

Rock and Mineral Uses

Based on current consumption, it is estimated that you - *and every other person in the United States* - will use more than *a million pounds* of rocks, minerals and metals during your lifetime including:

- **800 pounds of [lead](#)** - Primarily used in the construction of batteries. Also used as a radiation shielding during x-ray treatment by your doctor and dentist and as a protective shield on your TV screen to protect you from radiation from that source.
- **750 pounds of [zinc](#)** - primarily used as a rust inhibitor for steel in the construction of cars, buildings, bridges, ships and trains.
- ***1,500 pounds of [copper](#)** - Primarily used in the manufacture of copper wire to conduct electricity needed in your car, home, office, school, church, appliances.
- ***3,600 pounds of [aluminum](#)** - Cans, aircraft and automobile construction, sporting and electronic equipment, appliances.
- **32,000 pounds of [iron](#)** - Used to make steel for cars, subways, ships, cans, building construction, heavy equipment, appliances, power transmission turbines and towers.
- ***27,000 pounds of [clays](#)** - Used to coat the pages of newspapers magazines, stationery, brochures and boxes so that the ink used in printing on them will be bright and will not run. Also used as a brightener and abrasive in toothpaste and to provide a smooth coating for your stomach in medicines.
- ***28,000 pounds of [salt](#)** - Used in food preservation (almost all canned and frozen food contain salt), to enhance the taste of foods and to melt the ice on streets and highways during the winter. Also used in the manufacture of many chemicals, for water treatment, papermaking, soaps & detergents and in petroleum refining.
- **1,000,000 pounds of [stone](#), [sand](#), [gravel](#) and [cement](#)** - Use in streets, highways and sidewalks; in the foundation for your house and school; as decorative materials for yards and gardens; in water purification plants to protect your health and in the construction of buildings from the most modest of homes to the world's tallest skyscrapers.

**Here are just a few of the rocks, minerals
and metals that affect our lives every day:**

***Aluminum**

Aluminum is the most abundant metal element in Earth's crust. Used in making cans and other containers and in almost every modern appliance found in the home. It is also the active ingredient in many underarm deodorants.

***Barium**

Barium is used as a heavy additive in oil well drilling mud in radiography ("barium milkshake"), as a deoxidizer for copper, in sparkplug alloys and in making an expensive white pigment.

***Chromite**

A mineral ore of [chromium](#) which is used in making **steel**, "chromed" parts for automobiles and appliances.

***Coal**

Coal is primarily used in the generation of electricity. About 56% of all the electricity used in the United States is produced from coal-fired facilities. The rest of our electricity is produced from nuclear power plants (24%), natural gas power plants (10%), hydroelectric resources (8%) and alternative sources (wind, solar etc.) - about 2%. Coal is also a source of raw material for making heating oils, chemicals and medicines. At current rates of use and under current environmental regulation, about a 300-400 year supply of coal remains. To put that in perspective, the first English settlement in the New World was at Jamestown, VA in 1607 - just about 400 years ago.

***Copper**

[Azurite](#), [chalcopyrite](#) and [malachite](#) are ores of copper which are used in the manufacture of [brass](#), [bronze](#), coins, jewelry, cooking utensils and pigments. Most of the wiring in electrical appliances, TV's, stereos, computers, telephones, aircraft, satellites, automobiles, residential wiring, plumbing... etc is also made from copper.

***Feldspar**

Feldspar is a rock-forming mineral. It is important industrially in making glass, ceramics, enamelware and soaps.

***Flint**

Flint was very important to civilization from its early use in the stone age until the mid 1800's. It was used extensively by primitive peoples in making arrowheads, spearpoints, knives, and other scraping and cutting tools. It was also used - with steel - as a primary way to start a fire until the invention of matches in the early 1800's.

***Fluorite**

Fluorite is used in the production of hydrofluoric acid and the source of the "fluoride" in your favorite toothpaste.

***Gold**

Gold is used in dentistry and medicine; in jewelry and art; in medallions and coins; and in ingots as a store of value by banks throughout the world.

***Gypsum**

One of gypsums primary uses is in the manufacture of "sheetrock" or wallboard. Chances are that the walls in your home, office or school are at least partly constructed using a gypsum board.

***Halite (Salt)**

Commonly recognized as **salt**, halite is used in human and animal diet, food seasoning and food preservation. It is used in mineral waters, soap, home water softeners and as a highway de-icer.

***Limestone**

Limestone is used as dimension stone in buildings and as a component of [cement](#) which is used in the construction of everything from homes and sidewalks to bridges and skyscrapers.

***Lithium**

Lithium compounds are used in ceramics and glass, in batteries and in medicine.

***Magnetite**

An ore of [iron](#) which is used in making steel, nails, kitchen appliances, furniture, tools, bridges, buildings, automobiles, construction equipment, manufacturing machinery, highway construction, shipbuilding, trains, railroads etc. Powdered iron is used in magnets and auto parts.

***Marble**

Used for making decorative items such as pillars, floor and bath tiles, table tops etc.

***Phosphate**

Phosphate rock is used to produce phosphoric acid for feed additives for livestock and a variety of phosphate chemicals for industrial and home consumers. Phosphoric acid also helps provide the "tingly" taste you experience when drinking many soft drinks.

***Potash**

Potash is a [carbonate](#) of [potassium](#) used as a fertilizer, in medicines, in the chemical industry and to produce decorative color effects on [brass](#), [bronze](#) and [nickel](#).

***Silica**

Your daily contact with silica is most often in the form of an anti-caking agent when you use a powdered form of foods such as milk, chocolate, sweeteners etc. For example, those little packets of sweetener you use for your coffee instead of sugar are as much as 95% silica sand - ground so finely that it will dissolve.

***Silver**

Without [silver](#), you could not take a single picture with your camera. Besides its use in photography, silver is also used in chemistry, jewelry, in electronics because of its very high conductivity and as currency in the form of coins - usually as an alloy.

***Sulfur**

Used in the manufacture of fertilizer (necessary to grow our food), chemicals, in the manufacture of sulfuric acid, in papermaking, film, tires, paint, detergents, explosives, matches, drugs and dyes.

***Titanium**

As a metal - because of its light weight, strength and heat resistance, titanium is primarily used in the manufacture of such items as jet engines, aircraft frames and space and missile components. You most often come in contact with titanium in its form as titanium dioxide - the whitest substance known. Titanium dioxide has thousands of applications as a "whitener" in items such as paint, in food items such as sugar and candy and in toothpaste.

***Trona**

Trona is a primary source of [sodium carbonate](#). It is used in the making of toothpaste, in glass and paper making, in soaps and detergents, in the treatment of water for domestic use and in the manufacture of a number of chemicals. One of its most important applications is its use in baking soda and baking powder, a necessary ingredient in making bread, cookies, cakes and most other baked goods. You "eat" this rock every time you have a sandwich, a cookie or piece of cake.

***Zeolites**

Zeolites have some unique absorption and neutralizing characteristics. They are used in kitty litter for odor control and in fish hatcheries for removing ammonia from the water to protect the fish.

***Zinc**

"Copper" pennies are actually mostly [zinc](#). One of the primary uses of zinc is as a protective coating on steel used to manufacture things such as automobile frames and bumpers to prevent corrosion and oxidation (rusting). It is also used as an alloy metal with copper to make brass, and for "galvanizing" iron used in making nails and roofing material that will not corrode when exposed to the weather.