

*JANUARY-FEBRUARY, 2023*

NEWSLETTER OF THE  
***SOUTH CENTRAL FEDERATION***  
Of Mineral Societies



**Member of: American Federation of Mineral Societies**





## INSIDE THIS ISSUE

1. Front Cover
2. Table of Contents
3. SCFMS Information
4. From Roger's Desk / Secretary's Message
5. Scholarships For Free
6. 2023 SCFMS Website Contest / What Minerals Produce the Colors in Fireworks?
7. 2023 SCFMS Authors and Editors Contest
8. A to Z Gemstones Word-find
9. 2022, No It's 2023
10. February's Birthstone, Amethyst / Safety Matters-Safety Cost
11. Geology Lab for Kids
12. Bench Tips
13. Is Ice a Mineral or Not? / A to Z Gemstones Puzzle Solution
14. SCFMS Shows/Thank You



## SOUTH CENTRAL FEDERATION OF MINERAL SOCIETIES, INC.

### 2023 SCFMS OFFICERS

**President: Roger Burford**

**Executive V-P: Don Shurtz**

**Secretary: Liz Burford**

**Treasurer: Henry Rojas**

**Web Master: Don Shurtz**

**Exec. Secretary:  
Kimberly Brannon**

**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 at gmail.com](mailto: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](mailto:scfmseditor@yahoo.com)

### NEWSLETTER PUBLISHED BIMONTHLY

### DUPLICATION

In most instances material in this newsletter may be duplicated for non-commercial purposes providing full credit is given. There are exceptions, please do not assume permissions. For Commercial use, the individual author(s) must be contacted for their approval.

### 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

TBD

-  
ANNUAL MEETING

TBD

**SCFMS WEB-SITE:**  
[WWW.SCFMS.NET](http://WWW.SCFMS.NET)

The SCFMS is a member of the American Federation of Mineral Societies. [amfed.org](http://amfed.org)

### NEWSLETTER EDITOR/BEAC:

Susan Burch  
[scfmseditor@yahoo.com](mailto:scfmseditor@yahoo.com)



**FROM ROGER'S DESK**



**Roger Burford**  
**SCFMS President**

Here we are at the beginning of a new year and we are fighting bad weather across the country. I am hoping that this year finds everyone in good health and that this new year will motivate you to volunteer for some of our open positions. I am looking now for three people to help with the nominating committee as documented in article 5 of our Bylaws, it is time to fill those positions. I would much rather have volunteers than to appoint people for this position. This is also true for the other open positions. I will be looking for someone to fill the Rockhound of the Year committee, Endowment fund and more.

Our Federation is only as good as the people who volunteer for open positions and this being my last year as President it would be great if I could have all of the positions filled. Take a look at our Constitution, Bylaws and Operating Procedures and find a position that you can help us with. There are open positions for District VP for regions 4 and 5 along with the Nominating Committee. These are all important positions which need to be filled now.

If your club has not submitted the change of officers to Linda Simpson, Susan Burch and Kimberly Brannon, please do so very soon. These are to be registered with the state and for inclusion in our directory.

Our convention will be hosted by the Gem and Mineral Society of Louisiana on October 20<sup>th</sup> through the 22<sup>nd</sup> with the meetings held on the 21<sup>st</sup>. The location is in the Alario Center in Westwego, Louisiana. Please make every effort to attend.



*Secretary's Message* 

Due to the low turnout at the meeting in October, I will be mailing out the packet with a voting form to each of the Directors of the Society. Separately, I will be sending out the Budget proposal for the upcoming year with a voting form. Please make sure we have the most up to date information of the officers of your society. Below is the definition in our Constitution of who is classified as a Director:



**Liz Burford**  
**SCFMS Secretary**

**ARTICLE VI**

**BOARD OF DIRECTORS**

*The Board of Directors of this Federation shall be the President, Executive Vice President, eight District Vice Presidents, the Secretary, the Treasurer, and the current Presidents of each member society.*

Each director **MUST** return it with your vote and any comments you might want to add. As a person holding one of these positions, it is your responsibility to complete this annual task. We, as a Federation, do not ask for much but what we do ask for is for you to be aware of your responsibilities when taking on this role and ONE day a year (not even a full day at that). As stated in the Bylaws:

**ARTICLE III**

**MUTUAL RESPONSIBILITIES**

*Section 1.*

*It shall be the responsibility of each member society to send its President (who is a Federation Director) to the annual meeting.*

*Section 2.*

*If the member society's President cannot attend, a delegate shall be appointed, and an alternate may be chosen if the member society desires.*

*Section 3.*

*At least thirty (30) days prior to the convening date of the annual meeting, it shall be the responsibility of each member society to notify the Federation Secretary in writing of the names of its Director, Delegate, and/or Alternate who expects to attend the annual meeting.*

Liz Burford  
SCFMS Secretary



## SCHOLARSHIPS FOR FREE

By Don Shurtz, AFMS Executive Vice-President



*Don Shurtz,  
AFMS Executive  
Vice-President*

Scholarships for free? I think we all know that you don't get a generous scholarship to a local university for free. But we come pretty close in the SCFMS. Each year the SCFMS gets to award two scholarships of \$4000 each. The scholarships are provided by the AFMS, or more correctly, by the AFMS Scholarship Foundation. But they are not exactly free. They are paid for by the generous donations of clubs and club members.

In the SCFMS, we are lucky to have the Rollin' Rock Club. Since the beginning of the scholarship program, the SCFMS has donated over \$148,000 to the AFMS Scholarship Foundation. Of that, over \$80,000 came from the Rollin' Rock Club. Not only does the Rollin' Rock Club make generous donations to the AFMS Scholarship Foundation, but they also contribute to many SCFMS club-sponsored scholarships.

Last year, the only other SCFMS clubs to donate money to the AFMS Scholarship Fund were the Golden Spread Gem and Mineral Society and the Pleasant Oaks Gem and Mineral Club of Dallas. Other clubs used to make yearly donations, but those donations dried up when COVID basically shut things down. Maybe it is time for your club to make a donation? The donations are tracked as a percentage of club membership. A 100% donation would be equal to the number of members in a club. The Rollin' Rock Club has donated 21,200 percent. The next highest SCFMS club has donated 5,600 percent. In a perfect world, every club would donate 100 percent per year. However, it is a donation and is optional. But wouldn't you feel good knowing that you are contributing \$8,000.00 for scholarships to be awarded in the SCFMS and almost \$50,000 to scholarships in the AFMS?

Perhaps this is a topic your club's Executive Board to consider (PLEASE). Another possibility is a percentage of the profits from your club's show. There are many ways to donate, so be innovative. Donations should be made payable to the AFMS Scholarship Foundation but should be sent to Don Shurtz for accounting and forwarding to the correct AFMS Scholarship Foundation officers. The address for SCFMS donations is Don Shurtz, 4004 Dublin Rd, Allen, TX 75002.

The SCFMS can award two \$4,000 scholarships per year. Our process is for clubs or individuals to nominate a Scholarship Honoree who in turn will select the two

winners. Last year, the Hot Springs Geology Club nominated Dr. George Maxie, a retired professor from North Texas University (NTU) who was selected as the SCFMS Honoree. In turn, he selected a student studying for a Master's Degree at NTU and a student studying for a Doctorate Degree from Southern Methodist University. This year, we need to name our Honoree before the end of January 2023. This will give time for the Honoree to select the two winners and for the paperwork for the scholarships to be completed before the end of the school year in May. It is important to get the scholarships in place before the students and administrators depart on summer fieldwork or breaks.

To date, there has only been one candidate named for the Scholarship Honoree position for 2023. It would sure be nice to have several candidates to choose from. If a candidate is not selected, his/her name will be considered again the next year. The Honoree would ideally be a professor at a school offering graduate degrees in Earth Science fields. However, the Honoree could be a professional. He could then receive help from the scholarship administrators at a University of her/his choice. The process for naming a candidate is rather simple. You need to forward a brief resume and other supporting information (e.g., how he/she helps your club by email to don.shurtz "at" gmail.com.

Just in case you are wondering why my name keeps showing up in this article:

As the SCFMS SCHOLARSHIP CHAIR (AFMS), I (Don Shurtz) track and forward SCFMS, SCFMS Club, and Individuals donations to the AFMS SCHOLARSHIP FOUNDATION

As the SCFMS EXECUTIVE VICE-PRESIDENT, I (Don Shurtz) will form a small group of SCFMS officers to review and select the final SCFMS Honoree.





**2023 SCFMS WEBSITE CONTEST**

**Don Shurtz, SCFMS Website Contest Coordinator**

Let’s have an SCFMS Website Contest this year!

We actually had a 2022 SCFMS Website Contest, but nobody entered. So, LET’S DO IT RIGHT THIS YEAR!

The Website Contest ultimately identifies the top websites for the year, but the real purpose is to improve our club websites. Each entered website will be evaluated by two judges who do not reside in the SCFMS area to help make the scoring impartial. The judges will point out your club’s website strong points and suggest areas that need improvement. It is often the case that a few simple additions will dramatically improve your website. In the last few years, two of our SCFMS winners submitted their websites the year before winning. The Webmasters didn’t win the first year they entered the contest. However, they evaluated the judges’ comments and made relatively minor changes to improve their website. The following year they won the contest. The judges’ comments really did help! If you are new to being a webmaster, use the Website Contest guidelines and Scoresheet to guide the building of the website, then enter your site to get comments that should help you improve your site. Don’t worry about winning – that can come later!

The deadline for entering the 2023 SCFMS Website Contest will be Sunday, February 12, 2023. The contest is done completely electronically. Guidelines, Entry Forms, and Scoresheets will be available on the SCFMS and AFMS Website Contest pages. The Entry Form and Score Sheets are in Adobe PDF format and are fillable and savable. To enter, you need to submit a filled-in Entry Form and a Score Sheet with the header

information filled in. The Entry Form and Score sheet should use the fillable and savable format. That means you will need Adobe Reader (free download) or Adobe Acrobat (expensive, not recommended unless you are using Acrobat for some other purpose). The filled-in Entry and Scoresheet are submitted by email to me at don.shurtz at gmail.com. It has been my experience that it takes less than 20 minutes to complete and submit the entry. The SCFMS Website Contest results will be announced at the SCFMS Convention in Westwego (New Orleans) in October 2023. The driving factor behind the February 12 entry deadline is so that the SCFMS contest results are completed in time for the top two websites to be submitted to the AFMS Website Contest.

To summarize:

SCFMS Website Contest entry deadline is Sunday, February 12, 2023

A completed Entry Form and Score Sheet with header information must be submitted

The completed Entry Form and Score Sheet should be in the fillable and savable PDF format

Forms are to be submitted to [don.shurtz at gmail.com](mailto:don.shurtz@gmail.com)

Contest results will be announced at the SCFMS Convention in October 2023.

**WHAT MINERALS PRODUCE THE COLORS IN FIREWORKS?**

**USGS.GOV Frequently asked questions- Minerals**

**Mineral elements provide the color in fireworks. Additional colors can be made by mixing elements:**

Color Produced	Element(s)	Primary mineral ore(s)
bright greens	barium	<a href="#">barite</a>
deep reds	<a href="#">strontium</a>	celestite
blues	<a href="#">copper</a>	chalcopyrite
yellows	sodium	<a href="#">halite</a> (rock salt)
brilliant orange	<a href="#">strontium</a> + sodium	celestite, <a href="#">halite</a>
silvery white	<a href="#">titanium</a> + <a href="#">zirconium</a> + <a href="#">magnesium</a> alloys	ilmenite, rutile, zircon, dolomite, magnesite, brucite, carnallite, olivine
lavender	<a href="#">copper</a> + <a href="#">strontium</a>	chalcopyrite, celestite

**Gold sparks are produced by [iron](#) filings (magnetite, hematite) and small pieces of charcoal. Bright flashes and loud bangs come from aluminum powder ([bauxite](#)).**



## 2023 SCFMS AUTHORS AND EDITORS CONTEST

**Susan Burch, SCFMS Bulletin Editors Advisory Chair**

As I write this, the contest for items published in 2022 is only days away, January 5, 2023. With many clubs getting back to regular meetings, I'm hoping the number of entries will drastically increase over the past couple of years.

If you are the president or editor of your club you should have received the November-December 2022 issue of the SCFMS newsletter. It is available on the SCFMS website if you haven't received it. In that issue, I've published a bit more about the contest.

However, here is a rundown of requirements and tips:

The contests are in place to recognize editors and authors who contribute to their club's newsletter, whether or not the newsletter is printed or digital only. It is also to give feedback on how you've done so editors and authors can put out their best in the future. As newsletters are one of the main communication avenues club members receive from and about their club.

The requirements for the SCFMS contest are:

- A digital copy of each item and its score sheet, the information can be sent on a DVD, cd, or flash drive.
- Three printed copies of the item, article, or newsletter being entered and three copies of its scoresheet. (Two copies are sent to judges and one copy is retained to be entered in the AFMS contest if the item places 1st or 2nd in the SCFMS contest.
- A printed list of all items entered including author name, Article/newsletter name, and month it was printed.
- In your newsletter category you may enter your two best months. There is a category for new editors for those who have not published a newsletter before, no matter the number of pages you publish.
- There are also three other categories for newsletters depending on the number of pages, Mini, Small, and Large.
- There can only be one item entered into each category (like Adult original, Adult Advanced, Adult Poetry, Written Feature, Drawn Feature, Junior Article, Junior Poetry, etc.) by any given club member. However, if club members have submitted an article, a feature, and a poem, you can submit one in each category.
- The forms for our contest are the same ones used for the AFMS contest. A good idea is for the newsletter editor and any authors who contribute regularly, is to read over the entry forms to find out what is judged so that future articles and newsletters can hit each point.

You can find the forms and other requirements here on the AFMS website:

[https://www.amfed.org/  
editor/beac/contest.htm](https://www.amfed.org/editor/beac/contest.htm)

The address to send your entries to is:

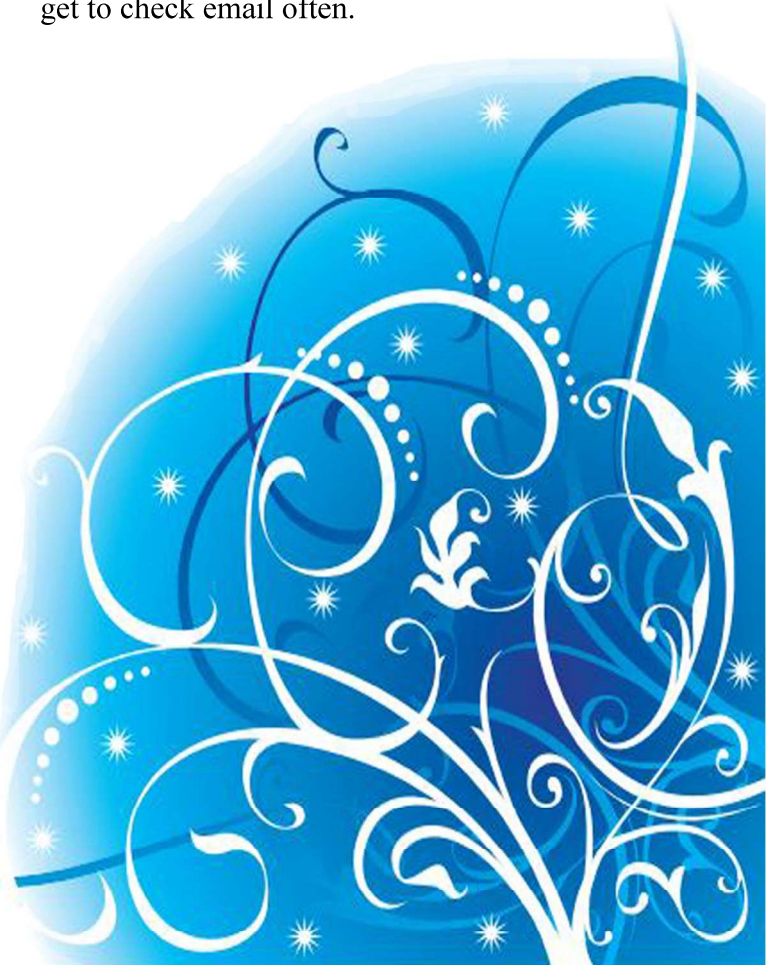
Susan Burch  
10911 Holly Springs Dr.  
Houston, Texas 77042



*Susan Burch*  
**SCFMS BEAC**

At this time of year, many clubs elect or appoint new officers. If this is the case for your club, please pass this newsletter on to the new president or editor. Also, please send me their contact information so that I can add them to the bi-monthly newsletter list.

I'm looking forward to receiving your entries, I love to see people recognized for their efforts. If you have any questions, the quickest way to reach me is by texting 936 615-5397, or you are welcome to send me an email to scfmseditor at yahoo.com, but I don't get to check email often.





# A to Z Gemstones Word-find Puzzle

By Susan Burch, SCFMS Editor

This word-find puzzle was inspired from articles found on the Rock & Gem website. The links to those articles are below at right. Hopefully, you will enjoy the hunt. The solution to the puzzle is on page 13.



Gemstones from Agate to Iolite:

<https://www.rockngem.com/exploring-gemstones-by-letter/>

Exploring Common Gems from J to R:

<https://www.rockngem.com/get-to-know-gemstones-by-letter/>

Exploring Common Gems from S to Z:

[https://www.rockngem.com/meet-gemstones-by-letter/?em=c2NmbXNIZGI0b3JAeWFob28uY29t&utm\\_campaign=RnG+Week1y+Dec+22&fref=56bfe218-6090-4fb4-b4ff-91ce1e5203c5](https://www.rockngem.com/meet-gemstones-by-letter/?em=c2NmbXNIZGI0b3JAeWFob28uY29t&utm_campaign=RnG+Week1y+Dec+22&fref=56bfe218-6090-4fb4-b4ff-91ce1e5203c5)

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

## GEMSTONE WORD LIST

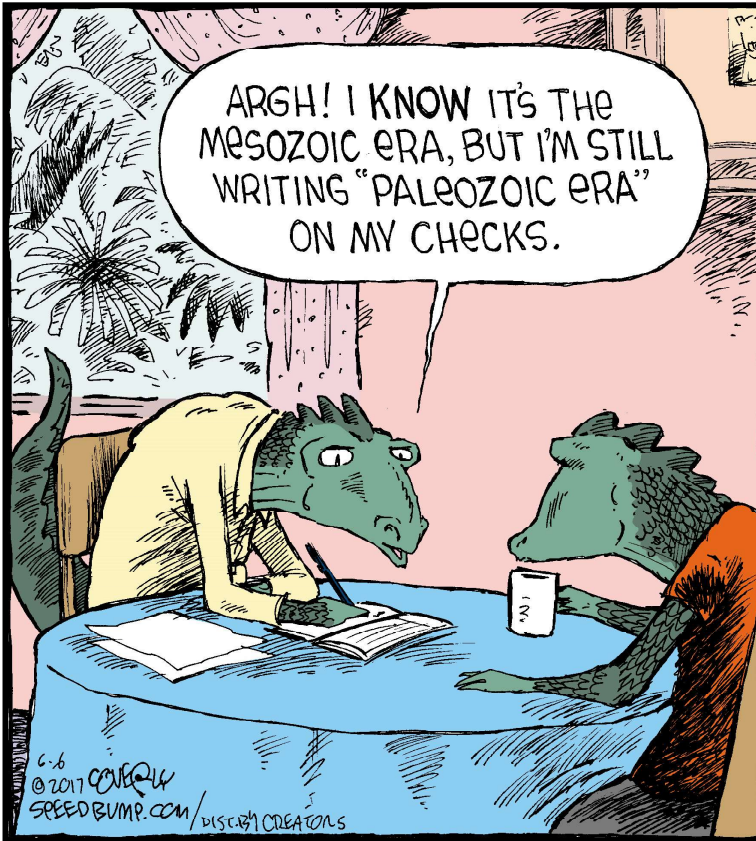
Azurite	Garnet	Lapis	Quartz	Veriscite
Bloodstone	Hematite	Malachite	Ruby	Wavellite
Carnelian	Iolite	Nepheline	Sapphire	Xanthite
Dioptase	Jasper	Onyx	Tourmaline	Yuksporite
Emerald	Kunzite	Peridot	Unakite	Zircon
Fluorite				





## 2022, NO IT'S 2023

By Susan Burch, SCFMS Editor/BEAC



Recently I came across a few cartoons by Dave Coverly and was blessed to obtain permission to include them in our newsletter. This one really was apropos with our coming into a new year and as they are intended, made me think.

Gone are the days when most of us did all of our transactions by check or cash. It would not be unusual to write the prior year's date on checks at least for the first week if not the first month of the new year. Now we have online banking and the majority of the time we pay for our groceries with a bank debit card. All you really have to remember is if you brought your card along and your pin number.

There are still other aspects of our life where knowing what the date and year are is very important. For instance, at work today I needed to start setting up folders for the entire year. This included the main folder of the year and each month's folder with weekly dated folders inside. So, I began my task and after the first few folders I found I had been using the 2022 calendar instead of 2023.

Although I'm not sure about you, I find myself making these kind of snafu every once in a while. You get distracted by something that is going on around you and

[Link to Speed Bump: A 25th Anniversary signed book by Dave Coverly.](#) there you go spelling a word incorrectly or putting the milk in the cabinet instead of the fridge. (On that one, I caught myself before closing the door, lol.) When I have a long list in my head of things to get done and just don't give one particular thing the attention it needs.

Occasionally, that has happened to me while putting together a newsletter. Something is missed, like changing the officers after the annual election, and I've even forgotten to change the months printed on the newsletter. Even though I had done a find and replace, I had missed the Master Pages. Some may forget to ask permissions to use an article, cartoon, picture or graphic when it's imperative that attribution be given and permissions be attained. As BEAC, I've seen editors use graphics in their newsletters which still have the watermark across the image which will get you disqualified and might even result in a law suit. At least as editors, we have spell check to help with reducing spelling errors. However, if we don't pay attention to grammar and punctuation, we may use a word that is actually a word but doesn't belong in the sentence or convey the right thought.

If it's a matter of not having enough newsletter content to complete an issue, you may have lots of empty space. Remember you have access to the AFMS and SCFMS from months and years past. Contact other newsletter editors in our federation and editors across the US to get on each other's exchange lists. There are always articles you haven't seen. Even if you're just needing a suggestion or a whole redesign, take a look at what others are doing that works. Along with that, as Bulletin Editor's Advisor Chair I'm always happy to help you on any issues you may have. I respond fastest to texts, so let me know you're sending an email request and I'll get to you as soon as possible. So here is hoping you a very stress free, easily produced newsletter with lots of concentration year. And, don't forget, it's 2023, not 2022.

**DEADLINE FOR THE  
MARCH-APRIL, 2023 NEWSLETTER WILL BE  
FEBRUARY 20, 2023**



## FEBRUARY'S BIRTHSTONE, AMETHYST By Don Shurtz, Pleasant Oaks Gem & Mineral Club

Amethyst, or more technically correct, quartz variety amethyst (purple quartz), is the birthstone for February. As a member of the quartz family, it is composed of Silicon and Oxygen (SiO<sub>2</sub>). The purple color is due to the presence of trace amounts of Iron in the +3 valence state (Fe<sup>3+</sup>) replacing a silicon atom in the crystal lattice. The stone must also have been subjected to radiation. An amethyst can lose some of its color if exposed to strong light, and the purple color can be enhanced by exposure to radiation. Amethyst has a hardness of about 7 on Mohs scale. It is generally just slightly less hard than quartz due to the impurities in its crystal lattice.

The color of amethyst can vary from almost pink to deep purple. It may also have a hint of deep blue or red coloration. Amethyst found in Siberia is the most favored color. Choice crystals also come from Brazil and Sri Lanka. Deep purple amethyst geodes are found in Uruguay – they are generally more intensely colored than the amethyst geodes found in Brazil.

The name amethyst comes from the Greek word “amethystos” which means not intoxicated. In ancient Greek cultures amethyst was believed to prevent one from becoming intoxicated. For that reason, wine goblets were often carved from amethyst. Medieval European soldiers wore amulets or amethyst stones in the belief that it would help the body to heal and would keep one thinking straight.

Ref:

American Gem Society, <https://www.americangemsociety.com> Wikipedia, <https://en.wikipedia.org/wiki/>

Via Chips and Chatter newsletter, Feb 2016.



Photo by Don Shurtz of quartz variety amethyst specimen displayed at the Perot Museum of Nature and Science

## SAFETY MATTERS-SAFETY COST EFMLS News, September 2022 Newsletter

What is the cost of being safe? Visited several stores recently and looked at the safety kits. They all looked quite nice in decorative plastic cases, metal with sealed lids, and cardboard boxes which held various assortments of basic supplies such as bandages, gauze, safety pins, ointments, swabs, adhesive tape, safety scissors, and a guide book of some sort.



Safety kits sometime focus on target situations - kits for car or boat travel, kits for the great outdoors, or kits for home safety. One can also find specific medications for insect bites and stings, burns, abrasions, sun burns, etc.

The prices for most safety kits ranged from \$4.95 to over \$60.00 for the more complete kits in airtight sealed metal boxes with sturdy plastic carrying handles. In practice we have seen tool boxes, shoe boxes, paper and plastic bags, as well as "official" safety kits being used to transport safety supplies in the shop, home, car or field trip. The main point is that a safety kit can be had for very little money. For such little outlay, how can one afford not to have a safety kit available? With such affordability, why not have a safety kit available in the kitchen, shop, car, truck, office, on a hike, basement, and at a meeting place?

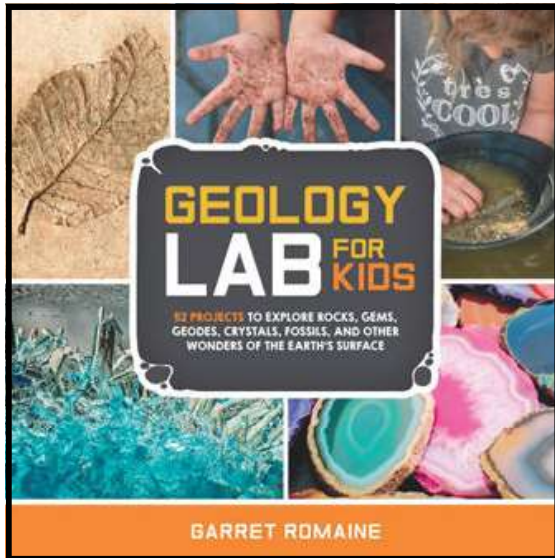
Considering the modest cost of safety kits, it is handy to have several. Some injuries respond favorably to quick attention. Having safety kits nearby can be advantageous. Take a burn for example - most people will immediately place a burn under cool water for a moment. Burns, however, can be deep so it is usually more effective to keep the area of the burn immersed in cool water for 3, 5, 10 or even 20 minutes to mitigate the worst of the effects of a burn. Though one should still seek professional medical attention if a burn is severe.

There is a power with having a safety kit at hand when needed. The power, among other things, is in saving money. Having a first aid booklet, knowing the procedures in the booklet (rather than getting familiar with them after the accident) and being familiar with the contents of the safety kit has the potential to save money. That said, it is still best to prevent an injury before it occurs, rather than have to treat it afterward.

We replace the brake pads on a car before they fail, we repair a roof leak before the damage becomes an issue, we paint the wood before natural elements damage it, we prune the dead branch before it falls on the house. We are used to preventing damage before it occurs - we should try to do the same with our personal well-being. A safety kit can help with that.

Keeping with the car example - fixing the brakes can be far cheaper than being in a traffic accident later. Wearing safety goggles, gloves, study shoes, and otherwise being well prepared for a field trip can be well worth the cost of safety equipment and kit. The prices of being safe are many and varied - and well worth the alternative of being injured.

Please consider keeping a safety kit nearby because - Your safety matters



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

## LAB 15 LOVELY LAVA CAKES

In this lab, you will mimic what happens to a lava flow when it cools.

### MATERIALS

- 1/2 cup (112 g) of butter
- 6 tablespoons (47 g) of flour
- 1 cup (125 g) of powdered sugar
- Package of semi-sweet baking chocolate
- 2 egg yolks—you might need help with this!
- 1/2 cup (30 g) of thawed whipped cream dessert topping, such as Cool Whip (or ice cream)
- 2 whole eggs
- 4 small custard cups
- Baking sheet

### PROTOCOL

**STEP 1:** Pre-heat your oven to 425°F (220°C).

**STEP 2:** Smear some (not all) butter around 4 small custard cups and place on a baking sheet.

**STEP 3:** Microwave the chocolate and remaining butter in a medium microwave-safe bowl for 1 minute, or until butter melts. Stir in powdered sugar, egg yolks, and whole eggs. Mix well.

**STEP 4:** Add flour. Mix well.

**STEP 5:** Spoon the batter into your custard cups.

**STEP 6:** Bake for thirteen to fourteen minutes, until the edges of the dessert are firm. Remove from heat and let stand for one minute.

**STEP 7:** Run a knife around the edges to break the dessert free, and place them on individual plates. Many recipes call for you to turn the dessert upside down, but for this lab, don't do that. Don't sprinkle more powdered sugar on the top, either. Test the top of the crust just before you dive in—preferably while still hot—with the whipped cream. It should be like the top of a lava flow where the rock has cooled a little.



### Safety Tips

- Be careful around the hot oven.
- Ask an adult for help using the oven.
- This recipe involves a microwave and oven instead of a hot stove, but you still need to be careful with hot food and surfaces.
  - Don't burn your tongue by digging out the "lava" in the center too soon after it comes out of the oven!



### Creative Enrichment

1. Leave in a little longer to get the tops nice and crispy, like a real lava flow.



## THE SCIENCE BEHIND THE FUN

These lava cakes show you what a real lava flow looks like, and why they are so dangerous: the top might look firm and hard, but the middle can still be hot and liquid. Unlucky tourists all around the world have been known to get too close to lava flows; the brittle crust breaks under their feet, leading to a fatal conclusion.

If you got the top of the cake nice and crispy, you should notice that it is quite a bit different in color and texture from the cake. That's because heat has almost turned the top of the lava cake to a cinder. The geo-

logical term for that crispy top matter on a lava flow is *scoria*. It is usually full of holes and, in some lava flows, it may even contain little crystals of feldspar.

*Scoria* is different from *pumice*, a volcanic rock you may already know. Pumice floats on water and is much less dense. Scoria will sink.

Lava cakes are almost like a soufflé, and they may collapse when they cool. We'll talk more about that in the next lab, Collapsing Caldera.



**BENCH TIPS BY BRAD SMITH**

**CUTTING A BOLT** —Whenever you have to cut a threaded bolt shorter, it's often difficult to get the nut to thread back onto it. And the smaller the bolt, the more difficult it is to restore any distorted threads. The problem is easily solved with the use of a nut. Here's how I do it.

First, screw a nut onto the bolt before cutting it. Grip the bolt by the threaded section that is to be sawed off. Then saw the bolt to the desired length, taper the end with sandpaper or file, and unscrew the nut from the bolt.

Unscrewing the nut over the freshly cut end of the bolt will straighten out any damage that sawing and filing did to the threads. Gripping the bolt by the piece to be sawed off localizes any crushing damage to the piece that will be thrown away.



**DEPTH GAUGE FOR DRILLING**—Sometimes you need to drill a number of holes all to the same depth. One quick and easy way to do this is to wind some tape around the drill bit so that the tape just touches the part surface when the hole is deep enough.



You can set the depth either by measuring from the tip of the drill to the tape or by drilling to the correct depth, leaving the bit in the hole, and wrapping tape around the bit at the surface level.

Note that a little extra tape left free on the end will blow away debris from the drilling.

**And here's what I've been up to recently...**

**Announcing my latest book**

**“24 Easy Metal Textures”  
With No Rolling Mill Required**

It details twenty-four different techniques for adding texture to your jewelry and metal work without the need for heavy equipment like a mill. The techniques make use of more common tools and materials around the shop - like hammers, stamps, punches, and tool bits for the Dremel or Foredom.

- Each technique is explained in detail with:
- > Description and pictures of the technique
  - > Procedures for creating the texture
  - > List of tools and supplies needed
  - > Options for modifying and personalizing

These methods are both useful and practical. I use them in my own work, and I teach them to others in classes and workshops. What's more is they're practical. None should put a dent in your budget.



Copies are available now at:

<https://amazon.com/dp/B0BPGPTBNH/>



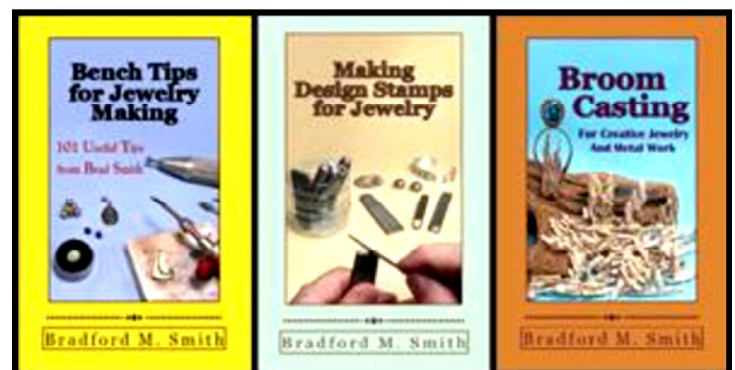
Happy holidays to you, your family, and the club

- Brad Smith

I would appreciate the following attribution with each publication of Bench Tips:  
Smart Solutions for Your Jewelry Making Problems

Amazon.com/author/Bradford smith

BradSmithJewelry at gmail.com







*IS ICE A MINERAL OR NOT?*

It's transparent to translucent, has a vitreous luster, variable hardness and low specific gravity. It occurs in massive and crystalline form. Yes! Ice is a mineral. Find out exactly why at:

[https://www.rockngem.com/is-ice-a-mineral/?em=c2NmbXNlZGl0b3JAeWFob28uY29t&utm\\_campaign=RnG+Weekly+Dec+29\\_2022&fref=0b048750-f573-43ee-9b18-f41310d89dbb](https://www.rockngem.com/is-ice-a-mineral/?em=c2NmbXNlZGl0b3JAeWFob28uY29t&utm_campaign=RnG+Weekly+Dec+29_2022&fref=0b048750-f573-43ee-9b18-f41310d89dbb)

Photo and article link from Rock & Gem Magazine email.



**A to Z Gemstones Puzzle Solution**

Z	T	R	E	M	A	L	R	A	P	S	P	E	R	D	N	E	O	L	I	T	E	R	A	S	B	H
M	T	B	T	A	M	E	T	I	R	O	P	Y	O	R	A	N	G	E	V	E	R	L	A	P	I	S
A	O	L	P	N	Y	R	U	B	G	R	E	U	C	M	N	A	F	S	H	T	O	L	B	L	O	E
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## 2023 UPCOMING SHOWS

21-22 January— Fredericksburg, TX  
Fredericksburg Rockhounds  
Pioneer Pavilion

28-29 January— Tyler, TX, East Texas G&MS  
Tyler Rose Garden Center

18-19 February—GEORGETOWN, TX  
Williamson County G&MS  
The Community Center at  
San Gabriel Park



To those who helped make this issue possible...

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