

JULY-AUGUST, 2023

NEWSLETTER OF THE

SOUTH CENTRAL FEDERATION

Of Mineral Societies



Member of: American Federation of Mineral Societies

ON THE COVER

A **ruby** is a pinkish red to blood-red colored [gemstone](#), a variety of the [mineral corundum](#) ([aluminium oxide](#)). Other varieties of gem-quality corundum are called [sapphires](#). The word *ruby* comes from *ruber*, [Latin](#) for red. The color of a ruby is due to the element [chromium](#). Rubies have a [hardness](#) of 9.0 on the [Mohs scale of mineral hardness](#). Among the natural gems, only [moissanite](#) and [diamond](#) are harder. All natural rubies have imperfections in them, including color impurities and inclusions of [rutile](#) needles known as "silk". Generally, gemstone-quality corundum in all shades of red, including pink, are called rubies. For more information see: <https://en.wikipedia.org/wiki/Ruby#>

Peridot (*[/'pɛrɪ, dɒt, - doʊ/ PERR-ih-dot, -doh](#)*), sometimes called **chrysolite**, is a [yellowish-green](#) transparent variety of [olivine](#). 6.5 to 7 on the Mohs hardness scale. Peridot is one of the few [gemstones](#) that occur in only one color-olive green. The intensity and tint of the green, however, depends on the percentage of [iron](#) in the crystal structure, so the color of individual peridot gems can vary from yellow, to olive, to brownish-green. In rare cases, peridot may have a medium-dark toned, pure green with no secondary yellow hue or brown mask. Lighter-colored gems are due to lower [iron](#) concentrations. For more information see: <https://en.wikipedia.org/wiki/Peridot>

Images-

Ruby in matrix with Kyanite. Location: Winza, Tanzania. Attribution: StrangerThanKindness, CC BY-SA 3.0 <https://commons.wikimedia.org/w/index.php?curid=11575180>

Cut ruby– A 1.41-carat oval ruby from [Sartor Hamann Jewelry](#) in downtown Lincoln, Nebraska. Photo: Bkell/images. https://commons.wikimedia.org/wiki/File:Cut_Ruby.jpg

Ruby on calcite by [Parent Géry](#) commons.wikimedia.

https://en.wikipedia.org/wiki/File:Rubis,_calcite_14.jpg

Forsterite (**var. peridot**) Trillion cut 100.15 ct. gemstone [National Museum of Natural History](#) via The Smithsonian Institution https://www.si.edu/object/forsterite:nmnhmineralsciences_10266186

Forsterite (**var. peridot**) Emerald cut 11 ct. gemstone [National Museum of Natural History](#) via The Smithsonian Institution https://www.si.edu/object/forsterite-var-peridot:nmnhmineralsciences_1005369

Peridot Olivine on basalt, photo by Pyrope. en.wikipedia.org/wiki/File:Peridot_olivine_on_basalt.JPG

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SOUTH CENTRAL FEDERATION OF MINERAL SOCIETIES, INC.

2022 SCFMS OFFICERS

President: Roger Burford

Executive V-P: Don Shurtz

Secretary: Liz Burford

Treasurer: Henry Rojas

Web Master: Don Shurtz

**Exec. Secretary:
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**AFMS Endowment Fund Raffle:
(temporary) Jerrold Simpson**

**SCFMS Endowment Fund Com.
Treasurer: Empty**

**Nominating Committee –
Ron Carmen**

Past President: Jerrold Simpson

For more information or to send information to the SCFMS or an officer, please email:

scfmsinformation@gmail.com



PURPOSE

*To promote popular interest and education in the various earth sciences, in particular those hobbies dealing with the art of lapidaries and the science of minerals, fossils, as well as their associated fields.

*To cooperate with educational and scientific institutions or other groups engaged in increasing knowledge in the earth sciences.

*To cooperate with or become members of similar Federations in the United States and elsewhere.

*To assist in the formation of earth sciences societies in localities where public interest justifies their formation.

**E-MAIL ADDRESS
CORRECTION AND CHANGES**
It is each members responsibility to send your email address corrections to the SCFMS Editor:

Susan Burch,
scfmseditor@yahoo.com

**NEWSLETTER PUBLISHED
BIMONTHLY**

DUPLICATION

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A NOTE FROM —THE EDITOR—

THE FINAL DEADLINE, ETC.



For each newsletter the deadline is the 20th of the month prior to scheduled publication. February-April-June-August-October-December all provide the deadline for the following bi-monthly issue. Although, the Editor may chose to adjust the deadline due to circumstances.

As a reminder! Shop hints and tips that are used in this newsletter have not been evaluated for safety or reliability by myself. Please use caution and safety when trying out any new idea. Please, if you have something urgent give me a call, but send newsletter content via email.

**ANNUAL SHOW 2023
October 13-15, 2023**

**Hosted by
The Gem & Mineral Society of
Louisiana**
See flyer on page 6 for details

ANNUAL MEETING

October 14, 2023

**SCFMS WEB-SITE:
WWW.SCFMS.NET**

The SCFMS is a member of the American Federation of Mineral Societies. amfed.org

NEWSLETTER EDITOR/BEAC:

Susan Burch
scfmseditor@yahoo.com



President's Message



Roger Burford
SCFMS President

Well we have all had the hottest summer on record this year and I hope everyone has been safe and staying cool and well hydrated. While the summer is a time when most of us have the chance to get out into the great outdoors, however, in this heat it can be very dangerous.

Liz and I have been very busy riding the roads attending the Rocky Mountain Federation Conference and Show in Wyoming and we are currently in Montana for the American Federation Conference and Show. We had some excitement on our way up to Montana, as we were leaving town we had a wreck that totaled our truck. We were not hurt other than some bruising and a burn from the airbag thank goodness but when they were going to tow away the truck we had to get all of our things out of the truck to be able to still make it on our way. The tow yard people ended up being very helpful helping us unload the truck and my sister and brother-in-law came and picked us up and all of our stuff and brought us home. Saturday morning we rented another vehicle to make the trip.

We had a good meeting and there are going to be new changes to the Uniform Rules that will help make understanding all of the requirements for each kind of competitive display much easier to understand and will break up the Rules into separate sections eliminating the need to read the entire book. We also had some discussion about judges and the training requirements for them. We need to get more of our members through judges training, so many of the existing judges like all of us are getting older and there are just not enough people trained.

Everyone please be careful out there and I am looking forward to seeing you at our convention in October.



<http://beane.users.sonic.net/?comic=dont-forget-the-little-er-big-guy>

SCFMS NEWS

Hello All!

I hope all of you have survived this record breaking heat this summer, staying hydrated and cool. It certainly does not make it fun for those who enjoy getting out and rockhounding!

Recently, I sent an email to all Presidents and Vice Presidents, as listed in our directory from 2022. We had a few hiccups earlier this year, one of those being finalizing the 2023 Directory.. My email asks for verification of the listing we have. I sincerely thank those of you who have responded, whether updating the info or confirming it. I appreciate hearing from those of you that contacted me regarding issues you have been having and sadly enough those of you that contacted me to tell me your club has disbanded.

Those of you that have not yet responded, please take the time to verify this info, correct it if needed, and return it to me, as soon as possible. If there is no change, we need to know that too. The South Central Federation of Mineralogical Societies is a registered 501(c)3 Organization. Each of your clubs is a branch of that organization. We need to have an accurate listing of who is in charge of each "branch" and how many people are at each location. Accuracy is crucial for communication with you, for insurance rates, for us to be able to guide potential new members to you when we receive inquiries from the public as we often do, just to name a few reasons. It's just plain important so please respond.

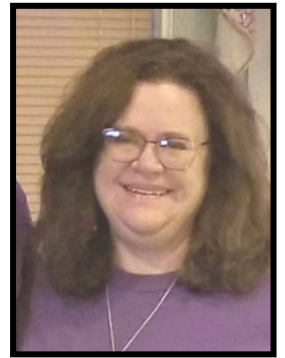
One issue that comes up every single time we send this request is the question of privacy. People don't want their names, numbers, addresses, and email addresses listed anywhere. First and foremost, this directory is not openly published on the web and is not available to the public. It is password protected on our secure website. There are TWO people that typically remember that password. If anyone wants or claims to need access to that directory, they are thoroughly checked out to see if they are authorized to receive it. Permission is NOT granted to just anyone. I will tell you, I have had 2 or 3 people request access in the last several years. I am willing to bet Don Shurtz has not received many more requests than that. This information is NOT going "out to the public."

Further to this issue, each Society President is a Director of the SCFMS. We are required to have this complete information for each Director per the state of Texas. As a Director, each President's responsibility is to provide this information for their club to SCFMS (the lead organization as referred to in Paragraph 2). I really do not like having to bring this part up because it is my hope that each and everyone involved would agree to provide it voluntarily. The plain and simple fact is, if those of you in the respective positions in each society do not want to share this information, maybe you should step down if you are that concerned about being "exposed." I will reiterate that I do not like to be like this, but it has come to the point of being necessary.

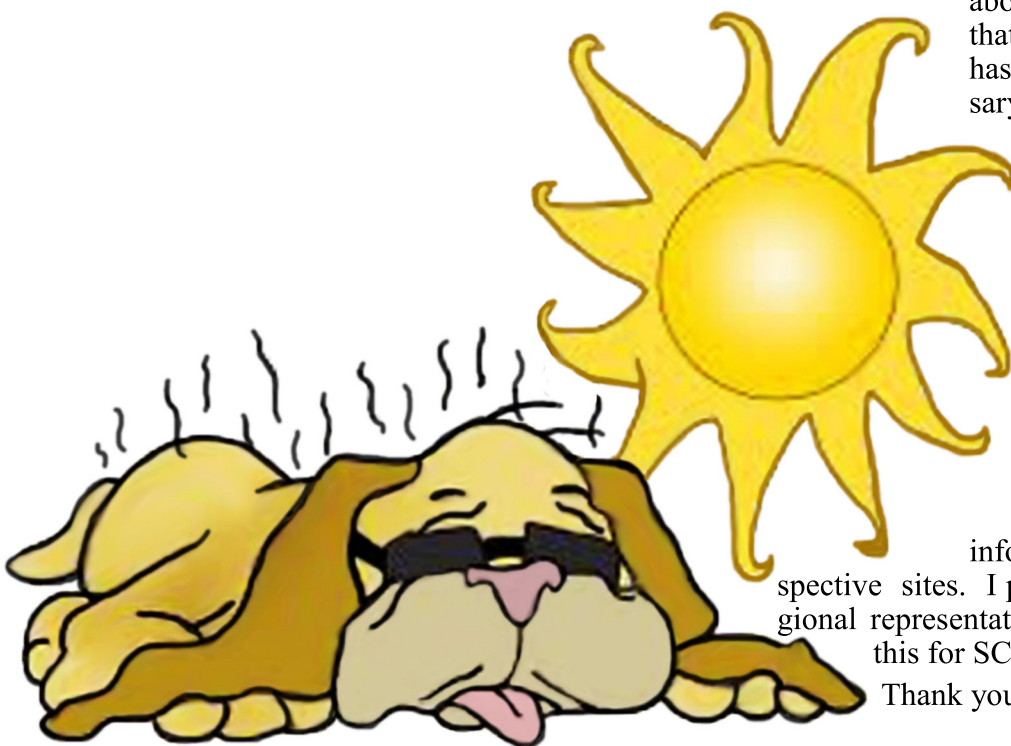
In closing, we went to the Rocky Mountain Federation meeting a couple of weeks ago and are at the AFMS convention this week. Each region has been attempting to update their directories recently. There are a couple of regions that are working diligently to gather this information where all parties involved can be comfortable and have the necessary

info in a secure database on their respective sites. I plan on spending time with these regional representatives to try to figure out how to do this for SCFMS. This is a hot topic this year.

Thank you all for your continued support.



Liz Burford
SCFMS Secretary



2023 SCFMS ANNUAL SHOW AND MEETING

It's getting to be that time of year again... that's right! Convention (Annual Meeting) time!! The meeting will be held in Westwego, LA at the Alario Center once again this year. The date for the meeting is October 14, 2023. The Gem and Mineral Society of Louisiana's show dates are October 13-15.

You can expect to see Roger send out the "Call for Reports" soon. This is the official request for all Directors to send in their reports to me so I am able to compile the Convention Packet. If you are a Director that needs to submit a report, start preparing now!

Folks, if you are a Director (Executive Officer, Society President, or District Vice President) start making your plans to attend. We will be offering a Zoom link for those of you that absolutely cannot make it to the meeting in person. This cost is a reimbursable expense, to be reimbursed by your individual clubs for Society Presidents. SCFMS has allotted funds to pay for at least part, if not all, of the expenses for the District V.P.'s, Officers, and Executive Officers. This a great event to participate in. Meet members from other organizations, find out if they are or have experienced some of the things you may be encountering. Find out what their solution has been or things they have tried. Just plain meet people with common interests as you! So many people walk away saying they are really glad they came. They learned so much or they met so many nice people.

It is extremely important that you attend this year. Aside from it being a responsibility of your position, this is an election year and we must have a quorum present to hold an election.

It is also at this time I will be sending out a Delegate form for each of you to complete and return to me. This will let me have a preliminary list of who will be present, as well as tell us that you have authorized someone to fill in for you in the event you cannot make it. If I do not have this form PRIOR TO the start of the meeting, your representative will not be allowed to vote which is equivalent to your club being absent from attendance.

I truly do hope to see all of you in October. These meetings are a lot of fun as well as much more productive!

Liz Burford

SCFMS Secretary

Dealer Chair - Gem and Mineral Society of Louisiana

51st Annual Gem & Mineral Show

Alario Center

2000 Segnette Blvd. Westwego, LA 70094

October 13th-15th, 2023
Friday & Saturday 10a-6p
Sunday 10a-4p

ADMISSION CASH ONLY

\$6 per day - \$10 weekend pass

Scouts in uniform & Kids under 12 FREE

\$3 Students, Military, & Members w/ ID

Hosted by: Gem & Mineral Society of Louisiana







www.gmsofla.org

Uniform Rules and Exhibitor Guidelines Ellery Borow—AFMS Safety Chair

Judging an exhibit case by the AFMS Uniform Rules is to be judged by guidelines and standards of excellence. Judging by the Uniform Rules is done by judges who have a desire to encourage and teach exhibitors in ways and means to prepare and display the best exhibits possible. Exhibits, when Judged by the Uniform Rules, earn points / scores for such things as the quality of the labeling, backgrounds, excellence of the specimens, showmanship, and so on. If there were, say, five micromount exhibits, four gem tree exhibits, two lapidary exhibits and one fossil exhibit to be judged at a show, the micromount cases would be judged by the micromount rules and be scored accordingly. The micromount exhibits would not be judged or compared with one another. The same would be true of the gem tree, lapidary, and the one fossil exhibit. With the one fossil exhibit the judging would be by the guidelines in the Uniform Rules for excellence in



the Fossil rules categories. It would be judged by accurate identification of the fossils, by excellence in labeling, with presentation, and by the other guidelines in the Uniform Rules. In the Uniform Rules standards are established and revised as international conventions change the names of minerals, new fossils are discovered, gem names are standardized, and new categories of competition are created. Thus, the Rules change from year to year. There are exhibits and there are exhibitors. Some exhibitors strive for excellence in a particular category. Other people exhibit because they derive pleasure in exhibiting the geology of the rocks or minerals in their area, or one of many reasons to exhibit. There are as many reasons to exhibit as there are exhibitors. Most clubs encourage members to place exhibits at their club show. The exhibits run the gamut from personal collections, specific localities, lapidary artistry, interesting river stones, specimens a member collected on a trip to a famous collecting site, to crystallography of pyrite exhibits. Exhibits are a great way to highlight the interests, skills, or activity of their club's members. Exhibits highlight what one may enjoy by joining the local club. There will be more to come on exhibitor guidelines when preparing an exhibit for the Uniform Rules based competition.

Please consider preparing an un-judged exhibit for display at your club's show. Be brave, an exhibit helps your club and is fun to prepare. From EFMLS NEWS, May 2023

Uniform Rules or Club Rules Ellery Borow—AFMS Safety Chair

Numerous clubs encourage members to put an exhibit or display at their club show. Some clubs encourage the visiting public to vote on the cases for perhaps most colorful, most curious, most well laid out, most interesting, or perhaps most beautiful case. There really are not any rules except for personal opinions. It can really be fun to win a best of show blue ribbon. At a show, it is always encouraging to see members putting their best effort, their heart, into making those wonder-filled exhibits. Its also wonderful to see the expressions on their faces when an exhibitor win a blue ribbon – and the determination of the non-winners to do better next year. There are others who have a drive to collect and display the best. If they have a good cassiterite, they are often on the look-out for an even better cassiterite. With that kind of drive toward excellence there is often a wish to exhibit their quest for the best at a club show. It is, after all, quite a challenge to always be on the watch for better specimens through barter, purchase, or self-collect. The search for the best can be found most everywhere – with minerals, fossils, thumb-nails, large cabinet size specimens, lapidary art, or gems. The Uniform Rules (UR) of the American Federation provide guides and suggestions as to encourage exhibitors to present the best exhibits, to have the most accurate labels, to consider the best presentation of the specimens being displayed. The UR are not for comparing one exhibit case to the one beside it but to certain standards of quality in the pursuit of excellence – and obtain the best score of the UR judges. It may be a bit more stressful for some but just as much fun in the challenge. With whatever you choose – Uniform Rules or Club Rules – keep the excitement, creativity, passion, determination, showmanship, and the fun in mind.

From EFMLS News, June 2023



EACH ONE TEACH ONE
Betsy Oberheim

I have been very remiss as to writing articles to remind people to think about recommending a person or couple for the EOTO award. I am so sorry! Now that we are back in the swing of meetings, shows, field trips, etc. there must be some people in your club who are working overtime to represent the club to the public! Someone who goes out of their way to tell the public about rocks and minerals, to show, and perhaps give out rocks to kids. Some of the schools are allowing out members to come in and demonstrate to speak about rocks to the kids (our future, remember?) Others share their talents of working with rocks and gems. Here's your chance to honor that person; email me a paragraph explaining why they should receive a plaque thanking them for their contributions. (aoberheim3@comcast.net) From EFMLS NEWS, May 2023

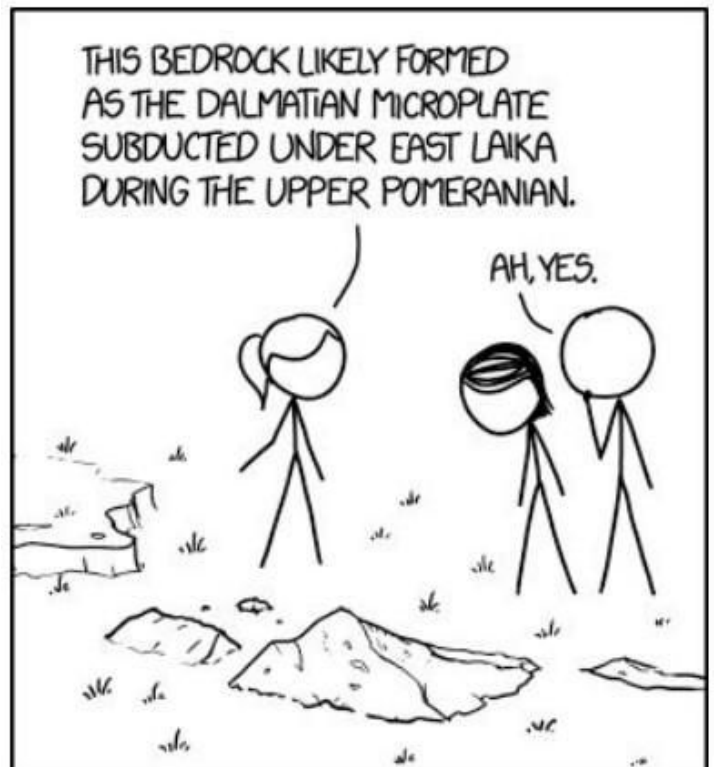
Written Contributions Welcome!

SCFMS exists solely for the benefit of our member clubs and we are all volunteers. Please consider enriching our club by making a written contribution to the newsletter about a geology or earth science related topic.

Pick a topic that interests you and give it a go. Please send it to Susan Burch, Editor, who will work with you to finalize your item for this newsletter.

Please, be sure to send me your show flyer at least several months in advance so I can share it in our newsletter.

Susan Burch, Editor



GEOLOGY TIP: THERE ARE SO MANY MICROPLATES AND AGES THAT NO ONE REMEMBERS THEM ALL, SO IN A PINCH YOU CAN BLUFF WITH DOG BREEDS.



Fossil Cryptogram Puzzle

By Susan Burch, SCFMS Editor/BEAC



Try to decode the message. Each letter in the phrase has been replaced with a random letter or number.

KEY

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B			I	S												J									

Q : A E E A

J K O B C T W C O S P S X B C T R A W O T G

E E E A D A D A

F S C K S S A B A R X I E R W W T X B A I B

A E A E D ?

G B X S R A C R X R H T W C Q B X X S I

A : A D A

B Q B P F R A I B C T A H

Q A D D E E D A

J K O B C I T I R A S G P R S C T I B

A A E A D E ?

W B V C R B A R C O S P B C I T A A S P

A : E E E

B O S P S C P T X R F T C S

Q : A D

J K O B C Y T A I R E D Z W T Q

D E E E D A ?

I R S W C O S E R W W T X P S Q R P I G X B V

A : A D

B O B P I P R Q Y

Q : D D E E

J K O V I T I C O S C P S U

A E A E A E A E D ?






Q B E S O B M S B O S X G K B A C S I W T H A

A : E A E E E E

B F S Q B Z W S C O S V K S P S

A D E D

W O R P C O B A I S I

Answer found on Pg. 14

WHAT'S NEW FROM THE INTERNATIONAL GEM SOCIETY?**Check out the below links online**[23 RED GEMSTONES: WHICH ARE BEST FOR RINGS?](#)

If you like red, ruby isn't your only gemstone option. Here are 23 different red gemstones. Learn which ones are durable enough for ring use and daily wear.

[SULPHUR VALUE, PRICE, AND JEWELRY INFORMATION](#)

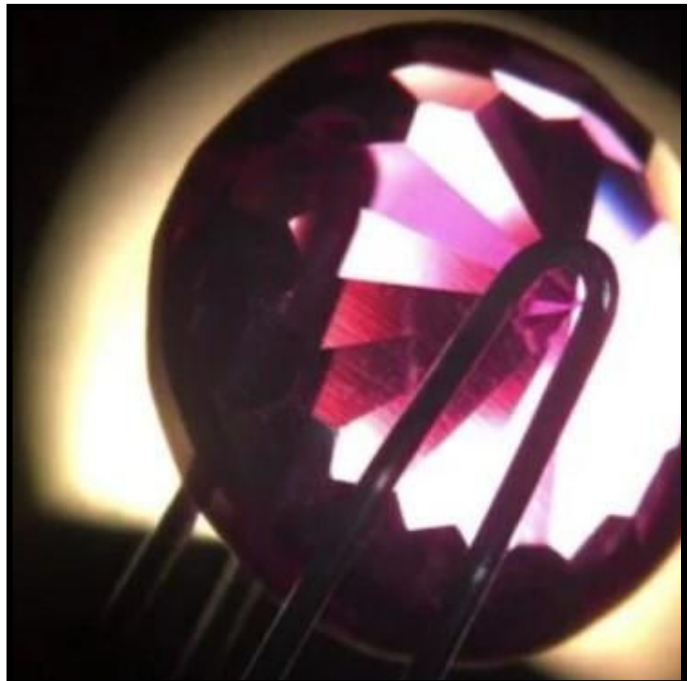
Although sulfur is very abundant, facetable material is not. Sulfur is also enormously difficult to cut and almost impossible to wear, so faceted pieces have some scarcity value for collectors of unusual gems.

[SYNTHETIC GEMSTONE INCLUSIONS](#)

Identifying lab-created gems is a critical skill for gemologists. Learn how to spot the most common synthetic gemstone inclusions.

[PROPERTIES OF DIAMOND SIMULANTS](#)

Diamond simulants, like cubic zirconia and moissanite, often appear in jewelry. See how the properties of real diamonds compare with popular imitations.



WONDERS OF A CRYSTAL

A crystal is one of the strangest objects of nature. It is not alive, yet it grows. A crystal attracts the same kind of materials of which it is composed, arranges them with great accuracy in geometrical forms, cements the parts together and holds them. Place a crystal in a liquid, or vapor composed of the same ingredients as the crystal and the process of accumulation immediately begins. If a crystal was broke in two parts and placed in a bath of liquefied crystal, the broken surface will be repaired and each part will grow into another crystal, providing the other conditions favorable for crystal growth are present. Even after a crystal has been worn until it is but a rounded grain of sand, it will speedily become a crystal again if placed in a solution containing the ingredients of which it is composed. There is no known limit to the ability of a crystal thus to repair itself and resume its growth. Under a microscope a crystalline solution can be seen forming into crystals, and it is a wonderful sight. First, innumerable dark spots form in the fluid; they stand still and then begin to move. It is soon seen that the movement arranges the spots in straight lines, like beads. The beads speedily coalesce into rods, and the rods arrange themselves into layers until a crystal is created. The process proceeds so rapidly that it is almost impossible to follow closely.

From Rock Scoop 2 \01; via Dusty Rocks 7/01; via Golden Spike News 8/01; via HGMS 8/2020, No author was listed. Photo at right—Rutilated quartz, courtesy of Kenny Polve



THE MOHS THE MERRIER
By Marilyn Russell

I think that I shall never see
 A poem lovely as a tree.
 But I'm a fan of geology,
 So Kilmer's missed the mark for me.
 Who can resist the gorgeous gems:
 Diamonds and rubies in diadems,
 Topaz and amethyst in the stores,
 Birthstones with prices my husband adores.
 On Superior's shore the labradorite's flashing;
 Lapis Lazuli's blue tone is smashing.
 Get out the black light! It's fluorite's time
 To bring out hidden colors sublime.
 Quartz's wannabe cousin calcite,
 Long lost past of Amber is in sight,
 Talc is every baby butt's delight.
 Thus, the Mohs Scale is mine to recite!

Note: This poem counts down the Mohs Scale from 10 to 1. People with strong memories will recall that ruby is a variety of corundum, number 9 on the scale; amethyst is a variety of quartz, number 7; labradorite is a variety of feldspar, number 6; lapis lazuli has the same hardness, 5, as apatite, the defining mineral; and amber has the same hardness, 2, as gypsum, the defining mineral. As the Strata Data, Michele Yamanaka, noted, "Very Creative".—Valerie J. Meyers, MWF Editor via AFMS newsletter 6/23

Photo of a diamond in matrix, Smithsonian Institution collection



HOW TO SHAPE AND POLISH OPALS WITHOUT MACHINERY



Opal is a hydrated silica with varying amounts of moisture. Its hardness varies from 5.5 to 6.5. This method of cutting and polishing opal practically eliminates fracturing from heat.

There are four basic steps in shaping and polishing:

1. Sanding off the matrix on both sides to locate the best fire.
2. Rough shaping the stone.
3. Sanding and pre-polishing, which result in the final shaping and size.
4. Final polishing the gemstone.

All photos of opals in the collection of Susan Burch



Supplies Needed:

1. A carborundum stone, double grit, sold by most hardware stores.
2. Wet or dry sand paper, 400- and 600-grit
3. A piece of inner tube, 6" square.
4. Two pieces of corduroy or velvet material, 6" square
5. Polishing agent, Tripoli or tin oxide
6. Aluminum pie pan
7. Dopstick and household glue or cement.

Instructions:

Place carborundum stone on the inner tube in the pan, course side up. Pour water on the stone until some stands on top.

Always work opal on a very wet stone. With a circular motion, grind on both sides to reveal the best fires.

Mark size of desired stone on the back of the opal and grind down to size.

When size has been obtained, wash opal, carborundum stone, inner tube, and pan. Do this between each process.

Now the opal is ready to be dopped. Use a cold dop of household cement. Coat the end of the dopstick. Also coat the back of the opal. Let it set a minute, and then press together. Stand in modeling clay or other support to dry, about eight hours.

When the opal is set on the dopstick, use the coarse side of the carborundum to shape the opal. Wash all equipment. Then this time, using the fine side of the stone, sand out all the scratches, wash, and proceed.

Go through this process first using the 400-, then the 600-sanding paper. The opal should have a pre-polish on it.

For the final polish, use the same process with the tin oxide. A little "Linde A" may be added to the tin oxide if you wish. To remove the stone when finished, soak overnight in water and the stone will come loose.

Good luck, and may you have a beautiful stone. Malachite, Turquoise, Chrysocolla, as well as many other stones under 6.5 hardness may be polished with this method.

From The Rockpile, 12/02; Via Breccia, 5/07; via BEMS Tumbler, 6/10; Via GSGMS newsletter 6/10 & 6/23. No author was listed.



THE COLORS OF PETRIFIED WOOD
W. C. McDaniel

Color	Mineral(s)
Red, Orange	iron
Yellow, Brown	iron, uranium
Green	iron, copper, cobalt, chromium, uranium, and nickel
Blue	copper, manganese, cobalt, and chromium
Violet and Purple	manganese and iron
Black	manganese, carbon, and iron
White and Gray	silicon dioxide



Walk into a paint store and you will see rows and rows of paint samples of many colors. Multiple choices of browns or reds! A little overwhelmed, you take a break and go next door to the petrified wood store (I wish). There you are really “whelmed.” Petrified wood of all shapes, sizes, types, and colors lining the shelves. Many shades of brown/red and a variety of other colors are in full display of these millions and millions of years old specimens. Two questions: how the petrified wood moved from a piece of wood/part of tree to a hard rock, and second, how it got those colors?

Petrified wood is a type of fossil. It forms when organic wood is rapidly buried in sediments that protect it from decay. Groundwater rich in dissolved minerals then replaces the original plant material with minerals such as silica (quartz) in a process called permineralization. This is not an overnight event, rather taking millions of years.

Nature was tie dyeing long before t-shirts were invented. The colors we see in petrified wood were determined by the mineral types found in the area. Plus,

the nature forces of time, location, and movement will determine the petrified wood you collect and see in the petrified wood store. MAGS Editor Note: A great deal of petrified wood is millions of years old, but in some cases the natural process can be faster. There are laboratory techniques that are much faster.] MAGS Rockhound News, 6/21



WHAT DO GOLD AND DIAMONDS HAVE IN COMMON?
By Celia Tiffany

- Diamond (a form of carbon) and gold are both classified as Native Elements in the Periodic Table of Elements: that is, they are among the few elements that occur in the Earth’s crust in a relatively pure, uncombined form.
- Both crystallize in the cubic system.
- Both most commonly occur as octahedral crystals.
- Large deposits of each have been mined in South Africa and in Australia.
- Both are highly valued for use in jewelry, science, and industry.
- Both have inspired exploration, exploitation, and brutal conquests.
- Both are outrageously overpriced, but diamonds set in gold remain popular as a pledge of fidelity.



Fossil Cryptogram Puzzle Answer

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B	F	Q	I	S	E	H	O	T	L	Y	X	D	A	R	G	J	P	W	C	Z	M	K	U	V	N

Q : W H A T I S T H E R E L A T I O N S H I P
 J K O B C T W C O S P S X B C T R A W O T G
 B E T W E E N A N O L D F O S S I L A N D A
 F S C K S S A B A R X I E R W W T X B A I B
 P A L E O N T O L O G I S T C A L L E D ?
 G B X S R A C R X R H T W C Q B X X S I
 A : C A R B O N D A T I N G
 B Q B P F R A I B C T A H
 Q : W H A T D I D O N E P R O E T I D A
 J K O B C I T I R A S G P R S C T I B
 S A Y T O A N O T H E R A T D I N N E R ?
 W B V C R B A R C O S P B C I T A A S P
 A : H E R E , T R I L O B I T E .
 B O S P S C P T X R F T C S
 Q : W H A T K I N D O F M U S I C
 J K O B C Y T A I R E D Z W T Q
 D O E S T H E F O S S I L R E C O R D P L A Y ?
 I R S W C O S E R W W T X P S Q R P I G X B V
 A : H A R D R O C K
 B O B P I P R Q Y
 Q : W H Y D I D T H E T - R E X
 J K O V I T I C O S C P S U
 C A F E H A V E A H E L P W A N T E D S I G N ?
 Q B E S O B M S B O S X G K B A C S I W T H A
 A : B E C A U S E T H E Y W E R E
 B F S Q B Z W S C O S V K S P S
 S H O R T - H A N D E D .
 W O R P C O B A I S I





A newsletter for kids by kids who love rocks, minerals, and fossils

Welcome to the first issue of Crack the News, a newsletter for kids by kids who love rocks, minerals, and fossils. All the articles, photos, poetry, and artwork in this and every issue are created by teens and kids. We hope you enjoy the newsletter. And consider writing an article, creating poetry and artwork, or sending photos about rocks, minerals, or fossils to share with others. Details about submitting items can be found at <https://www.juniors.amfed.org/juniors-newsletter>.

To read the first issue, click or copy this link into your browser:

<https://drive.google.com/file/d/1fUNSSnv76ydE8-gr6y6NKpEIQbmmJkxk/view>



Smiles

If you stub your toe on a big rock, is it Kraktoa?

Did you see the rockhound towing a crate of rocks behind his car?
He had a wide lode sign.

Why did the rockhound break up with his girlfriend?
She was a little quartz-y.

Igneous Smiles

How does an igneous rock stay cool in the summer?
It cracks open a cold one.

What did the one volcano say to the other volcano?
"Hey, do you want to be my lava?"

That rock was magma before it was cool, know what I mean?

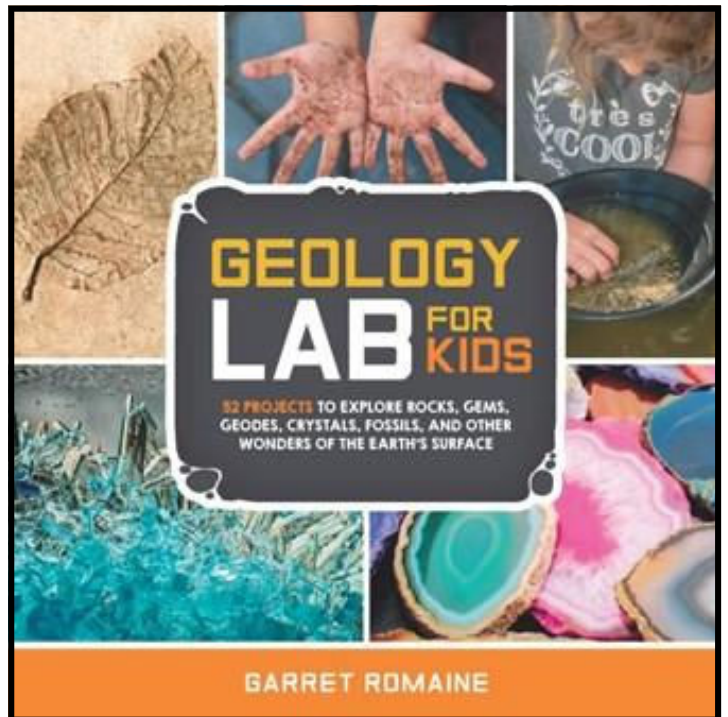
The above jokes courtesy of SCVGMS, Breccia, July 2023

UNIT
5

SUPER SEDIMENTS

While igneous rocks can form in spectacular ways, most of the Earth's crust is covered with sedimentary rocks. Sedimentary rocks are named for the tiny bits of rock and mud—sediments—that build up when material settles out of water, including giant freshwater lakes and long, meandering rivers or active bays, lagoons, and straits in the deep ocean. Sometimes the water is muddy, and over the years, layer after layer of silt may settle out in a bay. Over lots of time, that *mudstone* can build up to thousands of feet or meters. Or a river may empty into the ocean and bring in lots of sand and rocks, creating *sandstone*. Elsewhere, a body of water may be carrying a lot of lime (calcium carbonate), building up until the water simply can't absorb any more chemicals. At that point, a *limestone* may start forming.

In this unit, we'll look at how sedimentary rocks get started and investigate some special forms of sedimentary rocks.



LAB
18

FUN WITH MUD



It may look like dirty water, but you'd be surprised how much is floating in there.

MATERIALS

- 1 quart (1 liter) of soil, dug from the garden—don't use store-bought potting soil

Continued on Pg. 18

Continued from page 17

- Bucket and shovel
- Lab notebook and pen or pencil
- Scale (optional)
- Large, wide-mouth jar with lid
- 1 quart (946 ml) of water
- Long stick or paint mixer (optional)
- Screen or strainer (optional)
- Set of bowls (optional)



Safety Tips - Avoid spills. - Be careful where you dig to get your soil sample. Get permission first.



PROTOCOL

STEP 1: Collect your soil sample. Record the experience in your lab book: what you did, what colors you saw, how hard was it to shovel out, etc. You can find the weight of your sample by weighing the empty bucket first, then the bucket with soil, and subtracting the bucket’s weight to find the final weight.

STEP 2: Fill your jar halfway with the soil you collected.

STEP 3: Add water almost to the top of the jar and put the lid on.

STEP 4: Shake up the jar and break up the clumps. You might want to take the lid off and reach in with a long stick to help things along. A long wooden stick used to mix paint works.

STEP 5: Return the lid and shake it up some more, then let it settle overnight. When you return, make notes about what you see. How did the material settle?



Creative Enrichment

1. If you have a set of screens with big and little holes, keep going in this lab by dumping the contents into a tub and separating out the material. Put sticks, leaves, and other organic material in a container and put big rocks in another. Then measure out how much sand and clay you have and calculate the ratios.
2. Try the lab again, using a soil sample from another location.
3. Remember these skills for the Building Bricks lab. Save some of your soil sample for the Settling Sediment lab.

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<https://www.amazon.com/Garret-Romaine/e/B0037I87T8>

THE SCIENCE BEHIND THE FUN

Soil types depend on how much sand, clay, and organic material is present. Soil scientists do not use the word *dirt*. They either use the word *soil* or they use even more precise terms, like sandy loam and *alluvium*. By noting how much of each main ingredient is present, scientists can tell gardeners and farmers how to treat their soil with the right fertilizer. One handy tool they use is the Silt-Sand-Clay triangle, based on those ratios.

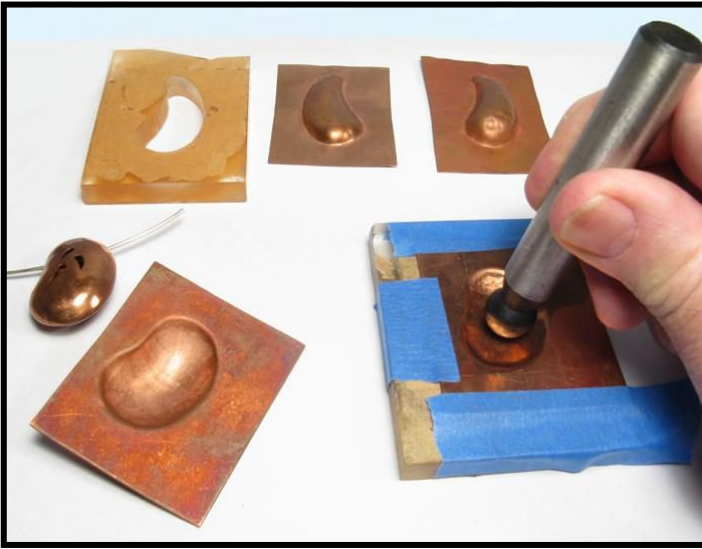
Did you find many big rocks in your sample? Chances are that you didn't. Gardeners like to remove big rocks. How about sand? Was there very much sand in your sample? Usually there is, and you can divide up the sand particles into fine, very fine, coarse, and very coarse. Measuring the size of the sand is usually something you need many specialized screens for, but it is

an important thing to know if you are a soil scientist. The first scale for classifying sediment sizes was developed by American sedimentary scientist J.A. Udden, and was adapted by C.K. Wentworth in 1922.

SEDIMENT SIZES	
Type	Size
Clay	0.0001-0.002 mm
Silt	0.002-0.05 mm
Sand	0.05-2 mm
Granule	2-4 mm (3/100" - 3/50")
Pebble	4-64 mm (2/10" - 2 1/2")
Cobble	64-256 mm (2 1/2" - 10")
Boulder	256 mm (10")

BENCH TIPS BY BRAD SMITH

ONE PART DIE FORMING—An easy way to make large and strong components for your jewelry designs while keeping the weight of precious metal to a minimum is done with simple tools in a process called one-part die forming. Complex 3-D shapes can be made quickly from thin gauge sheet with just a piece of plastic and a dapping ball.



I make a forming die by sketching the shape I need on a piece of thick plastic. Then drill a hole and saw out the shape with a jeweler's saw and a coarse blade. When sawing, try to keep edges straight up and down. Refine the cut as needed with a sanding drum or file. Select a thickness of plastic that is just a little more than the amount of doming you want.

> Note: I tend to use 1/4 inch or 3/8 inch plastic that I get as scraps from a local plastics shop.

To use the die, cut a piece of sheet about 3/8 inch wider than the hole in the die on all sides. Anneal the sheet and tape it down on the plastic. Use a dapping ball and hammer to create the domed shape. When the taped down edges begin to warp, planish them flat on the top of the die. Finally, if the sheet is to be domed deeply, you will need to anneal the metal occasionally.

One nice feature of this technique can be seen in the top and left of the picture. If the sawed walls are straight up and down, the hole on the bottom is a mirror image of the hole on the top. This allows you to produce a mirror image shape as needed to make left and right earrings or both sides of an irregular shaped bead as shown.

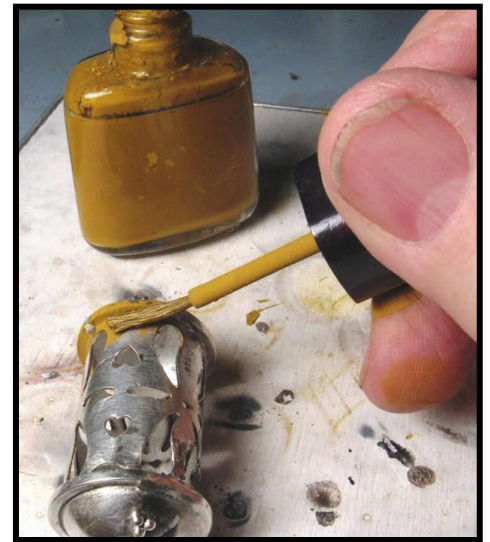
OCHRE APPLICATOR—Yellow ochre is used when you want to be sure the solder won't flow on an area of your piece while you're soldering another area. The only problem with ochre is coming up with a good way to store and apply it.




I use recycled nail polish bottles. They seal well and have a built-in brush applicator. Just clean them out with a little acetone or nail polish remover, and they're ready to go.

Please, check out more Smart Solutions for Your Jewelry Making Problems at this link or click the pic below:


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UPCOMING SHOWS 2023

August 19 – 20, Bossier City, LA,
ARK-LA-TEX G&MS, Bossier Civic
Center, larockclub.com

September 23 – 24 September, San An-
tonio, TX, Southwest G&MS, Wonder-
land of Americas, www.swgms.org/

September 23 – 24, Lubbock, TX, Lub-
bock G&MS, Lubbock Memorial Civic
Center,
www.lubbockgemandmineral.org

October 13 – 15, Westwego, LA,
G&MS of Louisiana & SCFMS Con-
vention, Alario Event Center,
www.gmsofla.org/2023-show

October 14 – 15, Temple, TX, Tri-City
G&MS, Frank W. Maborn Civic and
Convention Center, lrolston@hotmail.com

October 14 – 15, Fort Worth, TX, CERA
(Cowtown G&MS), 3300 Bryant Irving
Rd, steve.l.shearin@lmco.com

October 20 – 22 , Austin, TX, Austin
G&MS, Palmer Events Center,
www.agms0tx.org

Ref: [Rock & Gem Show Dates](#),

Check with the show contact to verify
the show status.

