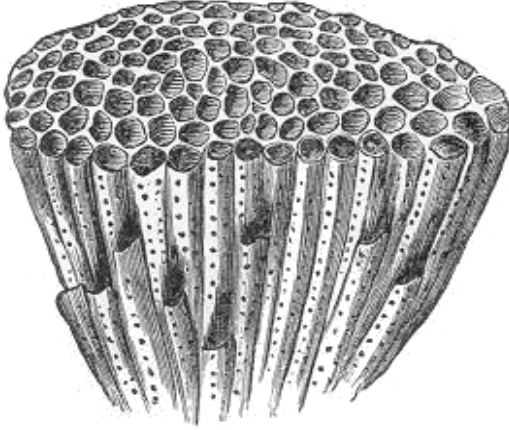


Favosites – (fay-vo-sight ; fay-vo-sight-ez)

Favosites are an extinct kind of tabulate coral (tabulate means they have horizontal "floors" inside the partitions) characterized by polygonal closely-packed corallites (corallites are the individual "tubes") and is commonly called "honeycomb coral".

Favosites are found as fossils in marine rocks from the Ordovician to the Permian periods (between 488 million and 251 million



years old). Favosites are easily recognized by their distinctive form; they were colonial, and the individual structures that house each coral animal are closely packed together as long, narrow tubes. In cross section, the structure has a distinctive honeycomb appearance.

For more information.

<http://michrocks.org/info/favosites.html>

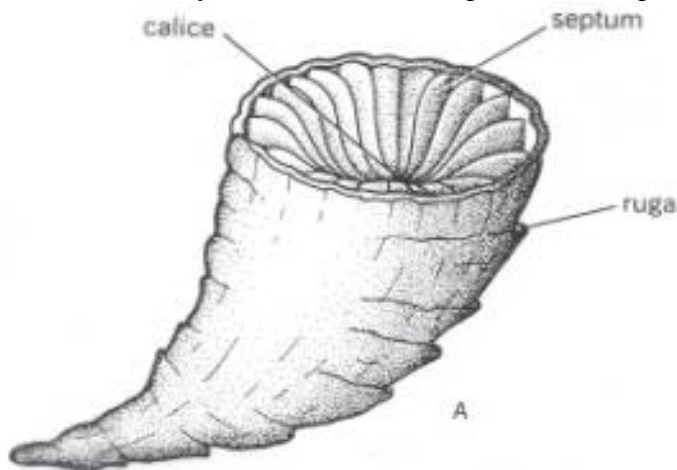
Horn corals

Scientifically these corals are known as the Rugosa, to fossil hunters they are horn corals because of a unique horn-shaped chamber with a wrinkled, or rugose, wall. Because of their shape the Rugosa are one of the most well-known and easily recognizable corals.

They are an extinct order of coral that were abundant in Middle Ordovician to Late Permian seas.

Some rugosans reached nearly a meter in length.

Like modern corals, rugose corals lived on the sea floor or in a reef. They had tentacles to help them catch prey.

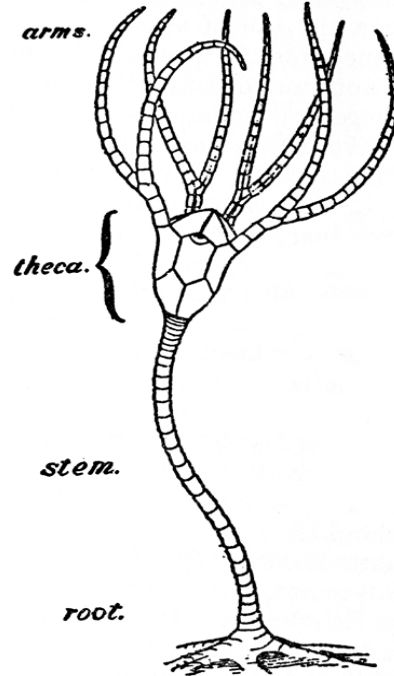


For more information.

<http://www.michrocks.org/info/horn-coral.html>

Crinoids – (cry-noid ; cry-noids)

The first Crinoids appear in the fossil record 450 million years ago, and there are still crinoids alive today!



While live crinoids look like flowers (sometimes they're called "Sea Lilies") they are really animals related to starfish and sea urchins. Animals in this family are called

"Echinoderms" (that means "spiny skin" and have what is called "five fold symmetry". Where you have two arms and legs, an echinoderm like a starfish has five, and some crinoids have 50!

It is uncommon to find the head or arms of a crinoid, but the stem

segments are very common.

For more information.

<http://www.michrocks.org/info/crinoids.html>

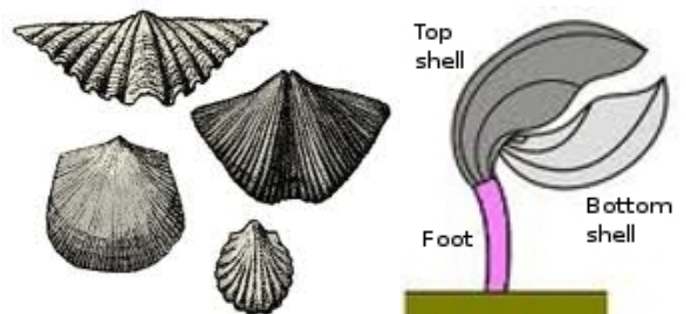
Brachiopods – (brak-e-o-pod ; brak-e-o-pods)

Most types of brachiopods are extinct, but there are brachiopods still alive today.

Brachiopods look very similar to bivalves (clams), but brachiopods tend to have a symmetrical shell, (the right and left side look the same) while bivalve shells are often lopsided.

While both brachiopods and bivalves have top and bottom shells, bivalve shells are more likely to be the same, while brachiopods often have different top and bottom shells.

The name is derived from brachium + poda (Latin meaning 'arm foot'. A brachiopod attaches itself to a rock using a foot or pedicle. It has arms (tiny tentacles) to catch its food.



For more information.

<http://www.michrocks.org/info/brachiopods.html>

Petrified Wood

Petrified wood is a type of fossil: it consists of wood where all the organic materials have been replaced with minerals (most often a silicate, such as quartz), while retaining the original structure of the wood. The process occurs underground when wood becomes buried under sediment. Mineral-rich water flowing through the

sediment deposits in the plant's cells and as the plant's lignin and cellulose decay away, a version forms in

Pure quartz are colorless, but minerals are the process they take on a yellow, red or other colors.



minerals and as the stone crystals when added to crystals

Petrified wood can preserve the original structure of the wood in all its detail, down to the microscopic level. Structures such as tree rings and the various tissues are often observed features.

For more information.

<http://www.michrocks.org/info/petrified-wood.html>

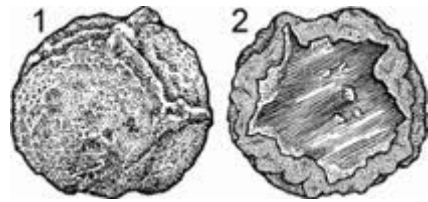
Thunder Eggs

Are nodule-like geological structures, similar to a geode, that are formed within some lava flows. They can be less than an inch to over a foot across. They usually contain center of agate, jasper or opal. Sometimes, they will have crystals, and other mineral growths. Thunder eggs usually look like ordinary rocks on the outside, but slicing them in half and polishing them may reveal intricate patterns and colors.

Thunder egg is not synonymous with either geode or agate. A geode is the name for a rock with a hollow in it, often with crystal growth. A thunder egg may be referred to as a geode if it has a hollow in it, but not all geodes are thunder

eggs because there are many different ways for a hollow to form.

According to Pacific Northwest native legend, the Thunder Spirits lived in the mountains, and when they became angry at each other, they threw these spherical rocks at each other.



it, often with crystal growth. A thunder egg may be referred to as a geode if it has a hollow in it, but not all geodes are thunder

For more information.

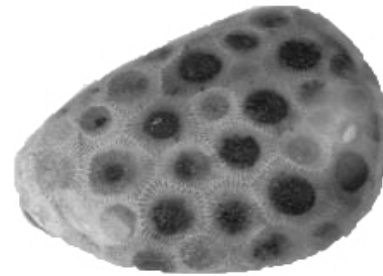
<http://www.michrocks.org/info/thunder-eggs.html>

Petoskey stone

Petoskey stone is a rock, often pebble-shaped, that is composed of a fossilized coral called *Hexagonaria percarinata*.

Petoskey stones are fragments of a coral reef that was originally deposited during the Devonian period, about 350 million years ago. When dry the stone resembles ordinary limestone but when wet or polished the distinctive hexagonal pattern of the fossil appears. It is sometimes made into decorative objects.

Petoskey Stones can be found on various beaches in Northern Michigan with many of the most popular



being those surrounding Petoskey and Charlevoix.

Polished and prepared stones can often be found at gift stores in the Petoskey area.

In 1965, it was named

the state stone of Michigan.

For more information.

<http://www.michrocks.org/info/petoskey-stone.html>

Marble

Is formed by metamorphosis (that means “change in form”) of limestone and dolomite. The change is caused by heating and squeezing and melting deep in the earth.

It is often used for decorations in buildings and for sculptures because it is easy to carve.

Pure white marble is formed when the original stone was very pure. Colors, veins and swirls are due to various impurities in the original rock.



For more information.

<http://www.michrocks.org/info/marble.html>

Gypsum

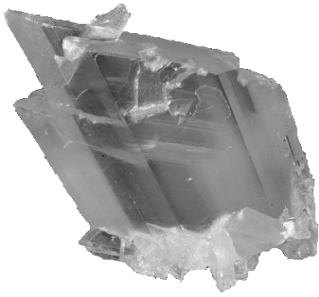
Gypsum is a very soft mineral (hardness: 2 on Mohs Scale)

It's most important identifying characteristic is it's softness. If you unable to easily scratch with a fingernail, then it is likely you have a different mineral. Also because gypsum has natural insulating properties, it feels warmer to the touch than other rocks.

Alabaster is a massive form of gypsum, meaning that its crystals are not obvious to the naked eye.

Selenite is the crystal form of the mineral gypsum, it is often transparent and colorless. If selenite crystals show translucency, opacity, and/or color, it is caused by the presence of other minerals.

Gypsum is formed as an evaporative mineral, frequently found in alkaline lake muds, clay beds, evaporated seas, salt flats, and caves. Gypsum, also, is frequently found in conjunction with other minerals. Gypsum formations have been dated to almost every geologic age.

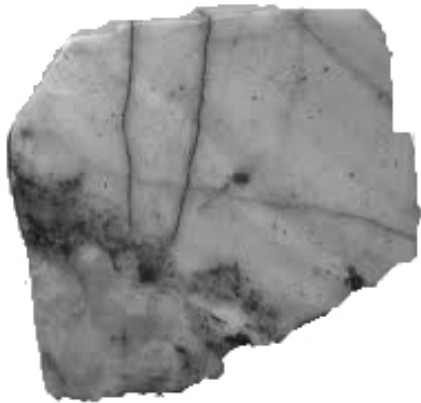


For more information.

<http://www.michrocks.org/info/gypsum.html>

Kona Dolomite – (co-na doe-low-mite)

Dolomite is a type of rock closely related to limestone. Kona is where it is from, a range of hills in Michigan's upper peninsula.



Dolomite is a calcium-magnesium carbonate. It is usually pink or white and has curved faces. Dolomite is limestone with magnesium added. It is used for building stones and for making refractory bricks for furnace linings.

For more information.

<http://www.michrocks.org/info/kona-dolomite.html>

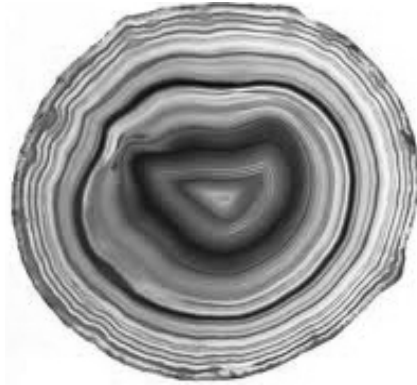
Agate

Is found all over the world in many shapes, sizes and colors.

Many agates occur as nodules in volcanic rocks (Lake Superior agates formed this way) where they started as bubbles in the lava, then filled, wholly or partially, with silica deposited in layers upon the walls. Others form in cracks (seam agate) or even in sedimentary rocks.

Agates, when cut, often exhibit a series of parallel lines, giving a banded appearance.

Such stones are known as banded agate. Other agates have plumes of color, or tree like inclusions (dendritic or moss agate).



For more information.

<http://www.michrocks.org/info/agate.html>

Obsidian

Is glass from a volcano!

It is produced when lava from a volcano cools rapidly with little crystal growth. Obsidian is commonly found at the edges of lava flows where the chemical composition (high silica content) makes thick gooey lava. Because it lacks crystal structure, obsidian edges can be very thin and sharp leading to its ancient use as arrowheads and knife blades, and its modern use as surgical scalpel blades.



For more information.

<http://www.michrocks.org/info/obsidian.html>

Michigan Copper

Michigans Keweenaw is unique among copper-mining areas, because the copper is found in the form of pure copper metal deposits (native copper) instead of the copper oxides, sulfides or small copper flecks that form the copper ore at every other copper-mining district.



Michigans copper was mined by Native Americans from the end of the Ice Age until they were displaced by European settlers. The copper even affected the borders of the United States, Benjamin Franklin, having heard of the copper deposits, made sure to

include Isle Royale in our original borders.

For more information.

<http://www.michrocks.org/info/michigan-copper.html>

Michigan Copper Minerals

In addition to copper the “poor rock” from the mines in the Keweenaw contains a number of other minerals.

Below is a list of some of the more common ones.

White - Calcite or Quartz
Blue – Chrysocolla
Light Green - Prehnite
Grass Green - Epidote
Dark Green – Chlorite,
Chlorastrolite
Pink – Prehnite (with copper)
Orange – Laumontite
Red – Microcline(feldspar)
Copper – Copper :-)
Silver – Silver ;-)



For more information.

<http://www.michrocks.org/info/michigan-copper-ore.html>

Chalcedony – (kal-sed-ne)

Chalcedony is similar to agate and jasper as a cryptocrystalline form of silica, composed of very fine quartz.

Chalcedony has a waxy luster, and may be semitransparent or translucent. It can assume a wide range of colors, but those most commonly seen are white to gray, grayish-blue or a shade of brown ranging from pale to nearly black.



Chalcedony can occur in many varieties. Many semi-precious gemstones are forms of chalcedony. The more notable varieties of chalcedony are as follows:

For more information.

<http://www.michrocks.org/info/chalcedony.html>

Jasper

Jasper is an opaque, impure variety of silica, usually red, yellow, brown or green in color; and rarely blue. This mineral breaks with a smooth surface, and is used for ornamentation or as a gemstone. It can be highly polished. When the colors are in stripes or bands, it is called striped or banded jasper. Jasper is basically chert which owes its red color to iron inclusions.



Volcanically heated water is generally thought to be required in the formation of jasper.

The original materials are often fractured and/or distorted after their original formation and are later filled with other colorful minerals resulting in a myriad beautiful patterns.

Picture jaspers exhibit combinations of patterns (such as banding from flow or depositional patterns (from water or wind), dendritic or color variations) resulting in what appear to be scenes or images, on a cut section.

For more information.

<http://www.michrocks.org/info/jasper.html>

Trilobite - (try-lobe-ite)

Trilobites are a well-known fossil group of extinct marine arthropods (arthropods are animals who have their skeletons on the outside- like bugs and lobsters). Their name means "three lobes".

Trilobites were some of the first animals to leave easy to see fossils and they lived until about 250 million years ago.

Trilobites had many life styles; some moved over the sea-bed as predators, scavengers or filter feeders and some swam, feeding on plankton. Most life styles expected of modern marine arthropods are seen in trilobites.

The trilobites were among the most successful of all early animals, roaming the oceans for over 270 million years.



For more information.

<http://www.michrocks.org/info/trilobite.html>

Peridot

Peridot is olivine, a common mineral, it is often found in lavas, but gem quality peridot only occurs in a fraction of these settings. Peridot can be also found in meteorites.

The color of individual peridot gems can vary from yellow- to olive- to brownish-green. The most valued color is a dark olive-green.

It is sometimes mistaken for emeralds and other green gems.



For more information.

<http://www.michrocks.org/info/peridot.html>

Chert

Chert is a fine-grained silica-rich microcrystalline, cryptocrystalline or microfibrinous sedimentary rock that may contain small fossils. It varies greatly in color (from white to black), but most often manifests as gray, brown, grayish brown and light green to rusty red; its color is an expression of trace elements present in the rock, and both red and green are most often related to traces of iron (in its oxidized and reduced forms respectively)

Chert occurs as oval to irregular nodules in greensand, limestone, chalk, and dolostone formations as a replacement mineral. Where it occurs in chalk, it is usually called flint. It also occurs in thin beds, when it is a primary deposit.

Among non-geologists (in particular among archaeologists), the distinction between "flint" and "chert" is often one of quality - chert being lower quality than flint.

For more information.

<http://www.michrocks.org/info/chert.html>

Coal

Coal is a black or brownish-black sedimentary rock that can be burned!

Normally it is found in layers called coal beds or coal seams. Coal is made of of carbon along with small amounts of other elements.

Coal begins as layers of plant matter accumulating at the bottom of a body of water. For the process to continue, the plant matter must be protected from rotting, usually by mud or acidic water. This traps their carbon in immense peat bogs that are eventually covered over and deeply buried by sediments. Under this compression the plant material is turned into coal. The wide shallow swamps of the Carboniferous period provided ideal conditions for coal formation, although coal is known from most geological periods. Coal is even known from Precambrian strata, which predate land plants: this coal is presumed to have originated from algae.

Coal, a fossil fuel, is the largest source of energy for the generation of electricity worldwide. Coal is extracted from the ground by mining, either underground by shaft mining through the seams or in open pits.

For more information.

<http://www.michrocks.org/info/coal.html>

Mohs Scale

The Mohs scale of mineral hardness is based on the ability of one natural sample of matter to scratch another. The samples of matter used by Mohs are all minerals. Minerals are pure substances found in

1 TALC		6 FELDSPAR	
2 GYPSUM		7 QUARTZ	
3 CALCITE		8 TOPAZ	
4 FLUORITE		9 CORUNDUM	
5 APATITE		10 DIAMOND	

nature. As the hardest known naturally occurring substance when the scale was designed, diamonds are at the top of the scale. The hardness of a material is measured against the scale by finding the hardest material that the given material can scratch, and/or the softest material that can scratch the given material. For example, if some material is scratched by apatite but not by fluorite, its hardness on the Mohs scale would fall between 4 and 5. It was created in 1812 by the German geologist and mineralogist Friedrich Mohs and is one of several definitions of hardness in materials science.

For more information.

<http://www.michrocks.org/info/mohs-scale.html>

FLUORITE

Fluorite is calcium fluoride. It will change color under ultraviolet light and this property is called fluorescence. It is usually purple, light-green, yellow or clear. It forms in cubes or octohedrons. It is used for a flux in smelting iron, for decorative stones, in the chemical industry and for making optical equipment.



For more information.

<http://www.michrocks.org/info/fluorite.html>

PYRITE



Pyrite is iron sulfide. It is also called fool's gold because it is a metallic gold color. Its crystals form as cubes. Sparks will fly if it is hit with a hammer. It is not valuable by itself, but is sometimes rich in gold and copper. Fossils are often

replaced by pyrite.

For more information.

<http://www.michrocks.org/info/pyrite.html>

CALCITE



Calcite is calcium carbonate and fizzes in acid. It is usually white or colorless, but can be other colors because of impurities in it. It may have many outward shapes, but always breaks into little pieces like boxes that have been rhombs.

Calcite makes up the rock called Limestone and is used to make cement, as fertilizer and as building stones.

For more information.

<http://www.michrocks.org/info/calcite.html>

Granite

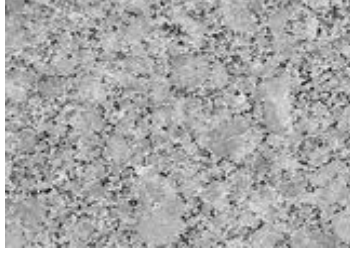
Granite is formed out of at least three different minerals:

---always QUARTZ

---always FELDSPAR

---always a dark mineral (usually MICA and/or HORNBLende,)

It can have more than one kind of feldspar in it, or have other minerals, too. Usually it is light colored. You can also see the mineral grains just by looking carefully.



It also has to have a certain amount of each of them.

The recipe for GRANITE is:

27% or more Quartz

3-10% dark mineral

63-70% Feldspar and other minerals

For more information.

<http://www.michrocks.org/info/granite.html>

The Rock Types

Igneous

rocks have been melted deep within the earth like lava. Some igneous rocks are: Basalt, Granite and Obsidian.

Metamorphic

Rocks have almost melted, they have been squeezed and heated until they have changed form.

They are things like: Marble, Quartzite and Gneiss (pronounced "nice")

Sedimentary

Rocks are made of little bits of other rocks that are stuck together. You can think of them as being made of mud or sand.

They are stones like Limestone and Sandstone

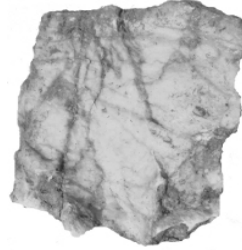
These rocks form a cycle where Igneous rocks are worn down to make Sedimentary rocks, that are buried deeper and deeper and become Metamorphic rocks.

For more information.

<http://www.michrocks.org/info/rock-types.html>

Alabaster

Alabaster is a name applied to varieties of two distinct minerals: gypsum (a hydrous sulfate of calcium) and calcite (a carbonate of calcium). The first is the alabaster of the present day; the second is the alabaster of the ancients. Both are easily shaped, with an attractive appearance, and have been used for making a variety of artworks and objects, especially small carvings.



The two kinds are distinguished from one another readily, because of differences in their relative hardness. The gypsum kind is so soft it can be scratched with a fingernail (Mohs hardness 1.5 to 2), while the calcite kind is too hard to

be scratched in this way (Mohs hardness 3).

For more information.

<http://www.michrocks.org/info/alabaster.html>

Apatite

Apatite is a group of phosphate minerals,

Apatite is one of a few minerals that are produced and used by biological systems.

Apatite is the defining mineral for 5 on the Mohs scale. is the major component of tooth enamel and bone mineral.

Fluorapatite (or fluoroapatite) is more resistant to acid attack than is hydroxyapatite. For this reason, toothpaste typically contains a source of fluoride. Similarly, fluoridated water allows exchange in the teeth of fluoride ions for hydroxyl groups in apatite.

For more information.

<http://www.michrocks.org/info/apatite.html>

Basalt

is a common extrusive volcanic rock (That means it's lava). It is usually grey to black and fine-grained due to its rapid cooling. It may be "porphyritic" containing larger crystals in a fine matrix, or "vesicular", having bubbles from gases. According to the official definition, basalt is an igneous rock that contains, by volume, less than 20% quartz and less than 10% feldspar

On Earth, most basalt magmas have formed by decompression melting of the mantle. Basalt has also formed on Earth's Moon, Mars, Venus, and even on the asteroid Vesta. The crustal portions of oceanic tectonic plates are composed predominantly of basalt, produced from upwelling mantle below ocean ridges.

Basalt is used for stone blocks

For more information.

<http://www.michrocks.org/info/basalt.html>

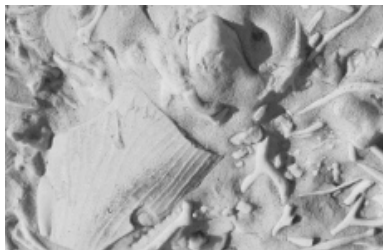
Fossil Graveyard

Isn't a "scientific" designation, it's a way of referring to a group of fossils stuck in one place.

Sometimes the fossils will be all of one type, sometimes they will be of many varieties.

They can indicate different conditions in the environment where they formed. When the fossils are all of one type it may indicate that the original environment contained large numbers of that particular type of animal as might be the case near a clam bed.

When there are many types of animals represented it may show there was a varied community of animals or it may be that the animals' remains were carried to one spot from a larger area. This might happen due to river or ocean currents.



For more information.

<http://www.michrocks.org/info/fossil-graveyard.html>

Pegmatite

is a very coarse-grained, intrusive (intrusive means it is squeezed between other rocks) igneous rock composed of grains usually larger than 2.5 cm (1 inch) in size; such rocks are referred to as pegmatitic.

Most pegmatites are composed of quartz, feldspar and mica; in essence a granite.

Crystal size is the most striking feature of pegmatites, with crystals often over 5 cm in size. Individual crystals over 10 meters across have been found, and some of the



world's largest crystals are found within pegmatites.

Similarly, crystal texture and form within pegmatitic rock may be taken to extreme size and perfection. .

For more information.

<http://www.michrocks.org/info/pegmatite.html>

Pencil Selenite

Pencil Selenite (or Pencil Gypsum) is long narrow crystals of gypsum found only in the old gypsum mine in Grand Rapids, Michigan.

Selenite, is a variety of the mineral gypsum.

All varieties of gypsum, including selenite and alabaster, are composed of calcium sulfate dihydrate (meaning has two molecules of water), with the chemical formula $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$.

Selenite contains no significant selenium; the similarity of names comes from both substances being named from the Ancient Greek word for the Moon.



For more information.

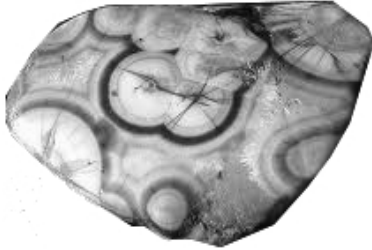
<http://www.michrocks.org/info/pencil-selenite.html>

Thomsonite

is the name of a series of silicate minerals of the zeolite group. Zeolites are stones that release water when heated. It is named for the Scottish chemist Thomas Thomson and has a Mohs hardness is 5 to 5.5. It is transparent to translucent. It may be colorless, white, beige, or somewhat green, yellow, or red. The crystals tend to be long thin blades that typically form balls or fans.

Thomsonite occurs with other zeolites in gas bubbles in basaltic rocks, and sometimes in granitic pegmatites.

Nodules of massive thomsonite that display an attractive banded coloring are found along the shore of Lake Superior. Most of these thomsonite nodules and their derived pebbles are less 1/4 inch across.



Those enclosed in basalt are extremely difficult to remove without breaking them. Consequently, a very large percentage of those used as gemstones have been, and continue to be, pebbles collected from beaches.

For more information.

<http://www.michrocks.org/info/thomsonite.html>

Taconite

is a variety of iron formation, an iron-bearing sedimentary rock, in which the iron minerals are mixed with quartz, chert, or carbonate. The iron content of taconite ore, is generally 25 to 30%. In the late 19th and early 20th centuries, available iron ore was of such high quality that taconite was considered an uneconomic waste product. After much of the high grade iron ore in the United States had been mined out, taconite became a new source of iron.

To process taconite, the ore is ground into a fine powder, the iron is separated from the waste rock by strong magnets, the powdered iron is combined with clay and rolled into ball about one centimeter in diameter. The pellets are heated hardened to make them durable. Since the commercial development of this process, the term taconite has been used globally to refer to iron ores amenable to upgrading by similar processes.

These processed taconite ore pellets are also referred to as "taconite". Because this is the form that is typically transported by rail and ship, and cargo of these is often discussed, this usage of the term is very common.

For more information.

<http://www.michrocks.org/info/taconite.html>

Selenite

Selenite, satin spar, desert rose, and gypsum flower are four varieties of the mineral gypsum; all four varieties show obvious crystalline structure. The four "crystalline" varieties of gypsum are sometimes grouped together and called selenite.

All varieties of gypsum, including selenite and alabaster, are composed of calcium sulfate dihydrate (meaning has two molecules of water), with the chemical formula $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$. Selenite contains no significant selenium; the similarity of names comes from both substances being named from the Ancient Greek word for the Moon.



For more information.

<http://www.michrocks.org/info/selenite.html>

Flint, Chert, Jasper, Agate - Who's Who.

There's a lot of confusion between the rocks - "chert", "chalcedony", "flint", "jasper" and "agate".

In petrology (petro means rock, ology means "study of) the word "chert" is used to refer to all rocks composed mostly of microscopic grains of quartz. The term does not include quartzite.

"Flint" is reserved for varieties of chert which occur in chalk and some limestone formations.

Among non-geologists the distinction between "flint" and "chert" is often one of quality - chert being lower quality than flint.

"Jasper" is an opaque chert with more color, usually reds and yellows. It is sometimes banded.

"Chalcedony" is a microfibrinous variety of quartz (the quartz has grown in microscopic strings). Chalcedony is sometimes considered separately from chert due to its fibrous structure. It is translucent to transparent, some times with coloring minerals.

"Agate" is translucent to transparent with some type of patterning, most often bands but sometimes with "plumes" or dendritic (tree like) inclusions.

The debate as to what any individual rock may be often comes down to an old rockhound saying "If I found it, it's an Agate, if you found it, it's Not!" :-)

For more information:

<http://www.michrocks.org/info/who.html>

Jaspilite

Is a type of rock found all around the world called B.I.F., Banded Iron Formation.

It has alternating layers of Jasper and Hematite (iron ore) that formed due to alternating conditions in the ocean before the Earth had oxygen in it's atmosphere.

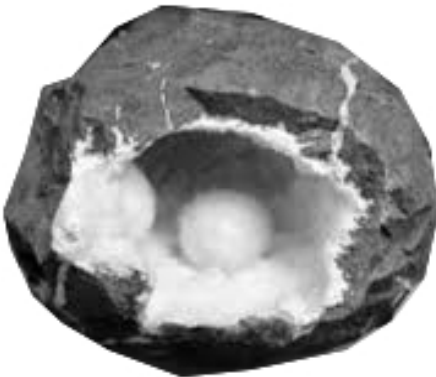
Specular Hematite

SPECULAR HEMATITE is a variety of hematite with a blue-gray color and bright metallic luster.

The name hematite is derived from the Greek word for blood because hematite can be red. Hematite is mined as the main ore for iron. Some uses of the mineral are as a polishing compound (rouge), coloring pigment for bricks and tile, and in jewelry.

Geode

Geodes (geode means "earthlike" because they are often round) are rock formations which occur in some sedimentary and volcanic rocks. Geodes are rock cavities with internal crystal formations. The outside of most geodes is generally a shell of rock that is harder than the rock that surrounds them, while the interior contains quartz crystals and/or botryoidal (means "shaped like a bunch of grapes") chalcedony deposits. Other geodes are completely filled with crystal, agate, opal or other minerals, being solid all the way through. These types of geodes are called nodules, agates, thunder eggs or other names.



For more information.

<http://www.michrocks.org/info/geode.html>

Septarian Nodule

A Septarian Nodule starts as a mud ball at the bottom of an ocean. Often forming around a fossil or organic debris. As the mud hardens (a chemical process rather than by evaporation) cracks form and are filled by other materials, often calcite, which gives an interesting contrast between the dark mud stone and the lighter colored calcite.

There are Septarians found around the world and several locations in the United States.

Amethyst

Amethyst is a violet variety of quartz often used in jewelry. The name comes from the Ancient Greek 'amethystos' which means "not intoxicated" a reference to the belief that the stone protected its owner from drunkenness; the ancient Greeks and Romans wore amethyst and made drinking vessels of it in the belief that it would prevent intoxication. It is one of several forms of quartz. Amethyst is the traditional birthstone for February.



Amethyst is the purple variety of quartz (SiO_2), containing an impurity of iron, which gives the violet color to the mineral. The

hardness of the mineral is the same as quartz's, thus it is suitable for use in jewelry.

Amethyst ranges in color from a light pinkish violet to a deep purple.

For more information.

<http://www.michrocks.org/info/amethyst.html>

Quartz

is the second most common mineral in earth's crust and the most common at the surface. It shows up in many forms, in its purest form it is clear six sided crystals or as white if the crystals are not well formed.

When it has impurities they may add color, iron, can make Quartz purple as in Amethyst, yellow in citrine or orange/brown as in carnelian.

Sandstone

SANDSTONE is a sedimentary rock composed of sand-sized grains of quartz and feldspar. The spaces between grains may be empty or filled with either a chemical cement of silica or calcium carbonate or a fine-grained matrix of silt and clay particles.

Sandstones often form in layers in environments where large amounts of sands can accumulate such as beaches, deserts, flood plains, and deltas.



Sandstones are often used as building stones, and have importance to geologists as indicators of erosional and depositional processes.

For more information.

<http://www.michrocks.org/info/sandstone.html>

Coprolite

A coprolite is fossilized animal dung. Coprolites are classified as trace fossils as opposed to body fossils, as they give evidence for the animal's behaviour (in this case, diet) rather than morphology.

Like other fossils, coprolites have had much of their original composition replaced by mineral deposits such as silicates and calcium carbonates.

By examining coprolites, paleontologists are able to find information about the diet of the animal (if bones or other food remains are present), such as whether or not it was a herbivore.

Coprolites have been recorded in deposits ranging in age from the Cambrian period to recent times and are found worldwide. Some of them are useful as index fossils helping determine the age of the rocks around them.

Some marine deposits contain a high proportion of fecal remains. However, animal excrement is easily fragmented and destroyed, so usually has little chance of becoming fossilized.

For more information.

<http://www.michrocks.org/info/sandstone.html>

Baker Ranch Thunder Egg

Pudding Stone

Fossil Bone

Ammonite

Apache Tears

Psilomelane

Barite Rose