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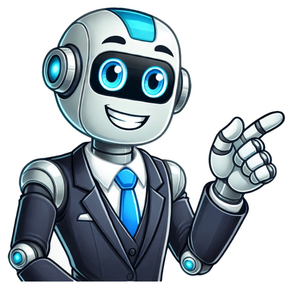

Science Earth Science, Geologic Time & Fossils Earth Sciences What is copper and where can it be found naturally? What are some common uses of copper in everyday life? Why is copper considered to be a good conductor of electricity? What are the physical properties of copper that make it unique? copper (Cu), chemical element, a reddish, extremely ductile metal of Group 11 (Ib) of the periodic table that is an unusually good conductor of electricity and heat. Copper is found in the free metallic state in nature. This native copper was first used (c. 8000 bce) as a substitute for stone by Neolithic (New Stone Age) humans. Metallurgy dawned in Mesopotamia as copper was cast to shape in molds (c. 4000 bce), was reduced to metal from ores with fire and charcoal, and was intentionally alloyed with tin as bronze (c. 3500 bce). The Roman supply of copper came almost entirely from Cyprus. It was known as aes Cyprium, “metal of Cyprus,” shortened to cyprium and later corrupted to cuprum. See also bronze.Element Propertiesatomic number29atomic weight63.546melting point1,083 °C (1,981 °F)boiling point2,567 °C (4,653 °F)density8.96 at 20 °C (68 °F)valence1, 2electron configuration2-8-18-1 or (Ar)3d104s1 copperCopper from the Keweenaw Peninsula, Michigan, U.S.Native copper is found at many locations as a primary mineral in basaltic lavas and also as reduced from copper compounds, such as sulfides, arsenides, chlorides, and carbonates. (For mineralogical properties of copper, see the table of native elements.) Copper occurs combined in many minerals, such as chalcocite, chalcopyrite, bornite, cuprite, malachite, and azurite. It is present in the ashes of seaweeds, in many sea corals, in the human liver, and in many mollusks and arthropods. Copper plays the same role of oxygen transport in the hemocyanin of blue-blooded mollusks and crustaceans as iron does in the hemoglobin of red-blooded animals. The copper present in humans as a trace element helps catalyze hemoglobin formation. A porphyry copper deposit in the Andes Mountains of Chile is the greatest known deposit of the mineral. By the early 21st century Chile had become the world’s leading producer of copper. Other major producers include Peru, China, and the United States. Kitwe: open-pit copper mineOpen-pit copper mine, Kitwe, Zambia.Copper is commercially produced mainly by smelting or leaching, usually followed by electrodeposition from sulfate solutions. For a detailed treatment of the production of copper, see copper processing. The major portion of copper produced in the world is used by the electrical industries; most of the remainder is combined with other metals to form alloys. (It is also technologically important as an electroplated coating.) Important series of alloys in which copper is the chief constituent are brasses (copper and zinc), bronzes (copper and tin), and nickel silvers (copper, zinc, and nickel, no silver). There are many useful alloys of copper and nickel, including Monel; the two metals are completely miscible. Copper also forms an important series of alloys with aluminum, called aluminum bronzes. Beryllium copper (2 percent Be) is an unusual copper alloy in that it can be hardened by heat treatment. Copper is a part of many coinage metals. Long after the Bronze Age passed into the Iron Age, copper remained the metal second in use and importance to iron. By the 1960s, however, cheaper and much more plentiful aluminum had moved into second place in world production.Copper production and reservescountry mine production 2016 (metric tons)* % of world mine production demonstrated reserves 2016 (metric tons)* % of world demonstrated reserves *Estimated. **Because of rounding, details do not add up to total given. Source: U.S. Department of the Interior, Mineral Commodity Summaries 2017. Chile 5,500,000 28.4 210,000,000 29.2 Peru 2,300,000 11.9 81,000,000 11.3 China 1,740,000 9.0 28,000,000 3.9 United States 1,410,000 7.3 35,000,000 4.9 Australia 970,000 5.0 89,000,000 12.4 Congo (Kinshasa) 910,000 4.7 20,000,000 2.8 Zambia 740,000 3.8 20,000,000 7.4 Canada 720,000 3.7 11,000,000 1.5 Russia 710,000 3.7 30,000,000 4.2 Mexico 620,000 3.2 46,000,000 6.4 other countries 3,800,000 19.6 150,000,000 20.8 world total 19,400,000** 100** 720,000,000 100** copper cablesCopper electrical cables. Because of copper's high electrical conductivity, it is heavily used in the electrical industry.Copper is one of the most ductile metals, not especially strong or hard. Strength and hardness are appreciably increased by cold-working because of the formation of elongated crystals of the same face-centred cubic structure that is present in the softer annealed copper. Common gases, such as oxygen, nitrogen, carbon dioxide, and sulfur dioxide are soluble in molten copper and greatly affect the mechanical and electrical properties of the solidified metal. The pure metal is second only to silver in thermal and electrical conductivity. Natural copper is a mixture of two stable isotopes: copper-63 (69.15 percent) and copper-65 (30.85 percent). Because copper lies below hydrogen in the electromotive series, it is not soluble in acids with the evolution of hydrogen, though it will react with oxidizing acids, such as nitric and hot, concentrated sulfuric acid. Copper resists the action of the atmosphere and seawater. Exposure for long periods to air, however, results in the formation of a thin green protective coating (patina) that is a mixture of hydroxocarbonate, hydroxosulfate, and small amounts of other compounds. Copper is a moderately noble metal, being unaffected by nonoxidizing or noncomplexing dilute acids in the absence of air. It will, however, dissolve readily in nitric acid and in sulfuric acid in the presence of oxygen. It is also soluble in aqueous ammonia or potassium cyanide in the presence of oxygen because of the formation of very stable cyano complexes upon dissolution. The metal will react at red heat with oxygen to give cupric oxide, CuO, and, at higher temperatures, cuprous oxide, Cu2O. It reacts on heating with sulfur to give cuprous sulfide, Cu2S. Facts You Should Know: The Periodic Table Quiz Loading.. Date Open Close Daily High Daily Low Price change over selected period: 0% 0 Copper, chemical symbol Cu, is a shiny, red-orange metal that has a wide range of applications. The price of copper is primarily driven by the availability of substitutes, the global supply and demand ratio, and emerging markets such as India and China. The most important trading venues for copper are the London Metal Exchange, New York Mercantile Exchange (COMEX), and the Shanghai Futures Exchange. (read more) Business Insider 07/21/25 Business Insider 07/21/25 Business Insider 07/18/25 Business Insider 07/17/25 Copper is at the core of the American economy. It’s in the wires of our pervasive electronics, in the walls of homes and in the engines of cars. Experts say President Donald Trump’s plan for tariffs on the red metal could stymy the goal of boosting American manufacturing while potentially igniting inflation. Trump’s July 8 announcement of a 50% tariff on copper imports beginning August 1 sent prices surging 13% in one day, up to a record high of $5.69 per pound. It was the biggest single-day increase in copper prices on record going back to 1968, according to FactSet. And those prices could just be a sign of things to come. A 50% tariff would be a “massive tax on consumers of copper,” Ole Hansen, head of commodity strategy at Saxo Bank, said in a note. While Trump says his copper tariff is needed to spur domestic production due to national security concerns, there is no quick fix. The US imports over 50% of the copper it needs, primarily from South America, Hansen said, “with no clear path to improving that for years to come.” That’s because it takes almost 32 years, on average, from the discovery of mineable copper in the US to production, according to S&P Global Market Intelligence. And the end result of a big and fast copper tariff could simply be higher prices for many items, economists say. “A tariff-induced price premium risks making copper—and by extension, US manufacturing and infrastructure—materially more expensive,” Hansen said. Copper is highly conductive, making it a critical input for electrical and electronic products. Copper can be found in the chips in mobile phones, plumbing in houses and in the engines of cars. “This is a vital metal for everyday use,” Rob Haworth, senior investment strategy director at US Bank’s asset management group, told CNN. “You probably don’t go a day where you haven’t used something that has copper in it.” As Trump’s self-imposed August 1 tariff deadline approaches, businesses and investors don’t know what will happen in the wake of a massive tariff on a key component of the economy — let alone if the president will follow through with it at all, considering his history of backing off tariff threats. Copper is one of the most widely used metals in the world. The typical American-made car has over 50 pounds of copper, according to the Copper Development Association, a trade group. And the price of copper has been rising in recent years. The growing market for electric vehicles and the expansion of data centers thanks to the artificial intelligence boom have helped drive global demand for copper. Copper prices this year have smashed through previous records amid Trump’s threat of tariffs. Copper futures in New York have soared almost 39% this year, outpacing the S&P 500’s 6% gain, bitcoin’s 24% gain and gold’s 26% gain. Trump’s tariffs on metals, including steel and aluminum, are intended to bolster US supply chains. His administration also cited national security concerns for levying a tariff on copper. But an import tax on copper would raise production costs for manufacturers in industries including construction, electronic goods and automobiles, according to Grace Zwemmer, an associate economist at Oxford Economics. “All these tariffs raise costs and therefore injure downstream manufacturing,” Maurice Obstfeld, a professor of economics at UC Berkeley and member of former president Barack Obama’s council of economic advisers, told CNN. “For the US, this seems like a fairly pointless act of self-harm,” Obstfeld added. Businesses would face higher costs because there aren’t many viable substitutes for copper, according to Brandon Parsons, a practitioner of economics at Pepperdine Graziadio Business School. While aluminum can be a substitute, it is more flammable and does not have the same conductivity, making it less viable for using in items like semiconductor chips. “There isn’t really a good way for businesses or consumers to avoid these higher costs,” he said. “It’s going to be felt widespread through the economy.” Chile, Canada and Peru provided over 90% of US copper imports in 2024, according to the US Geological Survey. The United States in 2024 mined an estimated 1.1 million tons of copper, according to the US Geological Survey, meeting just under half of its consumption. Arizona was home to more than 70% of domestic copper production in 2024. Shifting economic incentives in the modern era and the opening of free trade have both contributed to a decline in US copper production, according to Pepperdine’s Parsons. The United States in recent decades has produced less copper as the global economy liberalized, enabling the country to import relatively cheap copper from countries like Chile and allowing the US economy to expand to other industries. Industrial buyers and Wall Street traders in recent months have shipped enormous amounts of copper to the United States to get ahead of potential tariffs. Morgan Stanley estimates 400,000 tons, or roughly six months’ worth of “extra” copper was front-loaded and delivered to the US in the early months of 2025. The copper stockpiles could “temporarily buffer” the market when tariffs go into effect, according to Ewa Manthey, a commodity strategist at Dutch bank ING. However, the buildup of copper won’t last forever, and it’ll be difficult for the US to produce enough copper domestically. At some point, the US will likely need to import more copper under the 50% tariff, which could risk a resurgence in inflation, Manthey said. “Higher copper prices also risk higher inflation, raising costs for US manufacturers without a domestic alternative available,” Manthey said. It remains to be seen whether companies will absorb the higher costs or pass the costs onto consumers in the form of higher prices, although economic theory suggests businesses would pass on higher costs to consumers when possible. Wall Street and corporate America have been expecting tariffs on copper — just not 50%. “Investors were caught off guard, as the market had been expecting a much lower tariff rate,” Adam Turnquist, chief technical strategist at LPL Financial, said in an email. Smaller tariff rates such as 10% can be used strategically to encourage domestic manufacturing, economists say. But a rate as high as 50% could send a shock to markets, even leading to a drop in demand because prices are just too high. That could lead to slower economic growth across industries, such as a lull in home building. Trump has espoused using tariffs as a means to boost US manufacturing. But tariffs are not a panacea that will revive the manufacturing industry, Pepperdine’s Parsons said. “The rationale for this is to encourage production and investment in copper in the United States,” Parsons said. “The issue is it’s not like producing water, where you just open up the faucet. It could take years and years to open up a new copper mine, or even to expand production. So, while this does provide some incentive, it’s something that’s more long-run. You’re going to feel the short-run pain.” Incentives like direct government subsidies or credits could promote domestic production of copper and fortify US supply chains, according to Parsons. While tariffs can help domestic companies sell more in the market, the higher prices can create unwanted ripple effects throughout the supply chain. Trump in February signed an executive order opening a Section 232 investigation into copper imports. That section of the 1962 Trade Expansion Act gives the president the authority to impose import duties to protect industries deemed vital to US national security. “The United States faces significant vulnerabilities in the copper supply chain, with increasing reliance on foreign sources for mined, smelted and refined copper,” the executive order said. A Section 232 investigation comes with a 270-day deadline for an investigation, which means the Trump administration had until November to complete its review of copper, according to ING’s Manthey. “There are many foreign suppliers of copper, including close allies like Canada, so a national security rationale seems contrived,” Berkeley’s Obstfeld said. Trump said in a social media post on July 9 confirming his intent to impose tariffs on copper that the metal is the second most-used metal in the Defense Department. But copper was not one of the 50 critical minerals designated by the US Geological Survey in 2022. The US Geological Survey is expected to publish an updated classification list for critical minerals this year. However, copper is considered a “critical material” for energy, according to the Energy Department. “The US has very limited current mining capacity,” Obstfeld said. “It will take a decade or more to onshore copper production substantially. That will still leave copper prices much higher in the US, and in the meantime, American consumers and businesses will suffer even more.” Close up of electrical engineer inspecting copper windings in an electrical engineering factory.The cost of copper for U.S. buyers has rocketed after President Donald Trump said he would impose a 50% tariff on imports of the metal.It means that already elevated prices are now even higher in the U.S. than elsewhere — and analysts warned of a hit to businesses and the wider U.S. economy as a result. The U.S. imports just under half of its copper, which is used in products ranging from machinery, electronics and household goods to housing and infrastructure projects. Trump's stated ambition is to increase domestic production, but experts say this will take years to ramp up and decades to fully meet demand — at a massive up-front investment cost.Traders have been poised for a presidential announcement on copper duties since February, leading to major shifts in inventories away from Europe and Asia and into the U.S.However, the rate and timing was unclear — and market participants say they remain so, given the ambiguity in official messaging this week, potential room for exemptions to be negotiated, and recent examples of swift policy changes from the White House. Commerce Secretary Howard Lutnick told CNBC Tuesday the duties would likely be implemented at "the end of July, maybe August 1." U.S. copper prices ended Tuesday's session over 13% higher — the sharpest single-day gain since 1989 — marking a record close of $5.69 per pound. On the London Metal Exchange (LME), the global benchmark, prices rose just 0.3%.It's a reflection of the unusually wide premium that's developing between U.S. copper and the metal elsewhere.As U.S. prices remain elevated despite larger-than-usual inventories, the gap in U.S. Comex futures over those on the LME has fluctuated between $500 and $1,500 since Trump announced a probe into copper in February. Historically, that rate has been near-zero, and was around the $150 level in 2024.Prices on the Shanghai Metals Market, meanwhile, have been similar to those on the LME.On Tuesday, the Comex-LME price premium soared by 138%, moving above $2,600 a tonne, according to London-based agency Benchmark Mineral Intelligence.By August, Benchmark said that U.S. consumers could be paying around $15,000 per metric ton for copper, while the rest of the world pays around $10,000, assuming the 50% tariff rate comes into effect at the start of the month.This huge discrepancy will start to have a major economic impact, Daan de Jonge, Benchmark's lead analyst for copper demand and prices, told CNBC."On household spending, if you're buying a new fridge, air conditioner, car, everything is going to get more expensive, and companies could reasonably be expected to pass that on," he said. Depending on the final baseline tariff rates, U.S. consumers could opt to buy goods produced more cheaply abroad due to that impact."If we're looking at public investment, U.S. debt has got more expensive, the dollar is declining, and now you're getting a major raw material cost increase for infrastructure investments ... I'd expect that to start showing employment effects."Another side effect may be that projects start to swap copper for cheaper aluminum, which in some cases can be used as a replacement, though it is heavier and more expensive to maintain in the long run, de Jonge said."All of this definitely enters the risk range of demand destruction," he noted.Obstacles to increasing domestic production include longstanding permitting delays for mining projects and the huge cost of opening new facilities, which would rely on current market dynamics persisting long into the future. "The question is, can America substitute imported products with domestically-made products, and how quickly?" Peter Chase, senior fellow at the German Marshall Fund, said Wednesday on CNBC's "Squawk Box Europe." Major sources of U.S. copper include Chile, Canada, Peru and Mexico."There's a reality that has to be dealt with, and the price of copper with a 50% tariff is not going to mean copper production in the U.S. goes through the roof tomorrow."Chase said U.S. consumers and businesses will feel an immediate impact, and it will likely hit the U.S.'s AI infrastructure build-out plans.Analysts at Citi, meanwhile, called Tuesday a "watershed moment for the copper market in 2025.""Imminent flagged tariff implementation should abruptly close the window for further significant U.S.-bound copper shipments (possibly for the rest of 2025)," they said in a Wednesday note, saying this would cause a pullback in ex-U.S. pricing.However, they do not expect the Comex-LME premium to reflect a full 50% tariff, given both the recent U.S. inventory build-up and the likelihood of key U.S. copper exporters eventually negotiating a lower rate — another possibility still hanging over the market. Copper is atomic number 29 with element symbol Cu.Copper is a reddish transition metal with atomic number 29 and element symbol Cu. The element symbol comes from the Latin name for the element, cuprum. Copper is one of the elements you encounter in nearly pure form in daily life in wire and pipes. These copper facts include chemical and physical data, general information, and trivia.Name: CopperAtomic Number: 29Element Symbol: CuAtomic Mass: 63.546(3)Group: 11Period: 4Block: d-blockElement Family: Transition MetalElectron Configuration: [Ar] 3d10 4s1Discovery: The first known use of copper dates back to 9000 BC in the Middle East. This is because the element sometimes occurs naturally in relatively pure form. The only metals used by man earlier than copper were gold and meteoric iron.Name Origin: The name “copper” is a corrupted form of the Latin word “cuprum,” which is in turn a corrupted form of the name “aes cyprium.” Aes cyprium means “metal of Cyprus” and refers to Roman copper mining on the island of Cyprus. The modern name for the element first came into use around 1530.Isotopes: There are 29 isotopes of copper. Only copper-63 and copper-65 are stable, with copper-63 accounting for about 69% of the naturally occurring element. The other isotopes are radioactive.Biological Role and Toxicity: Copper is an essential trace element in all living organisms. It plays a crucial role in enzymes, such as cytochrome c oxidase and superoxide dismutase. It is essential in hemoglobin and collagen formation. Copper deficiency causes anemia, neutropenia, and osteoporosis. While copper poisoning is rare, it causes liver and kidney damage and gastrointestinal distress. Copper is toxic to invertebrates and algae.Density: 8.96 g/cm3Melting Point: 1357.77 K (1084.62 °C, 1984.32 °F)Boiling Point: 2835 K (2562 °C, 4643 °F)State at 20ºC: SolidHeat of Fusion: 13.26 kJ/molHeat of Vaporization: 300.4 kJ/molMolar Heat Capacity: 24.440 J/(mol·K)Magnetic Ordering: DiamagneticCrystal Structure: Face-centered cubic (fcc)Mohs Hardness: 3.0Electron shell configuration for copper.Electronegativity: 1.90 (Pauling Scale)Atomic Radius: 128 pm (empirical data)Covalent Radius: 132±4 pmElectron Affinity: 140 pm1st Ionization Energy: 745.5 kJ/mol2nd Ionization Energy: 1957.9 kJ/mol3rd Ionization Energy: 3555 kJ/molOxidation States: The most common oxidation state is +2. Copper also has oxidation states of -2, +1, +3, and +4.Copper occurs in pure or native form. (Jonathan Zander)Copper is one of only a few metals that exists in relatively pure form in nature or in a native state. This is how it came to be worked by ancient man. Otzi the Iceman, who lived approximately 3300 BCE, was found with an axe that had a head consisting of nearly pure copper. His hair contained high levels of arsenic, a toxic element used in copper smelting.The color of copper is unique among the elements. Most metals have are silver or gray in color. Gold and a few other metals are yellow. Only copper has a reddish-metallic luster. Adding copper to other metals imparts a pink or red color. This is how rose gold is made.Copper has many uses. The pure metal is common in wiring. Brass (copper and zinc) and bronze (copper and tin) are two important copper alloys. Copper finds use in plumbing, coins, and cookware. When added to pool water, copper salts (not chlorine) discolor hair so it has a green tinge.Copper is essential for human nutrition, particularly for making blood cells. The element occurs naturally in most water supplies and in foods, such as potatoes, beans, leafy greens, and grains. Excess copper causes jaundice and anemia and may turn urine blue.While copper is essential for humans and other vertebrates, most invertebrates have a low tolerance for its salts. Copper is also naturally antibacterial. This is why metal door knobs made of brass or bronze reduce disease transmission. Copper is also toxic to algae.Copper is recyclable. About 80% of the copper mined to date remains in circulation. The metal is abundant in the Earth’s crust, found on average at a concentration of 50 parts per million. Copper ranks third, after iron and aluminum, in terms of metal used in the United States.While the most common oxidation state for copper is +2, the +1 state occurs in many compounds. One easy way to tell the ionization state of the element is via the flame test. Copper(II) turns a flame green, while copper(I) turns it blue.Like many transition metals near it on the periodic table, copper is ductile, malleable, an excellent conductor of heat and electricity, and corrosion resistant. It is relatively soft and eventually oxidizes to form green verdigris. Oxidation is the reason many brass and bronze statues turn green with age and while wearing inexpensive jewelry often causes a green skin discoloration.Most copper comes from copper sulfide ores. Large producers include Chile, the United States, Indonesia, and Peru.The price of copper is notoriously unstable. Its 60 year low was $0.60/lb ($1.32/kg) in 1999 and $4.63/lb in 2011.Learn more about elements on the periodic table.Davis, Joseph R. (2001). Copper and Copper Alloys. ASM International. ISBN 978-0-87170-726-0.Emsley, John (2003). Nature’s Building Blocks: An A–Z Guide to the Elements. Oxford University Press. ISBN 978-0-19-850340-8.Lossin, Adalbert (2001). “Copper”. Ullmann’s Encyclopedia of Industrial Chemistry. ISBN 9783527303854. doi:10.1002/14356007.a07_471Weast, Robert (1984). CRC, Handbook of Chemistry and Physics. Boca Raton, Florida: Chemical Rubber Company Publishing. ISBN 0-8493-0464-4.Related Posts Please enable Javascript in order to use PubChem website. Copper is relative inexpensive metal and widely used since old civilization. It is an excellent conductor of heat and electricity. Copper resist corrosion and is widely used in making various alloys. Discovery and History Copper has been known from prehistoric times and Neolithic humans used copper as stones as early as 8000 BCE. Copper was the first metal that was smelted from ores in 5000 BC and later used in pottery in North Africa. Early societies used it in place of gold and silver for making decorative items and ornaments [1]. Later, bronze which is an alloy of copper and tin was introduced between 3500 to 2500 BC in West Asia and Europe. In the Temple of King Sa’H-Re in Abusir, copper tubes for conveying water were used in 2750 BC. The name copper has been originated from Cyprium, which is Latin for metal of Cyprus. The term copper was introduced for the first time in 1530. The symbol of copper is Cu, derived from cuprum. Periodic Table ClassificationGroup 11 Period 4 State at 20CSolid ColorRed-orange metallic luster Electron Configuration[Ar] 3d10 4s1 Electron Number29 Proton Number29 Electron Shell2, 8, 18, 1 Density8.96 g.cm-3 at 20°C Atomic number29 Atomic Mass63.55 g.mol -1 Electronegativity according to Pauling1.90 Occurrence Copper is widely present in many parts of world in combined state and free state. In combined form it exit as chalcocite (sulfide mineral), chalcopyrite (copper +iron sulfide), bornite (copper+ iron ore), cuprite (oxide mineral), malachite (copper carbonate) and azurite (copper carbonate) [2]. It is also present in the ashes of sea weeds and in sea corals. Copper is also present in human liver. In invertebrates it is present in many mollusks and arthropods. Andes Mountains in Chile is the greatest known deposit of copper mineral. Other major producers are Peru, China and the United States. Commercially copper is produced through smelting, followed by electrodeposition from sulfate solutions. Physical characteristics Fresh Copper has pinkish color but soon convert into reddish orange color due to direct exposure with oxygen. Copper oxidizes in the air and exhibit green color that’s why roof of building looks green. Copper is flexible and soft due to which it can be stretched into wires easily [3]. Copper dissolve in a mixture of hydrogen peroxide and hydrochloric acid to form copper chloride. Copper’s atomic number is 29 and its atomic mass is 63.54g/mol. Its melting point is 1083oC and boiling point is 2595oC. Copper is very dense in nature its density at 20oC is 8.9 g/cm3. Copper is biostatic in nature that means no bacteria and other forms of life can grow on it. Various alloys of copper also have antimicrobial properties. Chemical characteristics Copper has low chemical activity, it slowly reacts with oxygen and form a layer of brown black copper oxide that protects the underlying metal from further corrosion. Copper compound exist in two oxidation state +1 and +2. +2 compounds are blue in color. +1 compounds are white in color. They are weak oxidizing agent. Copper (I) compounds are weak reducing agents they react with air and make copper (II) compounds. They are not dissolve in water. Copper (II) are stable in air than copper(I) compounds. Gases are soluble in molten copper helpful in mechanical and electrical properties of solidified metal. Copper forms many alloys by mixing with other metals, most common alloys are brass and bronze. Isotopes Copper has 29 isotopes 63Cu and 65Cu are stable in nature. Other isotopes are radioactive in nature, 67Cu has half-life 61.83 hours. Uses and significance Copper is frequently used in wires, as it is an excellent conductor of electricity [4]. Copper has been used in making sculpture, it was also used in the construction of Statue of Liberty. Copper is also used in photographic techniques. Copper is used as fungicide in agriculture. Copper is very important in countless types of electrical equipment. Electrical devices rely on copper wiring due to its inherent properties. Copper is corrosion resistant and present in weatherproof architectural materials. Various alloys of copper are widely used in making jewelry. Copper is used in textile industry for making of antimicrobial protective fabrics. In past, copper chloride has been used to treat fever, arthritis and sciatica. Dietary recommendations. U.S recommended dose of copper is about 1.4 to 2.1mg per kg body mass. Health effects Copper is helpful in facilitating iron uptake that’s why its deficiency can lead to anemia[3]. Too much copper in diet also cause various problems. Human get copper mostly in the form of food and vitamin supplements. Various genetic disorders can affect the ability of body to use copper properly. Intake of copper is helpful to prevent cardiovascular diseases and osteoporosis. Copper enables body to make red blood cells. References FranciumFrancium was discovered in 1939. It is very unstable alkali metal and considered the second… TennessineTennessine is a synthetic element that was discovered in 2010. It is highly radioactive and… PraseodymiumPraseodymium was discovered in 1841. It is strong paramagnetic in nature. It is widely used…