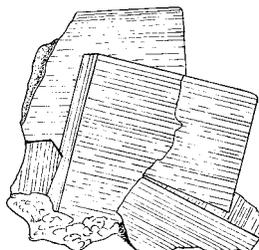


# What's the Difference?

Use a mineral book to find information about gold and pyrite and show how they are really different from each other.



**Gold**



**Pyrite**

Color: \_\_\_\_\_

Color: \_\_\_\_\_

Hardness: \_\_\_\_\_

Hardness: \_\_\_\_\_

Crystal System: \_\_\_\_\_

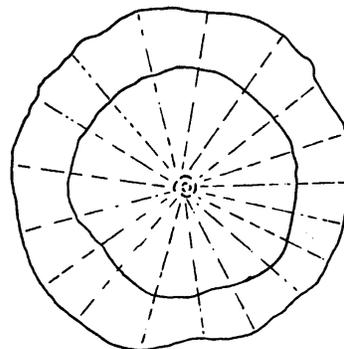
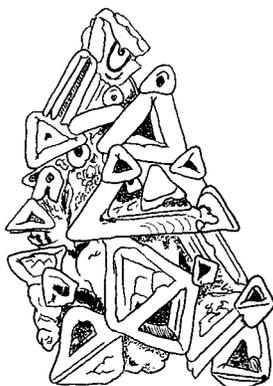
Crystal System: \_\_\_\_\_

Specific Gravity: \_\_\_\_\_

Specific Gravity: \_\_\_\_\_

Streak: \_\_\_\_\_

Streak: \_\_\_\_\_





# Mineral Trivia

Some \_\_\_\_\_ crystals are so thin, you can see through them.

\_\_\_\_\_ is unique because it has two different hardnesses in one crystal.

\_\_\_\_\_ has the element *strontium* in it, which is used to make bright red fireworks.

The name of this mineral means *heavy*. The mineral is \_\_\_\_\_.

\_\_\_\_\_ is very valuable. It is also *ductile* which means it can be stretched into long, thin wires.

\_\_\_\_\_ is also known as “Fool’s Gold.”

\_\_\_\_\_ is an important source of uranium for nuclear reactors.

\_\_\_\_\_ is used to make porcelain.

\_\_\_\_\_ is the mineral name for nature’s magnet.

\_\_\_\_\_ can form huge crystals, some as big as 600 pounds.

\_\_\_\_\_ is an ore of the metal called *lead*.

\_\_\_\_\_ is the hardest substance on Earth.

\_\_\_\_\_ is the green variety of the mineral *beryl*.

\_\_\_\_\_ is named from a Greek word which means *blood*.

\_\_\_\_\_ is the mineral name for *salt*.

\_\_\_\_\_ is used in photography and jewelry.

\_\_\_\_\_ usually grows in rounded masses that look like a bunch of grapes.

\_\_\_\_\_ is the mineral name for “Television Stone.”

**Choose From The Following Minerals . . .**

Barite, Celestite, Diamond, Emerald, Galena, Gold, Halite, Hematite, Kyanite, Magnetite, Orthoclase, Pyrite, Silver, Smithsonite, Topaz, Ulexite, Uraninite, Wulfenite.



## Scheelite

By Bob Farrar, reprinted from *The Rostrum*, July 2014

Scheelite, Named for the Swedish Chemist C. W. Scheele, scheelite is a mineral that is important both economically and as an interesting mineral for collectors.

Scheelite consists of calcium tungstate,  $\text{CaWO}_4$ . It crystallizes in the tetragonal system, usually forming bipyramidal crystals that may be somewhat asymmetrical. It occurs in a broad range of colors, including white, gray, yellow, brown, orange, red, blue and light green. Cream color to amber seem to be the most common colors. Scheelite is often, but not always, fluorescent, usually blue to yellow. It is a fairly heavy mineral, with a specific gravity of 5.9 to 6.1. Other physical properties include a hardness of 4.5 to 5.0, adamantine luster, and bipyramidal cleavage. Crystal form, specific gravity, and fluorescence (if present) are usually sufficient to distinguish scheelite. A chemical test for tungsten can also be used.

Scheelite occurs in a variety of high temperature geological environments, including sharns (calcium-rich silicate rocks), metallic ore deposits, and granitic pegmatites. Among the most famous localities in recent years is Pingwu, Sichuan Prov., China. There, spectacular orange crystals up to 15cm are found in a pegmatite, along with aquamarine and cassiterite. Specimens with both scheelite and aquamarine on the same piece are particularly prized. Scheelite is also found at a number of other Chinese localities, including, recently, the Haunggangliang Mine in Inner Mongolia. It sometimes occurs as a secondary mineral in gold ore deposits, such as the Morro Velho Mine in Minas Gerais, Brazil. Large Masses of scheelite, some in the hundreds of kilograms, have been found in some localities, such as the Natas Mine of Namibia, and the Kayb Massif of Kazakhstan. Good crystals have been found at numerous localities around the world, including Korea, Russia, Peru, and several sites in Europe.

The United States also produces collectible scheelite specimens. Arizona, in particular, is known for scheelite, including orange crystals to 5cm from the Cohen Mine, to 10cm from the Borianna Mine, and to 7kg in the Dragon Mtns. It is abundant enough to be mined as

tungsten ore at Oreana, Nevada. Other notable western localities are in California and Colorado. In the east, scheelite crystals in matrix have been found at Trumbull, Connecticut. Small amounts of scheelite are found with hueberite at the Tungsten Queen Mine in North Carolina, but that locality is not considered a major source of scheelite.

Scheelite is important both economically as an ore of tungsten, and as mineral collectors' specimens. It is sometimes faceted as a gemstone, but it is more of a novelty than an important gem mineral. It is due to its occurrence as interesting crystals, sometimes brilliant colors, and fluorescence, however that make scheelite a mineral that any collector would want to own.

<http://www.minfind.com/mineral-16809.html>



Scheelite

## So What Did *You* Do This Summer?

Article by Natalie Darling, Photographs submitted by Linda Noble

On July 9th, Dave Woolley, John Haskins, Linda Noble, Natalie Darling, Cindy Mitchell & Taylor presented an educational program to a group of about 70 YMCA summer camp students.



The students ranged in age from 5-13, and most found an area of interest through our handouts, displays, and lectures about minerals, rocks and other club activities discussed.

Dave Woolley opened with a simplified version of "What is a Mineral, What is a Rock."

John discussed some of the collectables and there were samples for the students to handle and admire.

Natalie Darling



had a display of Fluorescent Minerals that was a big hit with the students. We also had handouts for the students, including their own copy of "Minerals of the World Book" (Thanks to Thom and Linda Noble), Amazonite, Quartz, Fern Fossils, and Core samples that members donated, and Rock pets constructed by Linda Noble.

After the brief "lecture," the students were split into three groups, and rotated through each section admiring and learning more about the collection of specimens and fluorescent minerals on display, as well as acquiring their own collection from our handouts.

The whole thing took us about 2 hours, and I think it made a real impact on both the students and staff alike. Thanks to all who participated. It is part of our mission statement to "Promote education in the earth sciences." It's nice to get out and share our passion with others in



## Franklin NC Gem Shows, July, 2014

Article by Natalie Darling

After having been to the Spruce Pine Gem Shows for many many years, we decided to try something a little different this year.

Siglinde Allbeck, Warren and Natalie Darling (along with the four legged Cleo and Lucy) spent several days in the Mountains of Western North Carolina, with the drawing card being the annual Gem and Mineral shows held in Franklin. Shows, Shows, and More Shows. So many, in fact, that in two and a half days we did not have a chance to visit them all. So here's a little run down on the activities:

Day 1- Was spent visiting the indoor wholesale show (over 200 dealers, mostly beads and jewelry making materials, business supplies, gifts, and a small amount of pretty spectacular specimens.) There was also an outdoor section with some unique and very large specimens- and 99 degree temperatures. Just plain HOT! (Cleo, Lucy and Warren had to spend some quality time in the vehicle with the AC running....)

Day 2- Early morning stop at a very large outdoor Wholesale/ retail show. Now this was a good one, and the temperatures were much more reasonable early in the day. There was a great variety with both wholesale and retail prices, some unique finds, and plenty of specimens, jewelry making supplies, you name it, they probably had it. The dealers for the most part were knowledgeable and there were good deals to be found. We spent half the day there, then after lunch we had a quick stop at yet another outdoor show, then back to the indoor show for 2 reasons- 1- It's just to darn hot outside, and 2- you can't possibly see it all in 1 day.



Day 3- Before heading home we went back to the second outdoor show. This too was a large display with a nice variety, the deals not as good as the first outdoor show, but nice quality and unique specimens again were found. Some of the dealers were slow arriving on this Sunday Morning, but it was time to head home after a long, hot weekend.

There was a club show indoors, that we never got to. I am sure it's much like our local club shows and we were sorry to miss it, but the drive home was 7+ hours and we wanted to get back before dark to unload all of our treasures.

We had learned of a couple of possible collecting sites in the area, but with the new collecting stipulations involving National Forests we were a little unsure, so decided to forgo the collecting opportunities this time around. All in all it was a great trip, worth the travel time and expense. Anyone want to join us next year?



*Large Malachite Specimens on display at the outdoor show.*

## Northern Virginia Mineral Club Annual show

November 22-23, 2014

George Mason University, The HUB Ballroom; 4400 University Dr, Fairfax, VA

Saturday 10-6; Sunday 10-4

**Cost:** Adults \$5.00, seniors \$3.00; Students (13-17)- \$3.00; Children 12 and under, Scouts in uniform and GMU students with ID- FREE.

*More than 20 dealers, minerals, fossils, gems, jewelry, meteorites, crystals, demonstrations, exhibits, door prizes, kids' mini-mines, learning activities, cub scout activities, silent auction on Sunday. Web site [www.novaminerclub.org](http://www.novaminerclub.org) Show Co-Chair: Jim Kostka 202-207-5437*



### FOR SALE BY OWNER

#### GRAVES MARK IV FACETING MACHINE

Used for a total of 10-12 hours.

**PRICE: \$1200.00**

Includes:

Diamond Laps:

8" 360 grit

8" 600 grit

8" 1200 grit

Also 8" 1&1/4" thick plastic lap with polishing discs

15 solid brass dops with holder & transfer holder

Fundamental Faceting Booklet

Notebook with patterns

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Dia-cut (water soluble coolant)

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Alcohol lamp

50 container gem tray.

If interested please contact Dixie Stoltz @ 304-258-0940 or email [rixdix@frontier.com](mailto:rixdix@frontier.com)

### FOR SALE MARK IV FACETING MACHINE

**\$1200.00**



LAPS



8" 360 GRIT  
DIAMOND  
LAP



8" 600 GRIT  
DIAMOND  
LAP



8" 1200 GRIT  
DIAMOND  
LAP



8" 1/4" THICK,  
FLAT, PLASTIC,  
POLISH LAP  
WITH POLISHING  
DISCS



NOTEBOOK  
WITH PATTERNS

#### ALSO

15 SOLID BRASS DOPS WITH HOLDER, TRANSFER HOLDER, FUNDAMENTAL FACETING BOOKLET, UTILITY TORCH, OPTIVISORS FOR CLOSER-UP WORK, DIA-CUT(WATER SOLUBLE COOLANT), WAX STICKS, ALCOHOL LAMP, AND A 50 CONTAINER GEM TRAY.

IF INTERESTED,  
PLEASE CONTACT  
DIXIE STOLTZ  
304-258-0940

## Heat Stress Prevention

*Reprinted from June 2013 Gem and Mineral Journal;  
Submitted by Al DeHart, by way of David Callahan*

Your Field Trip Coordinator wishes to remind all Club members as to the symptoms of various stages of heat stress, and precautionary measures to be taken during hot weather or excessive temperatures at field trip locations.

Factors leading to heat stress include high temperatures and humidity, direct sun or heat, limited air movement, physical exertion, poor physical condition and some medications such as antihistamines, anti-depressants and high blood pressure medications. Those who have not become acclimated (accustomed) to hot and humid environments are more susceptible to heat stress than those who have.

Please observe yourself and your fellow field trip participants when rockhounding in hot environments and look for the following symptoms of the various stages of heat stress:

**Heat Cramps** – Due to heavy sweating and loss of salt and other electrolytes, symptoms include painful spasms of the arms, legs and abdomen. Treatment includes drinking water or electrolyte replacement drinks such as Gatorade®, massaging the affected area and rest.

**Heat Rash** – This is not considered to be more serious than heat exhaustion or heat stress, but can be unpleasant and deserves mention. Also known as prickly heat, this condition develops when the skin's sweat ducts become clogged; trapping perspiration and causing irritation, itching and a rash that can be mild to severe. Heat rash can occur where skin touches skin, such as the inner thighs, armpits and under the breasts. Aside from taking normal heat stress precautionary measures, avoid using powders, creams or ointments that further block sweat ducts. However, calamine lotion can be applied after cool showers to alleviate symptoms. Watch rashes and blisters for signs of infection and contact your physician if you experience increased pain and swelling, red streaks, drainage of pus, swollen lymph nodes, fever/chills, or if symptoms of heat rash persist for weeks or months.

**Heat Exhaustion** – Due to dehydration and non-acclimatization to heat, symptoms include heavy sweating, intense thirst, pale and moist skin, headache, a rapid pulse, upset stomach or vomiting, and fatigue or weakness. Victims should be moved to the shade or an

air conditioned space and allowed to lie down and rest. Loosen clothing, provide water and cool compresses or water mist, and elevate the legs. Watch closely for possible signs of heat stroke, which follows.

**Heat Stroke** – Due to excessive exposure to high heat environments, where the body's core temperature rises to critical levels (in excess of 105 deg F). Subsequently, the body's system of temperature regulation fails. Symptoms include high body temperature, lack of sweating (red, dry skin), rapid pulse, chills, hyperventilation or difficulty breathing, disorientation or unusual behavior, weakness, seizures or fits, and ultimately unconsciousness. Victims require immediate response as this condition can be fatal; call for emergency help, immerse the individual in cold water (the colder the better), or massage the body with ice.

**Preventing Heat Stress:**

- Always have someone nearby when rockhounding in hot environments.
- We need to look out for each other, recognize the various effects of heat stress and take immediate preventative actions.
- Field Trip participants should wear lightweight, loose-fitting, light colored clothing.
- As a general thumb rule, ensure that during rockhounding in hot conditions, have at least two quarts of water readily available per person such that one cup of water can be ingested every 15 minutes on average.
- Take rest breaks as necessary, and preferably in cooler environments with air movement.
- Whenever possible, block out the sun or other heat sources.
- Avoid alcohol, caffeinated drinks or heavy meals.



## From the First V.P.

Continued from page 1

Mica is a mineral name given to a group of minerals that are similar in their physical properties and chemical compositions. They are all silicate minerals, which means that chemically they all contain silica (SiO<sub>4</sub>). Mineralogists call micas sheet silicates because their molecules combine to form distinct layers. These layers can be seen in muscovite mica specimens because it can be split (mineralogists call this feature cleavage) into very thin, flexible, transparent layers. This physical property is so distinctive that all minerals that cleave in this fashion are said to have micaceous cleavage.

There are 37 different mica minerals. In addition to the silicate tetrahedrons in all micas, Purple lepidolite contains the elements potassium, lithium, and aluminum. Black biotite contains potassium, iron, and magnesium. The two micas used as a commodity are: brown mica or phlogopite which contains iron and magnesium; and the "reddish, green, or white (or clear) mica" or muscovite which contains potassium and aluminum.

Large sheets of muscovite form in igneous rocks. Very large sheets or crystals of muscovite form in a pegmatite. A pegmatite is an extremely slow-cooling igneous rock in which very large crystals can form. Phlogopite generally forms in metamorphic rocks, especially in metamorphosed limestone, although it occasionally forms in igneous rocks, too.

Mica crystals are six-sided. They are fairly light and relatively soft, at 2 to 4 on Mohs' hardness scale for the univalent micas. Sheets and flakes of mica are flexible. Mica is heat-resistant and does not conduct electricity.

Two distinct forms of mica are utilized as a commodity. Scrap and flake mica is mica that either occurs naturally or is ground into very small flakes and pieces. Sheet mica is large pieces of mica that can be cut into various shapes for use in electronics.

### Name

The name mica was probably created from the Latin word *micare* meaning to shine in reference to the shiny luster of the micas. Muscovite is very resistant to heat and electricity. As a result, it was commonly

called "Muscovy." This mineral was commonly called Muscovy Glass after the Latin term *vitrum Muscoviticum*. In 1850, James Dwight Dana formally named this mineral muscovite based on the Latin term. The name phlogopite, named by F.A. Breithaupt in 1841, comes from the Greek word *phlogopos* meaning fiery in reference to the reddish color seen on some specimens of this mica.

### Sources

Scrap and flake mica is produced all over the world. In the U.S., scrap and flake mica was produced in Arizona, North Carolina, South Dakota, Georgia, New Mexico and South Carolina. North Carolina's production accounts for half of total U.S. mica production. The flake mica produced in the U.S. comes from several sources: the metamorphic rock called schist as a by-product of processing feldspar and kaolin resources, from placer deposits, and from pegmatites. Canada, India, Finland, and Japan export flake mica to the U.S.

Sheet mica is considerably less abundant than flake and scrap mica. Sheet mica is occasionally recovered from mining scrap and flake mica. The most important sources of sheet mica are the pegmatite deposits. The United States has limited sheet mica resources. U.S. mining of sheet mica is costly and labor costs are high. As a result, the U.S. imports more than half its sheet mica from India, but also from Belgium, Germany, China, and a few other countries.



**Mica Schist.** (source: Mineral Information Institute)

Continued on next page

## Wildacres Update

I was informed after last months issue went to print that the Wildacres information I had was incorrect. I apologize for any inconvenience. Here is the correct list of classes and instructors. I hope you can find something you would be interested in and attend this wonderful learning opportunity. Thanks to Jessie Dudley for bringing this to my attention.

**Dates:** Sept 1 through Sept 7

### Classes offered:

Cabochons, Basic - Al DeMilo

Cabochons Intermediate - Al DeMilo

Faceting - Steve Weinberger

Lost Wax Casting - Fred Sias

Silversmithing 1 and 2 - Pat Baker

Soapstone Carvin - Sandy Cline

Wire Wrapped Jewelry 1 and 2 - Jan Stevens

Sorry for any confusion.

## From the First V.P.

*Continued from page 18*

The principal use of ground mica is in gypsum wallboard joint compound, where it acts as a filler and extender, provides a smoother consistency, improves workability, and prevents cracking. In the paint industry, ground mica is used as a pigment extender that also facilitates suspension due to its light weight and platy morphology. The ground mica also reduces checking and chalking, prevents shrinkage and shearing of the paint film, provides increased resistance to water penetration and weathering, and brightens the tone of colored pigments. Ground mica also is used in the well-drilling industry as an additive to drilling "muds."

Coarsely ground mica flakes help prevent lost circulation by sealing porous sections of the uncased drill hole. The plastic industry used ground mica as an extender and filler and also as a reinforcing agent. The rubber industry uses ground mica as an inert filler and as a mold lubricant in the manufacture of molded rubber products, including tires.

Sheet mica is used principally in the electronic and electrical industries. The major uses of sheet and block

mica are as electrical insulators in electronic equipment, thermal insulation, gauge "glass", windows in stove and kerosene heaters, dielectrics in capacitors, decorative panels in lamps and windows, insulation in electric motors and generator armatures, field coil insulation, and magnet and commutator core insulation. Mica is also used as segment plates between copper commutator sections to insulate copper from the steel; phlogopite mica is used because it wears at the same rate as the copper segments.

When I was just a lad of 7, I stumbled across an old Mica mine in a state park. There were several large books of sparkling Mica just scattered everywhere. It was like Christmas came early that year. Since then, Mica has been a favorite of mine. It 's always exciting to find more of it.

Happy Hunting,

Jack Curtin

**Gem and Mineral Society of Lynchburg,  
VA INC**

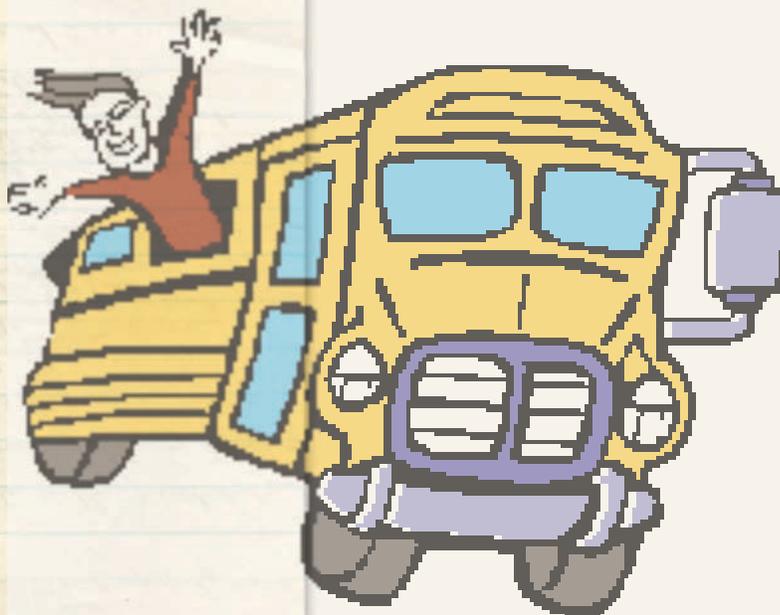
Natalie Darling, Editor  
211 Chesterfield Rd.  
Lynchburg, VA 24502



The purpose of the Gem & Mineral Society of Lynchburg, VA is to promote education in The Earth Sciences, including: Mineralogy,



Lynchburg Rock Raiders is the official Future Rockhounds of America association of the The Gem & Mineral Society



**MEETING LOCATION**

Lynchburg Parks and Recreation  
Fairview Center  
3621 Campbell Ave.  
Lynchburg, VA

**DIRECTIONS:** Fairview Center; 3621 Campbell Ave., Lynchburg, VA 24501 434-847-1751~ From Route 29 expressway or Route 460, take the Campbell Avenue Exit. Follow Campbell Ave. to **3621**, which is across the street from a **Citgo Gas Station**. There is a fence around the building and parking on both streets running along the sides of the property as well as a lot in the back. We will be looking for you!