cardiac dysfunctions. Potassium accumulates in plant cells, and thus fresh fruits and vegetables are good dietary source of it. It was discovered by Sir Humphry Davy in England in 1807. Now go eat a banana!



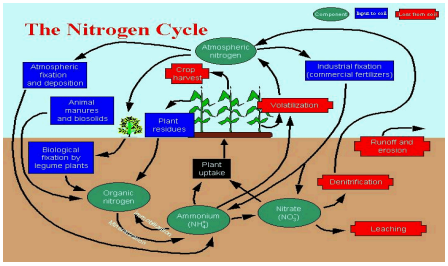
Chlorinated!

By Jennifer Garcia

The element I chose is Chlorine because I think it is an interesting element. The symbol of chlorine is Cl, and its atomic number of chlorine is 17. It was discovered by Carl Wilhelm Scheele in the year 1774.

Chlorine is fascinating because even though it is poisonous and has even been used as a weapon, Chlorine has probably saved more lives than any other element. Chlorinating water, thus purifying it, has made water safe to drink for millions of people. But it's only good in small amounts when it kills bacteria. While Chlorine has purified water, certain compounds have also contaminated water. And of course bleach, which is toxic, is made from chlorine.

About 20% of chlorine produced is used to make PVC (poly vinyl chloride), a common plastic material used for pipes, parts, and other manmade products. In fact, chlorine has many industrial purposes and is a very useful element. It is a dangerous friend.



Breath Nitrogen?

By Yahir Gomez

Nitrogen is number 7 in the Periodic Table of Elements. The symbol is N. The atomic mass is 14.00674. The melting point is -209.9°C (63.250008 K, -345.81998°F). The number of Neutrons/Protons/Electron it has is 7!

I know you think you breathe oxygen, and yes it's important, but when you take a breath most of that air is nitrogen. In fact, every breath of air is approximately breath in 78 % nitrogen and only 21% oxygen. Almost 99% of the mass of the human body is made up of six elements: oxygen, carbon, hydrogen, nitrogen, calcium, and phosphorus. Only about 0.85% is composed of another five elements: potassium, sulfur, sodium, chlorine, and magnesium but that is not all 3.2% of nitrogen is in your body.

Plants love it… In addition to nitrogen occurring as atmospheric dinitrogen gas in soil pore spaces, nitrogen occurs in both organic and inorganic forms in the soil. In soil (N) nitrogen, (P) phosphorus, (K) potassium this helps the plants rapidly grow it also give it nutrients and increase the seeds and fruit production.

Finally, it has many interesting uses. Liquid nitrogen is used by dermatologiests to burn off warts. And Nitrous Oxide is an important compound. It is known as laughing gas in the dentist's office, and NOS on the car racing tracks and rocket launching pads. It's all around, enjoy it.

Hydrogen

By Jacqueline Nabor

Hydrogen (in spite of what other kids might think) is the most important element. Not only is it number one on the periodic table of elements, but 90% of the universe is made of Hydrogen. While used by Robert Boyle, it was discovered by Henry Cavendish in 1766. Hydrogen Gas (hydrogen or Molecular hydrogen) is highly flammable and will burn in air at a very wide range of concentrations between 4% and 75% by volume. Most importantly Hydrogen combines with oxygen to make water.

Phosphorescence

By Jazmin Negrete

Mr. Vail stuck me with this element, but wanted to do silver or gold, you know, something with bling! But other kids got to pick first, so I'm supposed to tell you something about phosphorus. It does have a couple cool features. For starters, it glows in the dark. Phosphorescence even means that it glows! Some animals that glow, like ones that live at the bottom of the sea, do so with phosphorescence.

Another use of phosphorus is in plant fertilizer. In fact, the "P" in NPK is phosphorus. Phosphorus is never found as a free element on Earth. It exists in two major forms white phosphorus and red phosphorus. Phosphorus is not found free in nature, but it is widely distributed in many minerals, and mainly phosphates. The term "phosphorescence", meaning glow after illumination, originally derives from this property of phosphorus

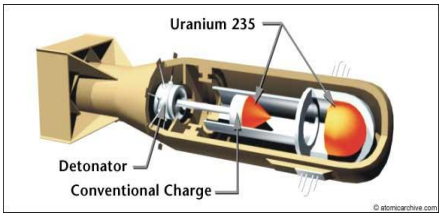
The glow of phosphorus itself originates from oxidation of the white (but not red) phosphorus. White phosphorus glows in the dark when exposed to damp air in a process known as chemiluminescence. White phosphorus has to be treated with care. This glow is created by the special way phosphors use the energy from UV light

What is Calcium?

By Olivia Prigan

Calcium is a chemical element with symbol Ca, atomic number of 20. Calcium is a soft grey metal alkaline earth metal, fifth-most-abundant element by mass in the Earth's crust. It properties are: Oxidation: used as deoxidizer in steel. Flammability: when heated in air it will ignite. Calcium is not naturally found in its elemental state. Calcium occurs common in sedimentary rocks. In the minerals Calcite, Dolomite,and Gypsum. It occurs in igneous and metamorphic rocks too. The man who discovered Calcium was Sir Humphry Davy, and he discovered it in the year 1808. He had also discovered Barium, Potassium, Sodium, and Boron.

Literature dating back to 975 AD notes that plaster of Paris (calcium sulfate), is useful for setting broken bones. It was not isolated until 1808 in England when Sir Humphry Davy electrolyzed a mixture of lime and mercuric oxide..



The Magic of Uranium

By Montserrat Ramirez Macias

Once upon a time there lived a person named Martin Heinrich, he was a German scientist. He was the scientist who found the element Uranium in 1789. This element was a special element because it could be used to make deadly weapons, most likely bombs. An example of a time a uranium bomb was dropped was in 1945 when the U.S.A. decided to drop a 9,700 pound bomb over Japanese in Hiroshima city. After that day they had named that explosion "Little Boy" because it was not big but it did manage to take lives though.The element got it's name from the planet Uranus because it sounded like a good name. He was going to name it after himself, but they thought why not name it after the last planet and that is how uranium got it's name.

Uranium is very dangerous because of what the military can use it for but it also can be helpful in a way. My first example is that uranium can be used in nuclear power plants in 2014 many people were told in all different countries that they were using more than 434 nuclear power plants.This would help them because power plants they help make electricity and that powers t.v or heaters and more things that we use. This is why the element uranium is very important to power plants and to the military.The military can use this as a dangerous weapon but it helps them and us at the same time because they are fighting for our country. But because they are fighting for our country they have to use bombs, bullets, and etc.

In conclusion, Uranium is a very interesting element because it can be used in two different ways, a good way,and a bad way.The good way is they help make electricity and thanks to this element we have electronicas,they also help run power plants which is also important to use.A way that they can use it as a bad way is when the military uses it they use it for war and sadly this element gives job to people that work in places where they use uranium.But it can also take a life or millions of lives but this is a reason why uranium is very interesting.

Silicon's Valley?

by Lizbeth Hernandez

You've heard of Silicon Valley, but what do you know about silicon? Silicon is a chemical element with symbol Si and atomic number 14. It is a tetravalent metalloid, more reactive than germanium, the metalloid directly below it in the table. Controversy about silicon's character dates to its discovery; it was first prepared and characterized in pure form in 1823. In 1808, it was given the name silicium (from Latin: *silex*, hard stone or flint), with an -ium word-ending to suggest a metal, a name which the element retains in several non-English languages. However, its English name, suggested in 1817, reflects the more physically similar elements carbon & boron.

Silicon is the eighth most common element in the universe by mass, but very rarely occurs as the pure free element in nature. It is most widely distributed in dusts, sands, planetoids, and planets as various forms of silicon dioxide (silica) or silicates. Over 90% of the Earth's crust is composed of silicate minerals, making silicon the second most abundant element in the Earth's crust (about 28% by mass) after oxygen.

Most silicon is used commercially without being separated, and indeed often with little processing of compounds from nature. These include direct industrial building-use of clays, silica sand and stone. Silicate goes into Portland cement for mortar and stucco, and when combined with silica sand and gravel, to make concrete. Silicates are also in whiteware ceramics such as porcelain, and in traditional quartz-based soda-lime glass and many other specialty glasses. More modern silicon compounds such as silicon carbide form abrasives and high-strength ceramics. Silicon is the basis of the widely used synthetic polymers called silicones.

Elemental silicon also has a large impact on the modern world economy. Although most free silicon is used in the steel refining, aluminum-casting, and fine chemical industries (often to make fumed silica), the relatively small portion of very highly purified silicon that is used in semiconductor electronics (<10%) is perhaps even more critical. Because of wide use of silicon in integrated circuits, the basis of most computers, a great deal of modern technology depends on it.

Oxygen Saves Lives

By Nakshli Prasad

If it weren't for oxygen we would all be dead as we know it. Oxygen is what we breathe. Its makes up about 21% of our atmosphere. Free oxygen produced by light driven splitting of water during oxygenic photosynthesis. Pure low pressure O2 is used in space suits. You can only breathe in 21% of oxygen it could cause seizures and loss of field view. Also plants exhale oxygen allowing animals and humans life. It was discovered by Carl Wilhelm Scheele.

It is a major ingredient for H20, also known as water. It made of one single oxygen atom and two hydrogen atoms. H2o can be clouds, seawater icebergs

It is also used in medicine for respiration. Oxygen is essential to purpose of respiration. Oxygen therapy is used to treat emphysema, pneumonia. They use oxygen in scuba suits submarines and space suits. Some uses for oxygen is making metal, acids, some companies use oxygen for rocks. Oxygen companies a fifth of air volume, ⅔ of human body, and 87% of water. In conclusion these are some reasons why oxygen saves lives

Arsenic Kills

By Ernesto Macias

Arsenic was identified by the German alchemist Albertus Magnus around 1250 AD. Arsenic was used by ancient Asians, Egyptians, Greeks, Romans and Chinese. The symbol of Arsenic is: AS, Atomic number: 33, Mass: 74.9216 amu. Scientists made tests of Arsenic, they figured that arsenic can be dangerous, and that it doesn't come from one thing that it also comes from many things.

Arsenic has two solid modifications: yellow, and grey or metallic. The element is a steel grey, very brittle, crystalline, semi metallic solid. It occurs in large quantities in the earth's crust. The arsenic also came from the rusty water fountains that people don't use anymore.

In the earlier times criminals would use poison arsenic to harm people. The poisoning from arsenic comes from groundwater that contains high concentrations. In 2007, scientists found that 137 million people in more than 70 countries people were affected by the poison arsenic getting into the drinking water.

The Uses of Silver

By Cristina Navarrete

Silver is valuable, but it doesn't come close to the value of gold. In fact, it is kind of gold's poor step-sister in the jewelry business. However, it has a long and interesting history.

There have been silver rushes, silver mines, and silver towns throughout the world. For example it has been found in Athens, Greece, United States of America, British Columbia, and Spokane, Washington.

Silver halide is used in photographic film, also including graphic art film and paper. Where silver halide crystals in gelatin are coated on to a film base. You can collect the silver in photographic processing solutions using silver-recovery equipment or send the solutions off-site for recovery.

Silver as medicine is sort of fascinating because when a person holds a coin it takes out the bacteria from your hands. Also, Hippocrates, "the father of medicine" knew of its healing and anti-disease properties. The FDA approved a breathing tube with a fine coating of silver, after it was established that it reduced the risk of ventilator-associated pneumonia. And that's just one example of why many roles of silver is being used every day.

The periodic table of the chemical elements displays the organizing principles of matter. The table is a tabular depiction of the chemical elements and their characteristics. Russian chemist Dmitri Mendeleev is generally credited with the invention of the periodic table. The layout of the table has been refined and extended over time, as new elements have been discovered and new theoretical models have been developed to explain chemical behavior. (from ACS.org)

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"Every aspect of the world today – even politics and international relations – is affected by chemistry."

LINUS PAULING

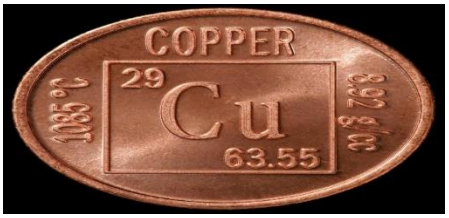
History of Helium

By Stephanie Jimenez

Helium is a gas and it is considered a noble gas. Helium was discovered in 1868 by an astronomer named Pierre Jules Cesar Janssen. He was a French astronomer and he noticed a yellow line in the sun's spectrum while he was studying a eclipse that day. An English astronomer named Norman Lockyer also thought that the spectrum of yellow and other colors was not a noble gas known at that time so it was studied and was later known as helium.

Helium got the name helium after the Greek god Helios the god of the sun. Helium is the lightest noble gas out of all the gases and it is number 2 and a very common gas. Helium has many purposes one of the main purposes it's used for is to blow up balloons, blimps, compressed air tanks, and lasers and also for rocket fuel.

Helium is fun to play with. Many kids always suck up the helium from a balloon and it makes their voices higher. Helium is considered harmless to people. The helium is an important gas that we need for things that we use today.



Hey Copper

By Filo Ruiz Ortiz

There are many different things about copper like that is atomic number is 29 or thats it is a chemical element. It is a ductile metal with a very thermal and electrical conductivity. The metallic bonds are lacking a covalent character and relatively weak. Copper does not react to water but does react to atmospheric oxygen. A green layer copper carbonate on old statues.

Copper is used in electrical wire, roofing and plumbing, and industrial machinery. The compounds in copper are used wood preservative. Because it's biostatic it is used to line boats to protect from barnacles and muscle. Copper was one of the earliest elements known to man. At one time, it could be found lying on.the ground in its native state or uncombined state.

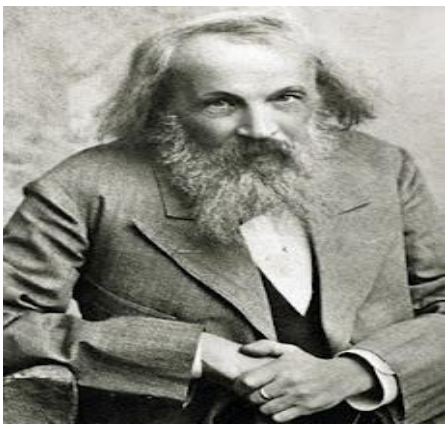
Copper's distinctive red color made it easy to identify. Early humans used copper for many purposes, including jewelry, tools, and weapons. Copper is a transition metal, one of several elements found in rows 4 through 7 between Groups 2 and 13 in the periodic table. The periodic table is a chart that shows how chemical elements are related to each other. Next time, I'll cover metallurgy, the Statue of Liberty, and pennies (like I was supposed to)...

Carboniferous

By Thomas Ayres

Carbon is very important to life on Earth because it must be present in any organic life matter. It is a building block of life, and without it life would not exist. Carbon is important because it can be used to make many things. Pencil lead, charcoal, and drill bits are just a few examples of what carbon makes up. It is nonmetallic and tetravalent making four electrons available to form covalent chemical bonds. Carbon has the ability to form c-c bonds. This property is called catenation c-c bonds are strong and stable.

Carbon is the fourth most abundant chemical element in the universe by mass after hydrogen, helium, and oxygen. Carbon is abundant in the sun, stars, comets, and in the atmosphere of most plants. The English name carbon comes from the *carbo* for coal and charcoal, whence also comes for the French *charbon*, meaning charcoal. In 1772, Antoine Lavoisier showed that diamonds are a form of carbon, when he burned samples of charcoal and diamond and found that neither produced any water and that both released the same amount of carbon dioxide per gram. Whether carbon is important to diamonds or life forms it is super worthwhile!



Dmitri Mendeleev

From FamousScientists.org

At the heart of chemistry were its elements. What, wondered Dmitri Mendeleev, a Siberian scientist, could they reveal to him if he could find some way of organizing them logically?

He wrote the names of the 65 known elements on cards – much like playing cards – one element on each card. He then wrote the fundamental properties of every element on its own card, including atomic weight. He saw that atomic weight was important in some way – the behavior of the elements seemed to repeat as their atomic weights increased – but he could not see the pattern.

Convinced that he was close to discovering something significant, Mendeleev moved the cards about for hour after hour until finally he fell asleep at his desk.

When he awoke, he found that his subconscious mind had done his work for him! He now knew the pattern the elements followed. It took him only two weeks to publish *The Relation between the Properties and Atomic Weights of the Elements*. The Periodic Table had been unleashed on the scientific world.

The reason Mendeleev became the leader of the pack was probably because he not only showed how the elements could be organized, but he used his periodic table to:

- Propose that some of the elements, whose behavior did not agree with his predictions, must have had their atomic weights measured incorrectly.
- Predict the existence of eight new elements. Mendeleev even predicted the properties these elements would have.

It turned out that chemists *had* measured some atomic weights incorrectly. Mendeleev was right! Now scientists everywhere sat up and paid attention to his periodic table.

And, as new elements that he had predicted were discovered, Mendeleev's fame and scientific reputation were enhanced further. In 1905, the British Royal Society gave him its highest honor, the Copley Medal, and in the same year he was elected to the Royal Swedish Academy of Sciences. Element 101 is named Mendelevium in his honor.

Source:
http://www.famousscientists.org/dmitri-mendeleev/

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