

NATIVE ELEMENTS

Native elements

Native element minerals are those elements that occur in nature in uncombined form with a distinct mineral structure. The elemental class includes metals and intermetallic elements, naturally occurring alloys, semi-metals and non-metals.

- Gold
- Silvery
- Copper
- Platina
- Sulphury
- Diamond
- Graphite

Elements such as



Gold

Gold is a chemical element with symbol Au (from Latin: aurum) and atomic number 79. In its purest form, it is a bright, slightly reddish yellow, dense, soft, malleable, and ductile metal. Chemically, gold is a transition metal and a group 11 element. It is one of the least reactive chemical elements and is solid under standard conditions. Gold often occurs in free elemental (native) form, as nuggets or grains, in rocks, in veins, and in alluvial deposits. It occurs in a solid solution series with the native element silver (as electrum) and also naturally alloyed with copper and palladium. Less commonly, it occurs in minerals as gold compounds, often with tellurium (gold tellurides).

Gold is also used in infrared shielding, colored-glass production, gold leafing, and tooth restoration. Certain gold salts are still used as anti-inflammatories in medicine. As of 2016, the world's largest gold producer by far was China with 450 tonnes



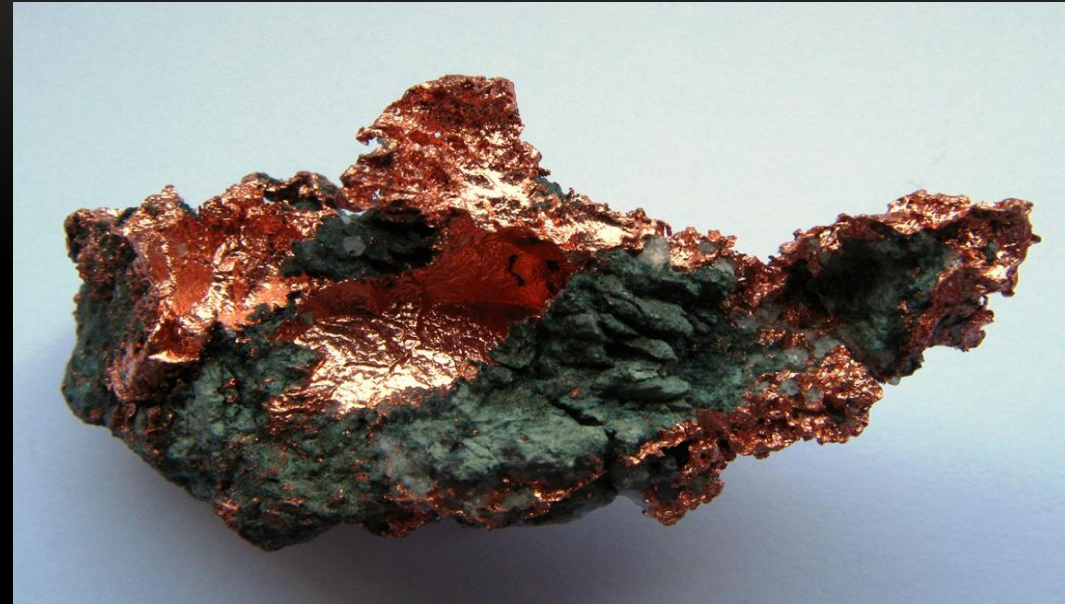
Silver

Silver is a chemical element with symbol Ag (from the Latin *argentum*, derived from the Greek *ἀργός*: "shiny" or "white") and atomic number 47. A soft, white, lustrous transition metal, it exhibits the highest electrical conductivity, thermal conductivity, and reflectivity of any metal. The metal is found in the Earth's crust in the pure, free elemental form ("native silver"), as an alloy with gold and other metals, and in minerals such as argentite and chlorargyrite. Most silver is produced as a byproduct of copper, gold, lead, and zinc refining.



Copper

Copper is a chemical element with symbol Cu (from Latin: cuprum) and atomic number 29. It is a soft, malleable, and ductile metal with very high thermal and electrical conductivity. A freshly exposed surface of pure copper has a reddish-orange color. Copper is used as a conductor of heat and electricity, as a building material, and as a constituent of various metal alloys, such as sterling silver used in jewelry, cupronickel used to make marine hardware and coins, and constantan used in strain gauges and thermocouples for temperature measurement. Copper is one of the few metals that occur in nature in directly usable metallic form. Copper is essential to all living organisms as a trace dietary mineral because it is a key constituent of the respiratory enzyme complex cytochrome c oxidase. In molluscs and crustaceans, copper is a constituent of the blood pigment hemocyanin, replaced by the iron-complexed hemoglobin in fish and other vertebrates. In humans, copper is found mainly in the liver, muscle, and bone.



Platinum

Platinum is a chemical element with symbol Pt and atomic number 78. It is a dense, malleable, ductile, highly unreactive, precious, silverish-white transition metal. Its name is derived from the Spanish term *platina*, meaning "little silver".

Platinum is a member of the platinum group of elements and group 10 of the periodic table of elements. It has six naturally occurring isotopes. It is one of the rarer elements in Earth's crust, with an average abundance of approximately 5 $\mu\text{g}/\text{kg}$. It occurs in some nickel and copper ores along with some native deposits, mostly in South Africa, which accounts for 80% of the world production. Because of its scarcity in Earth's crust, only a few hundred tonnes are produced annually, and given its important uses, it is highly valuable and is a major precious metal commodity.

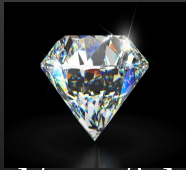
Platinum is one of the least reactive metals. It has remarkable resistance to corrosion, even at high temperatures, and is therefore considered a noble metal.



Sulfur

Sulfur or sulphur is a chemical element with symbol S and atomic number 16. It is abundant, multivalent, and nonmetallic. Under normal conditions, sulfur atoms form cyclic octatomic molecules with a chemical formula S₈. Elemental sulfur is a bright yellow crystalline solid at room temperature. Chemically, sulfur reacts with all elements except for gold, platinum, iridium, tellurium, and the noble gases. Though sometimes found in pure, native form, sulfur usually occurs as sulfide and sulfate minerals. Being abundant in native form, sulfur was known in ancient times, being mentioned for its uses in ancient India, ancient Greece, China, and Egypt. In the Bible, sulfur is called brimstone. Sulfur is an essential element for all life, but almost always in the form of organosulfur compounds or metal sulfides. Sulfur is one of the core chemical elements needed for biochemical functioning and is an elemental macronutrient for all living organisms.





Diamond

Diamond (/'daɪəmənd/ or /'daɪmənd/) is a metastable allotrope of carbon, where the carbon atoms are arranged in a variation of the face-centered cubic crystal structure called a diamond lattice. Diamond is less stable than graphite, but the conversion rate from diamond to graphite is negligible at standard conditions. Diamond is renowned as a material with superlative physical qualities, most of which originate from the strong covalent bonding between its atoms. In particular, diamond has the highest hardness and thermal conductivity of any bulk material. Those properties determine the major industrial application of diamond in cutting and polishing tools and the scientific applications in diamond knives and diamond anvil cells .

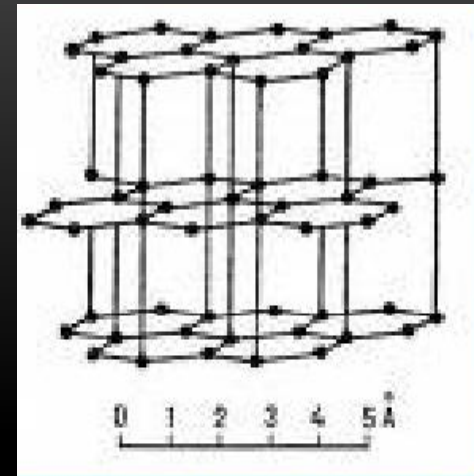
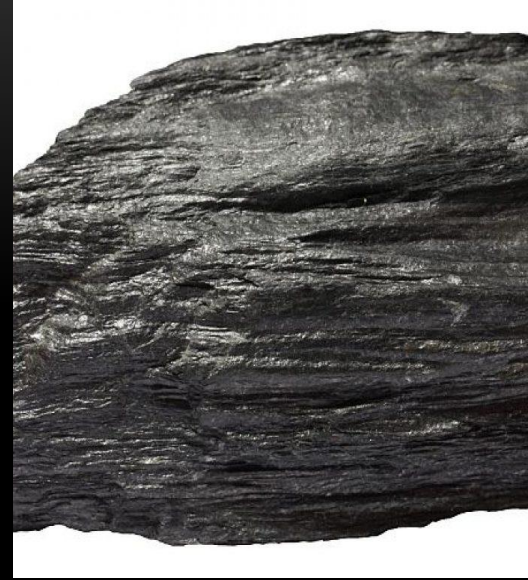
Because of its extremely rigid lattice, it can be contaminated by very few types of impurities, such as boron and nitrogen. Small amounts of defects or impurities (about one per million of lattice atoms) color diamond blue (boron), yellow (nitrogen), brown (lattice defects), green (radiation exposure), purple, pink, orange or red. Diamond also has relatively high optical dispersion (ability to disperse light of different colors).



Graphite

Graphite (/ˈgræfʌɪt/), archaically referred to as plumbago, is a crystalline allotrope of carbon, a semimetal, a native element mineral, and a form of coal. Graphite is the most stable form of carbon under standard conditions. Therefore, it is used in thermochemistry as the standard state for defining the heat of formation of carbon compounds.

History of natural graphite use In the 4th millennium B.C., during the Neolithic Age in southeastern Europe, the Marița culture used graphite in a ceramic paint for decorating pottery.



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JUMP UP ^ IMA-CNMNC LIST OF MINERALS

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