Mini Miners Monthly

A Monthly Publication for Young Mineral Collectors.
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Mineral Names, continued.

(and completed! Finally!)

Earlier this year we began to present to you a dictionary of mineral names, where they came from and what they mean. Learning about mineral names is a way to learn about all sorts of other interesting things. If you take mineral names apart, you will discover people (famous and not-so-famous), places, chemistry, optics, mathematics and crystallography, languages (like Greek, Latin and Arabic), and even a little bit of history.

Reading a dictionary is probably fun for only a very small number of people. So, with the goal of making this issue more fun for you, Mini Miner, get out your color pencils or markers and go on a TREASURE HUNT.

RED - Find every mineral name that came from the **Greek language** and color it red.
BLUE - Find every mineral name that came from **Latin** and color it blue.
GREEN - Find every mineral named after a **person** and color it green.
PURPLE - Find every mineral named after the mineral's **chemical formula** and color it purple.
ORANGE - Find every mineral named after a **place** and color it orange.
YELLOW - Find every mineral named after a **crystal property** and color it yellow.
All the rest you can color **BROWN**.

When you are done, you will have a color-coded dictionary of mineral names. If you are really ambitious, get on the computer and do some TREASURE HUNTING . . .

Look up every place you discover. Where is it? What are the people like there? What is the history of that region?

Look up every name you discover. Who is this person? What did he or she do to inspire a mineral name? Where did the people live? What did the people do for a living?

Are you really, really adventurous? When you find a Greek word, write it out using letters from the Greek alphabet! You can find help for this online.

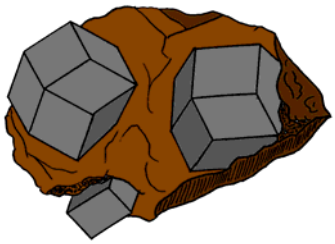
HAVE FUN! THERE ARE A LOT OF TREASURES WAITING TO BE FOUND!

At the end of this issue are instructions on how to download the ENTIRE mineral names dictionary from the Diamond Dan website.

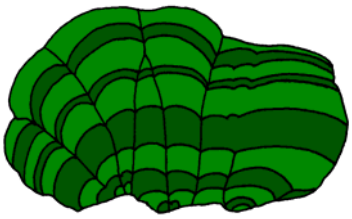
A Dictionary of Mineral Names
Their Origins and Meanings, Part III

M

Magnesite was named from its composition, $MgCO_3$ which includes the element magnesium.



Magnetite was named after a district in Thessaly, Greece, bordering on Macedonia, called Magnesia.



Malachite was named from the Greek word *moloche* meaning *mallow*. Mallow is a plant, so the name is a reference to its green color. The name *Molochitis* was used as early as 77 AD by Pliny the Elder.

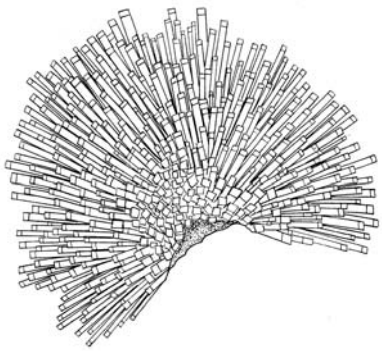
Manganite contains the element manganese and is therefore named after its composition, MnO(OH).

Marcasite was named from an Arabic word which was at one time applied to pyrites in general. It may come from the word *marchesita* or *marchasite* meaning *pebble*.

Margarite, it is told, was created by mineral dealers from Tyrol, Austria. The name was derived from the Greek word *margarites* meaning *a pearl* in reference to its pearly luster.

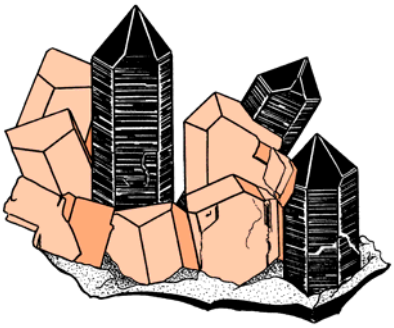
Meerschaum is a common, popular name for the mineral Sepiolite. It was derived from the German words *meer* meaning *the sea* and *schaum* meaning *foam*. This is a reference to its very light, somewhat frothy appearance.

Mercury is the elemental name for this mineral. As a mineral it is more commonly known as Native Mercury. The name was derived from the Greek words *hydros* meaning *water* and *argyros* meaning *silver*. This "watery silver" is the only metal that is a liquid! It is also known by the popular name of Quicksilver.



Mesolite was named from the Greek words *mesos* meaning *middle* and *lithos* meaning *stone* because it is chemically between Natrolite ($Na_2Al_2Si_3O_{10}.2H_2O$) and Scolecite ($CaAl_2Si_3O_{10}.3H_2O$).

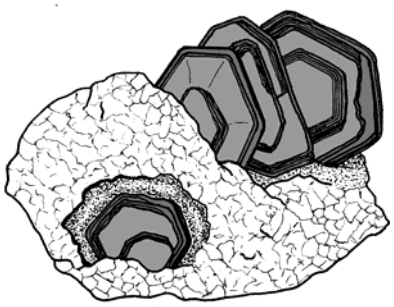
Mica refers to a group of minerals which includes Muscovite, Biotite, Lepidolite and Phlogopite. The name was probably derived from the Latin word *micare* meaning *to shine* in allusion to the vitreous luster of the micas.



Microcline is a variety of the Feldspar group of minerals. It has two cleavage planes, one perfect and one good. The planes meet at an angle of 89 degrees and 30 minutes - just the tiniest bit off from 90 degrees. The name, therefore, was derived from the Greek words *micros* meaning *small* and *klinein* meaning *to incline* as an indication of how very close the cleavage planes are to being a perfect right angle.

Millerite was named in honor of William Hallowes Miller (1801-1880), the English mineralogist who first studied this mineral.

Mimetite is very much like the mineral Pyromorphite: they have the same crystal structure, are similar in appearance and occurrence and share other physical and chemical properties. Consequently, it was observed that Mimetite mimics or imitates pyromorphite. Therefore, it was named after the Greek word *mimetes* meaning *an imitator*.

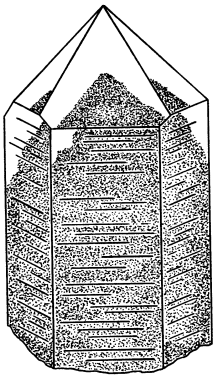


Molybdenite was at first thought to be a compound of lead. In 1782, P.J. Hielm gave the name "Molybdenite" to lead-bearing minerals in general. It was created from the Greek word for lead, *molybdos*. By 1796 Richard Kirwan was referring to the mineral as Molybdena and the metal extracted from it as "Molybdenite." In 1807, Alexandre Brongniart called the mineral "Molybdenite." This designation has continued to this day.

Monazite is a relatively rare mineral. Consequently it was named after the Greek verb *monazein* which means *to be solitary*.

Moonstone is a popular name for polished specimens of Adularia and Albite. The name is a reference to the glimmering silver-white to blue luster of polished specimens. In ancient times, moonstone probably referred to the glassy clear crystals of gypsum that we now call Selenite.

Morganite was named after the famous American financier - and mineral collector - John Pierpont Morgan (1837-1913). In fact, significant gifts of valuable mineral specimens were made by J.P. Morgan to the American Museum of Natural History in New York City. It is also known as Rose Beryl. (Picture left: J.P. Morgan, public domain).

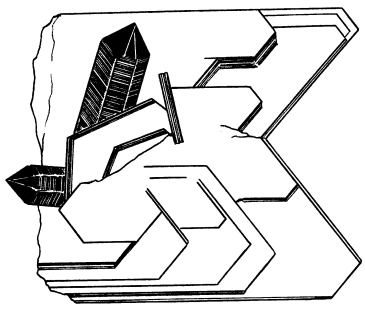


Morion refers to very dark to black smoky quartz. Originally the name was applied by lapidaries (that is, those who polish gemstones into gems) and has since crossed over into use in the mineral specimen field. The name was derived from Pliny's word for this mineral, *mormorion*.

Moss Agate is a popular name for a variety of agate which has moss-like inclusions of manganese oxide.

Mottramite was named after its locality of Mottram, St. Andres, Cheshire, England.

Mountain Leather is a popular name for the occurrence of matted tremolite fibers which feel like soft leather. The "mountain" reference indicates that it is found in mountainous environments.



Muscovite is highly resistant to heat and electricity. Consequently, it found common use as oven glass in Old Russia which was at one time known by the name of "Muscovy." This mineral acquired the common name "Muscovy Glass" after the Latin term *vitrum Muscoviticum*. In 1850, James Dwight Dana formally named this mineral muscovite based on the Latin term. Those who remember the old wood stoves wood recall that the window panes were actually sheets of translucent mica referred to as "Isinglass," an old popular name for mica.

N

Nail Head Spar is a popular name for calcite crystals which resemble the heads of old-fashioned wrought iron nails.

Natrolite was named after its chemical composition, $Na_2Al_2Si_3O_{10}.2H_2O$. The Latin word *natrium* means *sodium* (the chemical symbol for sodium is Na from "natrium") and the Greek word *lithos* meaning *stone*.

Nepheline was named from the Greek word *nephele* meaning *cloud* because this mineral becomes cloudy when immersed in strong acid.

Nephrite was originally called "Lapis Nephriticus" meaning *kidney-stone* because it was believed to be a remedy for kidney disease. The name Nephrite was given by Abraham Werner in 1780 based on the longer, older name.

Neptunite frequently occurs with the mineral Aegirine. Aegerine was named after the Scandinavian sea god, Aegir. Neptunite, in turn, was named after the Roman sea god, Neptune. (Left: King Neptune, god of the Sea.)

Niccolite was named from the Latin word *niccolum* meaning *nickel*, a reference to the nickel content of this mineral, NiAs.

The well-known mineralogist and author, Frederick Pough, gives a different and more interesting interpretation of this mineral name's origins. He maintains that it was originally called Kupfernickel (literally, *copper nickel*) by German miners. Legend says that these miners believed human-like creatures called "imps" or "gremlins" lied underground and passed their time by teasing the miners. In retaliation the miners put them down by called them "nickels." This name was therefore applied to the mineral.

Niter (sometimes also spelled Nitre) is from the Greek word *nitron*. Nitron is the word used to refer to the saline material found in trona deposits. The Greek word has its roots in the ancient word *neter* (as well as the Hebraic word *nether*) which referred to the substance extracted by water from burned vegetable matter.

O

Okenite was named in honor of the German naturalist, Lorenz Ocken (1779-1851) of Munich. The original spelling was Ockenite. In 1830 it was changed to Okenite. (Picture Left: Public Domain.)

Oligoclase is a variety of Feldspar. It was named from the Greek words *oligos* meaning *little* and *klan* meaning *to break* because it was thought to have less perfect cleavage than the similar mineral Albite.

Olivenite was named after its olive-green color.

Olivine was named after its typical olive-green color.

Onyx was named from the Greek word *onyx* meaning *a finger nail* or *claw*. This name was originally given by Theophrastus and, later, by Pliny the Elder to a variety of two- and three-colored layered stones.

Opal was named from the ancient Latin name for this favorite gemstone, *Opalus*, which literally means *precious stone*. It was used by Pliny the Elder to refer to the mineral we today call Precious Opal. He wrote, "The flat precious stone called opalus is the most valuable of all the stones, but it is difficult to define it and describe it. It has the gentler fire of the ruby, the brilliant purple

of the amethyst and the sea-green of the emerald, all shining together in an indescribable union."

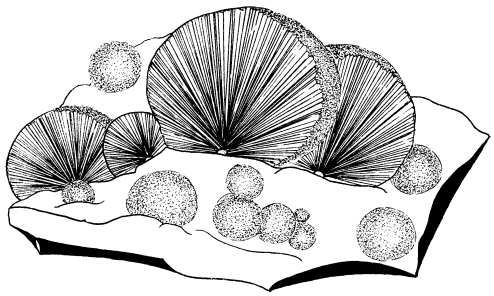
The Latin word *opalus* was derived from the Greek word *opallios* which itself was derived from the Sanskrit word *upalah*.

Orpiment was named from the Latin word *auripigmentum* meaning *gold paint*, a reference to its common use in ancient days. It was also believed that it did not just have the color of gold, but actually contained gold.

Orthoclase is another variety of Feldspar. It has two cleavage planes which intersect at a right angle (90 degrees). The name, therefore, is from the Greek words *orthos* meaning *right* and *klan* meaning *to break*.

P

Peacock Ore is a popular name for copper ores which display an iridescent tarnish, colors like those of the male peacock's tail feathers. The name originated with copper miners. To be most accurate, "Peacock Ore" refers to colorful Bornite. Collectors must be careful: it is common to find a lot of material at mineral shows bearing the label "Peacock Ore." This so-called "Peacock Ore" is chalcopyrite that has been heat-treated to cause the iridescent colors.



Pectolite was named from the Greek words *pectos* meaning *compact* and *lithos* meaning *stone*. The name is an allusion to the tightly grouped, radiating crystals of this mineral (a mineral habit termed "radial").

Periclase was named from the Greek words *peri* meaning *around* and *klasis* meaning *breaking*, an allusion to its perfect cleavage.

Peridot is a variety of Olivine. The name is an old French word of unknown origin. The French at one time used it to refer to the mineral Chrysolite (another variety of Olivine).

Perthite actually refers not to a mineral, but to the specific combination of the minerals Orthoclase and Albite. The name was derived from an important locality of this mineral mixture, Perth, Ontario, Canada.

Phenacite (also Phenakite) was named from the Greek word *phenax* meaning *a cheat* or *a deceiver* because it looks so much like quartz (and was frequently mistaken for quartz).

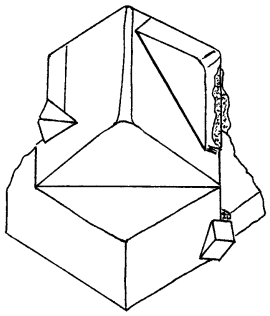
Phillipsite was named in honor of the British mineralogist, William Phillips (1775-1829).

Phlogopite was named from the Greek word *phlogopos* meaning *fiery*. This is a reference to the reddish color displayed on some specimens of this variety of mica.

Phosgenite was named from the word *phosgene* an old name for a compound containing carbon, oxygen and chlorine. This mineral contains all three of these elements: $Pb_2(CO_3)Cl_2$.

Pitchblende is the massive variety of Uraninite. It was named from the words *pitch*, because it looks like pitch or coal tar, and *blende* which means *deceive*.

Plagioclase is yet another variety of the mineral Feldspar. It was named from the Greek words *plagios* meaning *oblique* and *klan* meaning *to cleave*. This is a reference to the oblique angle formed by its two cleavage planes.



Platinum was discovered in Colombia, South America. In 1735 it was taken to Europe where it was called *Platina* after the Spanish word *plata* which means *silver*, because it was at first thought to be silver.

Prase is a green Jasper-like mineral. It was named from the Greek word *prason* which means *a leak*, in reference to its green color. (If you don't already know, a leak is a plant.)

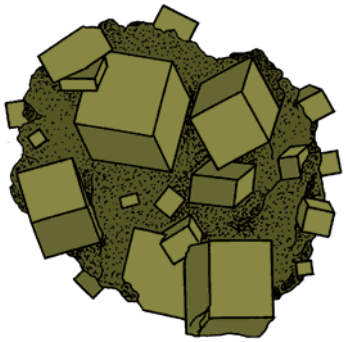
Precious Opal is the name which refers to the varieties of Opal that display the wonderful play of colors for which opal is famous and loved as a gemstone. "Precious" is simply a reference to its far greater value in comparison to Common Opal.

Prehnite was named in honor of the Dutch soldier, Colonel Hendrik von Prehn (1733-1785) who returned to Europe with samples of this newfound mineral from the Cape of Good Hope, South Africa in 1783.

Proustite was named in honor of the French chemist, Joseph Louis Proust (1755-1826). (Picture Right: Public Domain.)

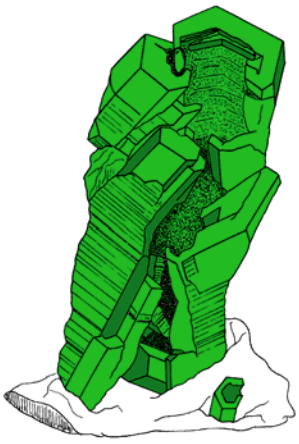
Psilomelane was named from the Greek words *psilos* meaning *smooth* and *melas, melanos* meaning *black*, in allusion to the smooth, black appearance of many specimens.

Pyrargyrite was named from the Greek words *pyr* meaning *fire* and *argyros* meaning *silver*. This name was created to highlight its striking color on fresh surfaces and its silver content (Ag_3SbS_3).



Pyrite was named from the Greek word *pyr* meaning *fire*, because it sparks when it is struck with steel.

Pyrolusite was named from the Greek words *pyr* meaning *fire* and *luein* meaning *to wash, to do away with [color]*, because when it is melted with glass, the glass becomes colorless.



Pyromorphite was named from the Greek words *pyr* meaning *fire* and *morphe* meaning *form*, because this mineral melts into a globule, but re-crystallizes upon cooling. Because of this property it was thought (wrongly) that pyromorphite was deposited by volcanic action.

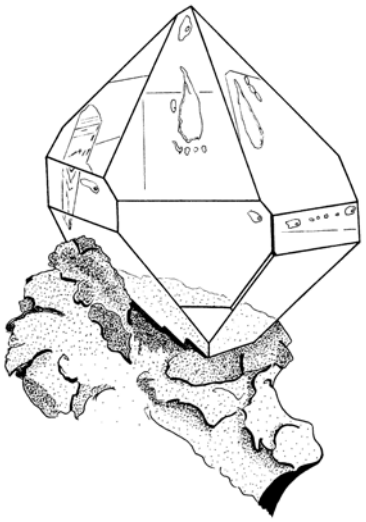
Pyrope was named from the Greek word *pyropos* meaning *fiery*, a reference to its red color.

Pyrophyllite was named from the Greek words *pyr* meaning *fire* and *phyllon* meaning *leaf*. This name was created to describe that this mineral breaks into flakes (exfoliates) when it is heated.

Pyroxene was named from the Greek words *pyr* meaning *fire* and *zenos* meaning *a stranger*: even though it was found among igneous rocks it was commonly believed that it did not form there through fire, but occurred entirely by accident.

Pyrrhotite was named from the Greek word *pyrrotes* meaning *redness*, which is a reference to its reddish color.

Q



Quartz is a mineral name with a long, and a little confusing, history. It is thought to come from the German word *quarz*, a word of ancient and uncertain origins. The names "quarz" and "querz" are first found in German writings in the 1500's. Their origins are a mystery. Much to the dismay of mineralogists and etymologists (etymologists are those who study the origins, history and uses of words) alike, no one has been able to determine the precise origins of the name Quartz.

There are theories, however. One is that it was derived from a Slavic word *tvruda* meaning *hard*, a word which passed through the Czech and Polish languages on its way to German where it became quarz. Others think it is an abbreviation of an Old Saxon phrase *querk-lufterz* meaning *cross-vein ore*. Perhaps we will never know its exact origin!

R

Realgar was named from the Arabic phrase *rajh al ghar* which means *powder of the miner*, based on its occurrence and a peculiar physical property. First, an early deposit of realgar was a silver mine; secondly, it turns to a powder when exposed to light.

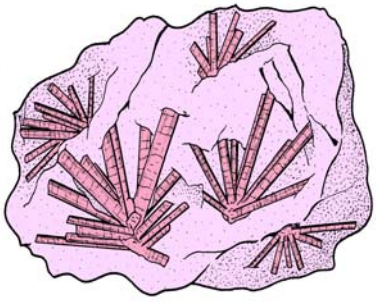
Rhodochrosite was named from the Greek phrase *rhodochros* meaning *rose-colored*, a reference to its striking rose-pink to red color. (Picture Left.)

Rhodonite was named from the Greek word *rhodon* meaning *a rose*, in allusion to its rose-pink color when pure.

Rock Crystal is the popular name used to refer to colorless, crystallized quartz.

Rock Salt is the common name for the mineral Halite, and is used to refer to mineral salt as found in the ground, as opposed to the salt obtained by the evaporation of sea water.

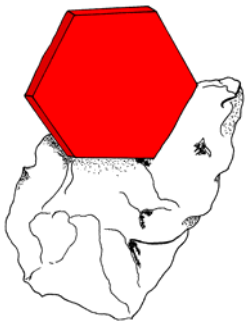
Rosasite was named after the Rosas Mine, Sardinia, Italy.



Rose Quartz is the name given to the rose-pink variety of quartz.

Rubellite is a variety of Tourmaline. The name probably came from the Latin word *rubellus* meaning *reddish*, a reference to its red-pink color. (Left)

Ruby was named from the Latin word *rubeus* meaning *red,* in reference to its color. (Right)

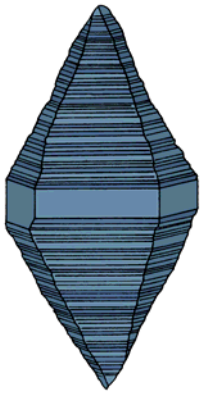


Ruby Silver is a very old name which has been used to refer to both Proustite and Pyrargyrite. The name refers to the color of these silver-bearing minerals before they oxidize and turn dark. Proustite is sometimes called Light Ruby Silver and Pyrargyrite Dark Ruby Silver.

Rutile was named from the Latin word *rutilus* meaning red in allusion to its color.

S

Sanidine was named from the Greek words *sanis* meaning *tablet* or *board* and *idos* meaning *appearance*, in reference to the tablet-like shape of its crystals.



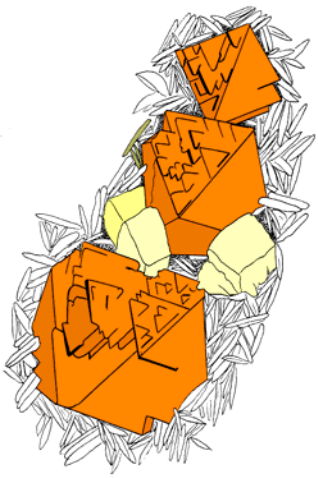
Sapphire was named from the Greek word *sappheiros* meaning *a blue stone*. In ancient times this word probably referred to Lapis Lazuli. Today it refers to the colored varieties of corundum, excluding red Ruby. (Left)

Sard was named from the Greek word *sardius* which itself most likely came from the place name of Sardis, which was probably a once-famous locality of this mineral.

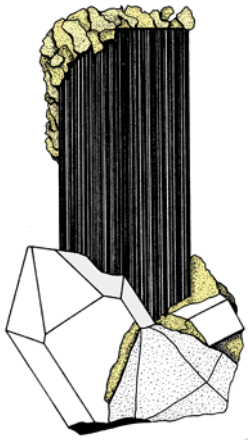
Sardonyx is simply the combination of the mineral names Sard and Onyx. Since sard is a red or brown chalcedony, sardonyx refers to onyx of alternating red or brown material and white material.

Satin Spar as a general term refers to fibrous varieties of some minerals with a silky luster. Originally it was applied to Calcite; it was also used to refer to this variety of Aragonite. Today, Satin Spar refers to this silky, fibrous variety of Gypsum.

Scapolite was named from the Greek words *skapos* which means *a shaft* and *lithos* which means *stone,* in reference to its prismatic crystal habit.



Scheelite was named in honor of the Swedish chemist, Karl Wilhelm Scheele (1742-1786). (Right)



Schorl is another mineral name with a long and somewhat mysterious history. James Dwight Dana reported that a slight variation of this name, Schrul, was used as far back as 1565. It was used to name black, little stones which were by-products of the washing of gold and tin ores.

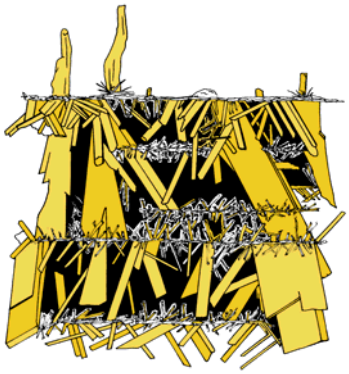
Johann Gottschalk Wallerius was the first to use the name "schorl" as we now spell it (in 1797). The problem remains that no one knows the origin of the word. Wallerius, like those before him, applied the name to a variety of dark-colored, prismatic minerals.

In 1772 a publication by Rome de L'Isle refers to "schorl" as a variety of tourmaline. This is the use of the name Schorl today. (Left)

Scolecite was named from the Greek word *skolex* meaning *a worm*, because this mineral curls up when it is heated.

Scorodite was named from the Greek word *scorodion* meaning *garlic-like*, because it smells like garlic when heated.

Sea Foam (Meerschaum, Sepiolite) is an early synonym of Meerschaum, a variety of the mineral Sepiolite. This popular name is a reference to the light weight and frothy appearance of this mineral.



Selenite (Gypsum) was named from the Greek word *selene* which means *the moon*, an allusion to the pale, bluish reflections of some varieties of gypsum. Today, "Selenite" refers to all transparent to translucent gypsum in general, regardless of color. Purists would say this title should refer only to the clear, colorless, transparent varieties of gypsum. However, one is likely to find the term "selenite" applied to nearly all specimens of gypsum at mineral shows and in collections today. (Left)

Sepiolite was named from the Greek words *sepion* meaning *cuttle fish bone* and *lithos* meaning *stone*, in allusion to this mineral's lightness (which is due to its relatively high porosity.

Serandite was named in honor of J. M. Serand, a mineral collector from West Africa. The story is told that he was known for having a "rosy-pink complexion" similar to the color of Serandite.

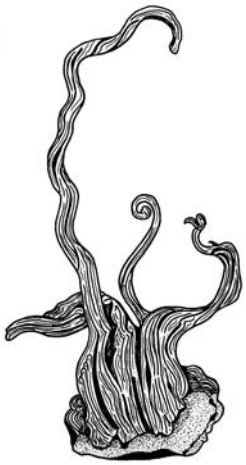
Serpentine was named from the Latin word *serpens* which means *a snake*. Most authors report that this name is a reference to the snake-like mottling of massive serpentine. A different theory claims the name was chosen to refer to an ancient Roman belief that this mineral was effective as a remedy for snake bites. The name is found in literature as old as writings by P. Dioscorades around 50 CE.

Siderite is another mineral name which has been used in a variety of ways by a variety of mineralogists through the centuries.

It was first used by Torbern Bergmann in 1790 to refer to the mineral now called Pharmacosiderite. In 1797, C.E.F. von Moll applied the name to a deep blue variety of Quartz.

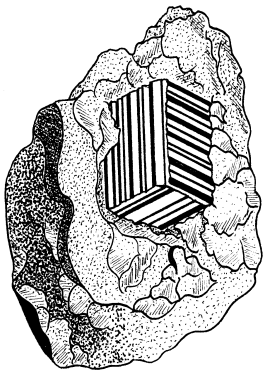
Today this name refers to the iron carbonate mineral. The name was derived from the Greek word *sideros* meaning *iron* in reference to its iron content, $FeCO_3$.

Sillimanite was named in honor of Professor Benjamin Silliman (1779-1864) who was the first professor of mineralogy at Yale University (as well as professor of chemistry).



Silver was named from the Old English word *seolfer*. This name is related to the German word *silber* and the Dutch word *zilver*. An early Latin name for this mineral was Luna which means *moon*, a reference to its striking, bright luster.

Silver Glance is a synonym for argentite. "Silver glance" was derived from the earlier German word for this mineral, *silberglanzerz*. This name is first mentioned in writing by Anton Estner in 1804 and Robert Jameson in 1805, although it was probably in use long before these references were written.



Skutterudite was named after the locality of Skutterud, Norway.

Smithsonite was named in honor of James Smithson (1765-1829), British chemist and mineralogist, and founder of the Smithsonian Institution, our national museum in Washington, D.C.

At one time the two minerals, Smithsonite and Hemimorphite, were thought to be one in the same, and were together known by the name Calamine (a name applied to zinc ores in general). Smithson is the mineralogist who distinguished the chemical difference between these two minerals.

Smoky Quartz is the popular name for the smoky brown to black, transparent varieties of quartz.

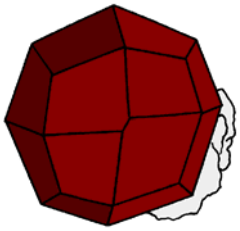
Soapstone is a popular name for massive Talc. It feels cool and slippery to the touch and is therefore described as feeling "soapy."

Sodalite was named from *sodium*, which is one of the elements in its chemical composition, $Na_4Al_3Si_3O_{12}Cl$, and from the Greek word *lithos* meaning *stone*.

"Spar" is a generic term which refers to any non-metallic, cleavable mineral with a vitreous (glassy) luster.

Specular Iron (Hematite) was named from the Latin word *speculum* meaning *a mirror*, because this variety of hematite has a shiny, metallic luster, and *iron* is a reference to its content. Specularite is an uncommon synonym for Specular Iron.

Spessartite (also found as Spessartine) was named after Spessart, Bavaria (Germany), a famous old locality of this variety of Garnet. (Right)



Sphalerite was named from the Greek word *sphaleros* meaning *delusive, treacherous*. The choice of this word was inspired by the other name for this mineral, Blende, which itself came from the German word meaning *blind* or *deceiving*. This mineral was considered "deceiving" because although some specimens looked like Galena, they did not produce any lead.

Black Jack is the name miners once used for black specimens of Sphalerite.

Ruby Jack is a popular name for the very attractive, and rather rare, ruby-red crystals of Sphalerite.

Sphene (Titanite) was named from the Greek word *sphen* meaning *a wedge* in reference to the wedge-like shape of the crystals. This is a very common synonym for Titanite and one is likely to find either name in today's mineral literature.

Spinel is yet another mineral name with a mysterious history. There are quite a number of different theories explaining its origin.

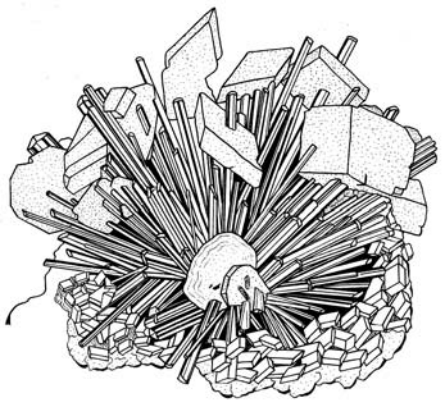
One says it was derived from the Greek word *spinther* meaning *a spark*, in reference to the sparkling colors of gem-quality Spinel. A different theory claims it was derived from the Latin word *spina* meaning *a thorn* in allusion to its pointed crystal shape. Others point to the same Latin word but translate it as *a spine* (which is a perfectly accurate translation) because it is thought that it was first applied to crystals which had a "spine shape."

Spodumene was named from the Greek word *spodoumenos* which means *something reduced to ashes,* in reference to the ashy color of common Spodumene.

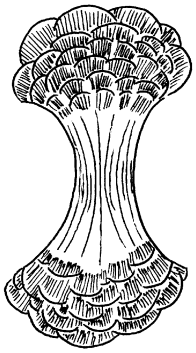
Staurolite was named from the Greek words *stauros* meaning *cross* and *lithos* meaning *stone*, because twin crystals often form the shape of a cross. In North Carolina and Virginia these cross-shaped specimens are known by the popular name of Fairy Stones.

Stephanite was named in honor of Archduke of Austria, Victor Stephan (1817-1867), who also served as mining director. It has also been called Brittle Silver Ore.

Stibiconite was named from the Latin word *stibium* which means *antimony* and *konis* meaning *powder*, because this antimony oxide is often found in a powdered form.



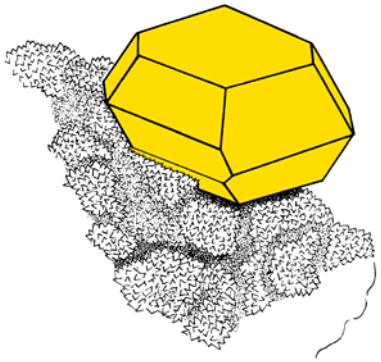
Stibnite was actually the second name suggested for this mineral. It is a modification of the name Stibine which was proposed by F.S. Beudant in 1832. James Dwight Dana gave this new name, Stibnite, in 1854. "Stibine" came from the Latin word *stibium* meaning *antimony* (*stibium* itself was derived from the Greek word *stibi,* which is of Egyptian origins) because this mineral contains antimony (Sb_2S_3). A synonym for stibnite, which



is found occasionally in non-American publications, is Antimonite which is clearly a reference to the antimony content of this mineral.

Stilbite was named from the Greek verb *stilbein* which means *to shine* or from the Greek noun *stilbe* which means *a mirror*, both of which are a reference to this zeolite mineral's shining, glassy luster.

Strontianite was named after Strontian, Argyllshire, Scotland, the locality where it was first discovered.



Sulfur (also spelled Sulphur) is the Latin name for this element (although the fact that this is an element was not determined until 1809). The exact origin of this name is unknown.

Sunstone is a reference to specific types of Feldspar (most particularly Orthoclase and Oligoclase) which display sunshine-like, orange-yellow reflections, most notably on polished surfaces.

Sylvanite received its name from an early name for the element tellurium, In 1796 Richard Kirwan referred to the element tellurium as "sylvanite," after the locality in Transylvania, Romania, where its ores were first found.

Sylvite (also found as Sylvine) came from its New Latin chemical name of *sal digestivus Sylvii* which translates as *digestive salt of Sylvius*. "New Latin" refers to the Latin used since about 1500, as defined by The American Heritage Dictionary, Second College Edition, 1982.

T

Talc is thought to be derived from the Arabic word *talg* or *talk* meaning *mica* since talc forms mica like flakes (that is, it has micaceous cleavage).

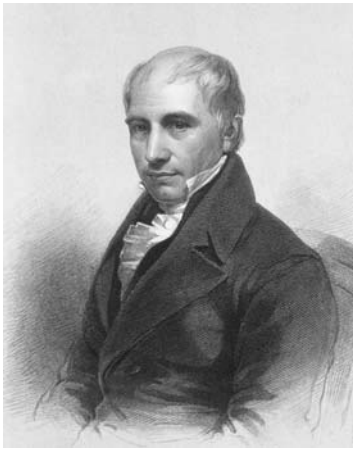
Tantalite was named after the Greek mythological king, Tantalus, who was infamous for his criminal activity. As punishment for his crimes, Tantalus was condemned to Hades. There he was doomed to stand in water which would recede when he would try to take a drink; above him
hung fruit which would move out of his reach whenever he tried to take some. His drink and food would forever be untouchable leaving him eternally thirsty and hungry. Because this mineral is difficult to dissolve in acid, mineralogists considered it "untouchable" in its own way. (Left: Tantalus, 1733, Public Domain.)

Tanzanite was discovered in July of 1967 in the African nation of Tanzania by a tailor named Manuel d'Souza. The mineral was studied by Henry B. Platt who was at the time the primary gem buyer and Vice President of Tiffany and Company jewelers. He chose to name the new find Tanzanite after the nation in which it was discovered. He preferred this over Zoisite (Tanzanite is a variety or Zoisite) because he felt "Zoisite" sounded too much like the word "suicide."

Tennantite was named in honor of the English chemist, Smithson Tennant (1761-1815). (Left: Public Domain)

Tetrahedrite was named after the tetrahedral form of its crystals. The name came from the Greek words *tetra* meaning *four* and *hedra* meaning *face*. A tetrahedral crystal, like tetrahedrite, is one which has four sides or faces.

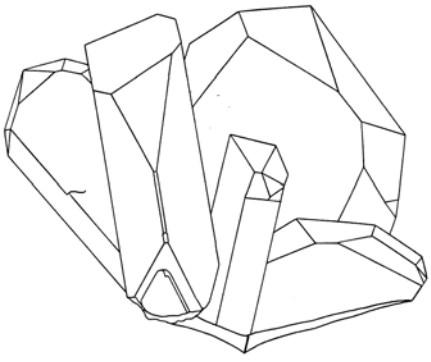
Thenardite was named in honor of Louis Jacques Thenard (1777-1857), a noted French chemist. (Right: Public Domain.)



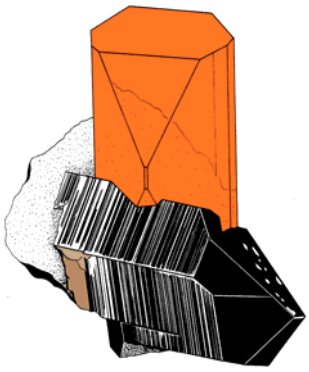
Thomsonite was named in honor of Dr. Thomas Thomson (1773-1852), a prominent Scottish chemist and mineralogist. (Left: Public Domain.)

Tiger Eye (sometimes found as Tiger's Eye) is a popular name referring to the lovely pseudomorph of quartz after golden brown Crocidolite fibers. The name is a reference to the yellow-brown color and chatoyant character of this lapidary favorite, particularly of polished specimens, which resemble the color and appearance of a tiger's eye.

Tincalconite was named from two languages: from a Sanskrit word *tincal* for Borax, and from the Greek word *konia* meaning *powder*, because this mineral is formed when borax loses its water and turns to powder. (Anyone who has ever owned a specimen of borax has been disappointed to watch its striking crystals literally crumble to Tincalconite dust.)



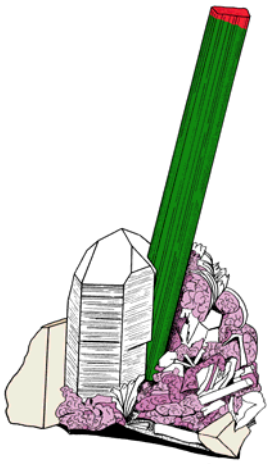
Titanite is a synonym for Sphene. The name came from its composition, $CaTiSiO_5$, which includes the element titanium.



Topaz was named from Topazos (which literally means *to seek*) an island in the Red Sea. Today this island is called Zabargad. Zabargad (which is the Arabic word for Olivine) is a small, stony, almost inaccessible island approximately 30 miles off the coast of Egypt. Found within the fractures and fissures of this island are gem-quality Peridot crystals. Ancient peoples applied this word to a mineral other than the one we call "topaz" today, most probably to Peridot.

Some mineralogists claim that the name came from the Sanskrit word *tapas* meaning *fire*, in reference to the color and luster of some specimens of topaz.

Torbernite was named in honor of the Swedish mineralogist and chemist, Torbern Olaf Bergman (1735-1784), who first examined this mineral. It is sometimes also called Uranium Mica. (Right: Public Domain.)



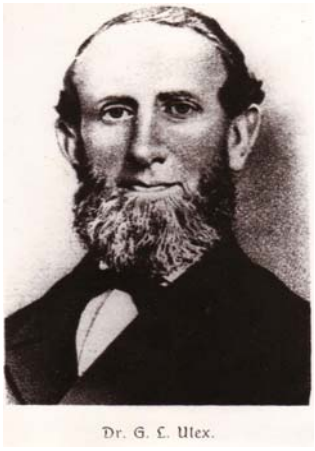
Tourmaline was named from the Sinhalese word *toramallie* (spelled in some sources *turamali*) a name which referred generally to gems found in Sri Lanka.

Travertine is a form of Calcite. The name is thought to come from the phrase *Lapis Tiburtinus* meaning *stone of Tibur*, although this theory is somewhat in question.

Tremolite was named after its locality, the Tremola Valley near St. Gotthard, Switzerland.

Turkey Fat Ore is a popular name for the bright yellow variety of Smithsonite which, you might guess, looks like turkey fat.

Turquoise was named from an Old French word *turqueise* meaning *Turkish*, because turquoise was transported from Persia (modern Iran) through Turkey to Europe.



U

Ulexite was named in honor of the German chemist, Georg Ludwig Ulex (1811-1883), the one who discovered this mineral. (Left: Public Domain.)

Uraninite is an oxide of uranium and was named in reference to its chemical composition, UO_2.

Uvarovite is a variety of Garnet. It was named in honor of Count Sergey Semionovich Uvarov (1786-1855), a Russian nobleman and President of the Academy of St. Petersburg. (Left: Public Domain.)

Uvite, a variety of Tourmaline, was named after the province of Uva, Sri Lanka, where it was found.

V

Vanadinite was named after its chemical composition which includes the element vanadium, $Pb_5(VO_4)_3Cl$. Vanadium is named after Vanada, the Scandinavian goddess of fertility, who is now known by the name Freya.

Variscite was named after Variscia, the ancient name of the Voigtland region of Germany.

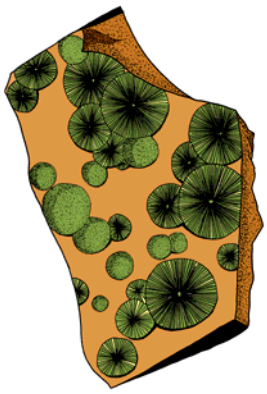
Vesuvianite was named after the locality from which it was described, Mount Vesuvius, Italy. This is a synonym for Idocrase. (Right: Mt. Vesuvius, Brooklyn Museum Archives, Public Domain.)

Vivianite was named in honor of the Welsh-Cornish mine owner and mineralogist, John Henry Vivian (1785-1855), who discovered this mineral. (Left: Public Domain.)

W

Wad is a name applied today to impure manganese ore which contains a variety of manganese oxides. It is an old name which originally referred to these manganese oxides as well as to Graphite. The origin of this name is unknown.

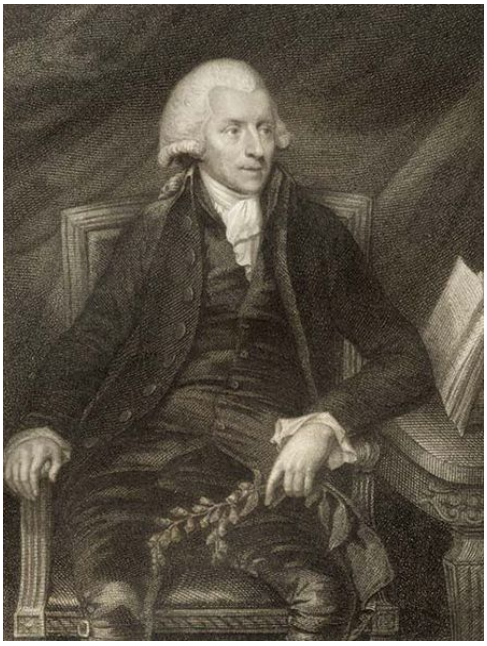
Wardite was named in honor of Henry Augustus Ward (1834-1906), founder of Ward's Scientific Establishment in Rochester, New York. Ward was a well-known mineral dealer and supplier of scientific specimens and equipment. (Right: Public Domain.)



Wavellite was named in honor of the English physician, William Wavell (1750-1829), who discovered this mineral in 1800 near Barnstaple, Devon, England.

Wheel Ore is the name given by German miners to Bournonite when it is crystallized in wheel-shaped twins.

Willemite was named in honor of King William I (Willem Frederick) of the Netherlands (1772-1843). It is an odd twist that this mineral was named in honor of Willem by a French man considering the fact the French stole Willem's mineral collection during the Napoleonic Wars.



Witherite was named in honor of the English physician and naturalist, William Withering (1741-1799) who discovered and first analyzed this mineral.

Wolframite was named from the old German words *volf* meaning *wolf* and *rahm* meaning *froth*. There seems to be agreement concerning the origins of this name. However, there is some disagreement concerning the specific image intended by the name. One story reports that the name was given by German miners who noticed that it "gnawed" through Cassiterite, that is, it interfered with tin production by making the smelting of Cassiterite difficult, resulting in a reduced yield of tin. A slightly different story is told by the 16th century mineralogist, Georgius Agricola. He claims that the name reflects the observation that a froth developed during the smelting process, a froth that looked like that made by a wolf devouring its prey.

Wollastonite was named in honor of the English chemist and mineralogist, William Hyde Wollaston (1766-1828). Wollaston is also famous for his invention of the reflecting goniometer, the first instrument designed to accurately measure the positions of crystal faces relative to one another. (Left: Public Domain.)

Wood Opal is the name given to wood that has been petrified by opal rather than the more common Chalcedony.

Wood Tin is a variety of Cassiterite. It looks like dried wood, complete with layers which resemble annual growth rings in trees. This popular name reflects this resemblance.

Wulfenite was named in honor of Franz Xavier Freiherr von Wulfen, an Austrian mineralogist (and Jesuit cleric) who first described this mineral in 1785. (Left: Public Domain.)

X

Xenotime was named from the Greek words *xenos* meaning *a stranger* and *time* meaning *honor*, because the element yttrium in this mineral's chemical formula was originally -- and incorrectly -- believed to be a new element.

Y

Yellow Ochre is a common name for the yellow, earthy variety of Limonite. The term *ochre* refers to any mixture of clay and/or sand with iron oxides.

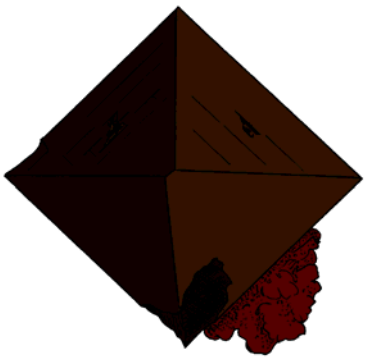
Z

Zeolite is a name that refers to a group of silicate minerals that contain water molecules. The name came from the Greek verb *zein* meaning *to boil* and the Greek word *lithos* meaning *stone*, because this group of minerals dramatically swells up when heated in front of the blowpipe.

Zinc Blende is a synonym for Sphalerite. *Zinc* is a reference to one of the metals in its chemical formula ((Zn,Fe)S) and *blende* which means *deceiving*. It was considered "deceiving" because some specimens looked like Galena but did not produce any lead.

Zincite was named after its composition which includes the element, zinc, (Zn,Mn)O.

Zinnwaldite was named after the locality of its first discovery, Zinnwald, Bohemia (now roughly West Czechoslovakia).



Zircon is another mineral name with disputed origins. Some claim it was named from the Arabic word *zarqun*: *zar* meaning *gold* and *gun* meaning *color* in reference to the golden color of some specimens. Others believe this name came from the name *cerkonier*, a name used by German jewelers which was later altered to "cirkon" and "zyrkon."

Zoisite was named in honor of the Austrian scholar, Baron Sigmund Zois Freiherr von Edelstein (1747-1819), who discovered this mineral. (Right: Public Domain.)

The Five Mineral Qualifications

By Emma Fajcz

Did you know that all prospective minerals must meet five distinct "rules" before they can be considered official minerals? Can you guess what these requirements are?

To be a mineral, a substance must…

1. **Be found in nature**
   This means that the substance cannot be man-made. For example, steel is not a mineral because it is not found naturally. Steel is a man-made combination of iron ore and other materials.

Figure 1: *This bridge in Argentina is made out of steel.*

2. **Be a solid**
   Basically, this rule says that a liquid can't be considered a mineral. To really "solidify" this concept, think about the three stages of water: liquid, solid, and gas. If water is in its liquid or gaseous forms, than it would not be considered a mineral. However, if it is in its solid state, it is a mineral based on our other three qualifications.

Figure 2: *Can you see the three phases of water in this photo? The ocean is liquid water; the iceberg is solid water; and the clouds are composed of gaseous water.*

3. **Be inorganic**
   Something that is inorganic is that something that is not alive or has not been alive. In addition, since people and most living creatures contain the element carbon, we can generally state that inorganic compounds will not contain carbon. A piece of wood was once part of a living tree and contains carbon, so it is an organic substance. This disqualifies wood from being a mineral, although it follows the first two rules.

Figure 3: *Two common forms of carbon: graphite, on the left, and diamond, on the right.*

4. **Have a crystal structure**
   A crystal structure is the arrangement of atoms into a repeated, structured pattern. If you look at quartz crystals, you can see that they usually form into six-sided crystals, often topped with a six-sided pyramid. This crystal is a result of the quartz

atoms being stacked up in such a way to create this shape. There are many different types of crystals, including octahedron, dodecahedron, and diploid.

5. **Have a distinct chemical structure**

Minerals can be made of only one main compound. Malachite's chemical formula is $Cu_2CO_3(OH)_2$, which means that each molecule of malachite contains two copper (Cu) atoms, one CO_3 molecule, and two hydroxide ions: (OH). Throughout the whole sample of malachite, the composition should be the same—$Cu_2CO_3(OH)_2$. However, some impurities are allowed. For example, quartz's chemical formula is SiO_2, silicone dioxide. Despite the fact that other factors can cause the purple coloration of amethyst, a kind of quartz, it is often because of iron impurities. Although amethyst often isn't pure SiO_2, it is still considered quartz because the vast majority of it is indeed SiO_2.

Figure 4: *This is a sample of malachite from the Democratic Republic of the Congo on the continent of Africa.*

It is interesting to note that there are a lot of "exceptions" and debate over these rules. There are over sixty biominerals, which are minerals produced by living organisms. Another odd group is a rare group of minerals called the hydrocarbon group, which contain carbon. Some also argue that a mineral can be a crystalline or an amorphous substance, which is a substance in which its atoms do not always stay in an ordered position. Gels and glass are examples of amorphous substances.

Therefore, even though these five rules exist, their exact meanings are still controversial. Maybe one day you will be able to help scientists decide what precisely what substances can be considered minerals.

Figure 5: *This hair gel is an amorphous substance. Notice how the gel doesn't move as quickly or as easily as a liquid.*

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Figure 1: "The viaduct La Polvorilla, Salta Argentina" by Alicia Nijdam - http://www.flickr.com/photos/anijdam/2491713704/in/photostream/. Licensed under CC BY 2.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:The_viaduct_La_Polvorilla,_Salta_Argentina.jpg#/media/File:The_viaduct_La_Polvorilla,_Salta_Argentina.jpg (accessed 05/22/2015)

Figure 2: "Iceberg with hole near Sandersons Hope 2007-07-28 2" by Kim Hansen - Own work (Own photo). Licensed under CC BY-SA 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Iceberg_with_hole_near_Sandersons_Hope_2007-07-28_2.jpg#/media/File:Iceberg_with_hole_near_Sandersons_Hope_2007-07-28_2.jpg (accessed 05/22/2015)

Figure 3: "Graphite-and-diamond-with-scale" by Commons:Robert Lavinsky - File:Diamond-and-graphite-with-scale.jpg. Licensed under CC BY-SA 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Graphite-and-diamond-with-scale.jpg#/media/File:Gra phite-and-diamond-with-scale.jpg (accessed 05/22/2015)

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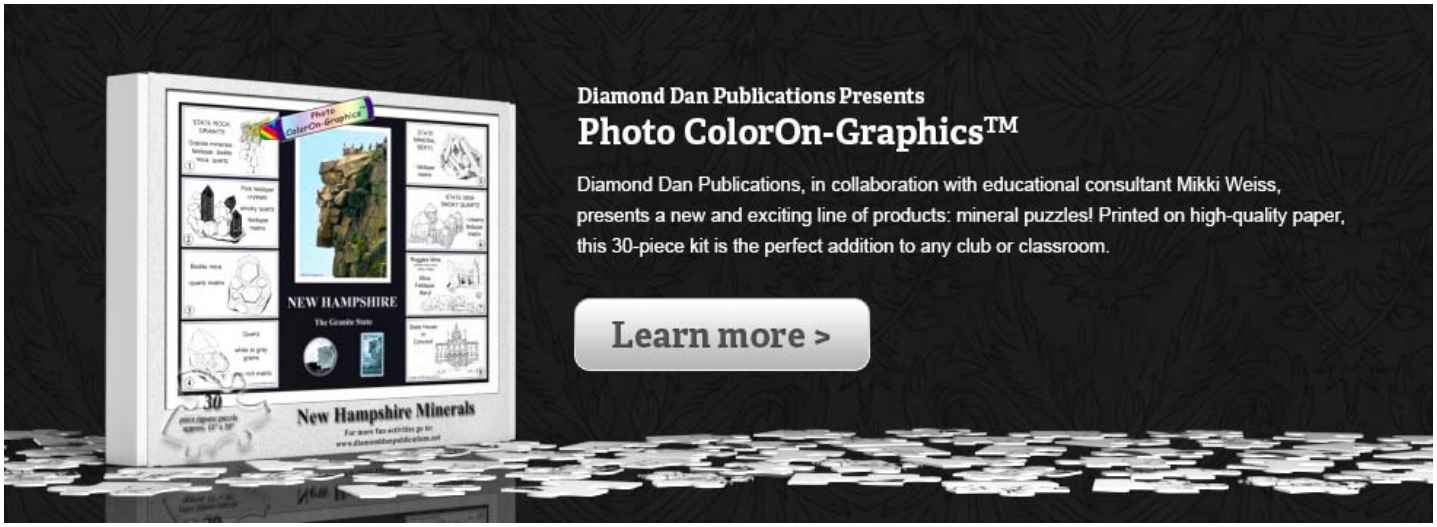
Figure 5: "Hairgel" by Bladeofgrass 11:45, 7 March 2008 (UTC) - Own work. Licensed under CC BY-SA 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Hairgel.JPG#/media/File:Hairgel.JPG (accessed 05/26/2015)



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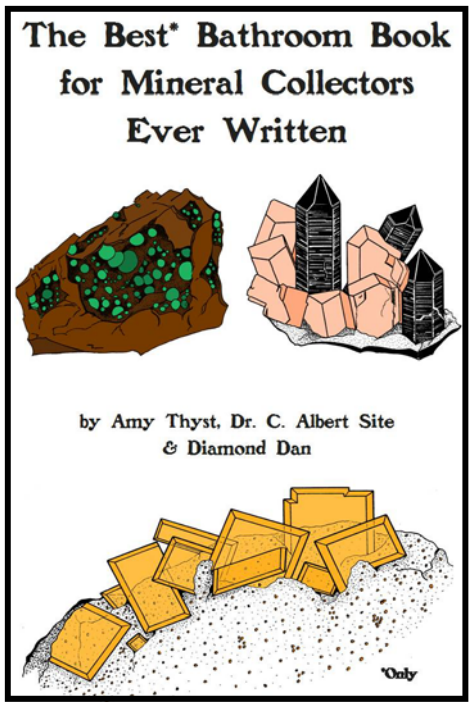

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