

MINERALS AND THEIR PRODUCTS NSTA SALT LAKE CITY,

Title: **Minerals And Their Products**

Level: **K-12**

Day/Time:

[Academic Expectations](#)

[Core Content for Assessment:](#)

Objective:

Introduce students to specific minerals and their uses.

Background Information:

Minerals are the basic ingredient of many every day products. Listed below are just a few to get your started. Don't forget the human body's requirement for minerals on a daily basis nor that our food production requires minerals as soil additives to maintain the level consumed by the world's population.

GALENA: (Lead ore, a metallic mineral and the heaviest of the common metals.) The U. S. is the world's largest producer. Lead is used in car batteries, gasoline additives, solders, electrical and electronic applications, TV glass and tubes , protective coatings, crystal glass, X-ray and gamma radiation shielding, soundproofing , construction and for ammunition.

MOLYBDENUM: (Molybdenite is the most common Molybdenum bearing mineral.) 47% of this mineral is used in steel alloy. In pure form it is used because of its high melting temperature. Uses include, automobiles, pipes, stainless steels, chemical processing equipment, dies, paint pigments, corrosion inhibitors, smoke and flame retardants. The filament supports in light bulbs is made from molybdenum.

AZURITE: This mineral is a secondary copper mineral, usually azure-blue in color. It is usually associated with malachite and is used either as an ore of copper or as an ornamental stone. Copper is used in plumbing, wiring, to make brass and coinage.

FLOURITE: This mineral's name is derived from the Latin "fluere, to flow," because it melts easily. It is used as a flux in the smelting of metallic ores for the manufacture of steel, aluminum and hydrofluoric acids. It is an ingredient in fluoride toothpastes and added to some drinking water.

GILSINITE: A bituminous mineral also known as unintahite, a natural asphalt. A brittle dark brown or black appearance and is found in commercial quantities only in one area of Utah. Used in varnishes, automobile battery boxes, flooring material, oil drilling fluids, paint and inks.

TRONA: Trona is the basis for soda ash which is a basic part of glass manufacturing, baking soda, sodium carbonate and bicarbonate. Ceramic tiles, porcelain fixtures, and

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upset stomach remedies all are from trona. Wyoming is the largest producer of trona in this country.

SULFUR: Sulfur has a very distinct color and smell and is used in the manufacturing process for rubber, matches, medicines, petroleum refining, gun powder, paper production as well as in photography. It is also a very important soil additive.

CHALCOPYRITE: A copper iron sulfide, often found with some silver and gold. It is one of the most widely distributed copper minerals. An abundant and important ore of copper which is used in plumbing, wiring, vitamins and for coinage.

HALITE: Sodium chloride is usually colorless or has tints of gray, yellow, red, or blue through it. Has a salty taste and is usually brittle. Readily soluble in water and is widespread in evaporate deposits of chemical sedimentary rocks. Is used extensively in the chemical industry (vinyl for pipe and auto seat covers) and as a source of chlorine and sodium.

MAGNETITE: An iron oxide, metallic, magnetic iron-black mineral. It is probably the most important mineral civilized man has ever dug and is the second most common metal on earth. It is the basis of the industrial revolution on which our society now depends. Used in cars, ships, bridges, buildings, stainless steel.

COAL: (Actually a sedimentary rock but often referred to as a "mineral" resource.) There are four types of coal, anthracite, bituminous, sub-bituminous and lignite. Coal provides about 60% of our nation's electricity. It is also used in the cement, food, paper, automobile, textile and plastic industries. By-products are used for paint, nylon and aspirin. The fly ash left from the burning of coal is now being processed into building blocks and other construction products.

MALACHITE: A basic copper carbonate, usually emerald or grass green. It is a secondary copper mineral and is used as an ore of copper or as a gemstone.

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