THE PICK & SHOVEL

The Official Publication of the

Lincoln Gem & Mineral Club, Inc.

In association with

The Midwest Federation of Mineralogical and Geological Societies

The American Federation of Mineralogical Societies

The purpose of this corporation shall be to study, promote an interest in, and disseminate knowledge of lapidary and various Earth Sciences including but not necessarily limited to Geology, Paleontology and Mineralogy. It shall be a particular purpose of the corporation to provide education in these fields to its members and the general public, especially to youth and student groups.

Check upcoming issues of the Pick & Shovel, the website, and the LGMC Facebook Group for news about upcoming meetings and activities.

2020 members of LGMC do not need to pay dues for 2021.

Due to the pandemic and lack of club activities, memberships have rolled over to 2021.

DO NOT PAY DUES FOR 2021.

February 2021, Volume 63, Issue 6 Editor: Sharon Marburger

General Meetings:

THERE WILL NOT BE ANY IN-PERSON MEETINGS UNTIL FURTHER NOTICE. LINCOLN PARKS & RECREATION HAS CLOSED DOWN BETHANY PARK SHELTER HOUSE UNTIL FURTHER NOTICE, DUE TO COVID-19.

Board Meetings:

Next Board Meeting:

Thursday, March 4, 2021 at 6:30 p.m.

(via Zoom)

Until further notice, Board Meetings will be held on the first Thursday of each month

Meetings are open to all members. If you are interested in attending via Zoom, contact Jim Marburger for the log-in information. You can attend Zoom meetings via computer, tablet, smart phone, or regular telephone. You are not required to use the video option; you may use voice only if desired.

Field Trips, Rock Parties, Other Activities:

The Annual Show is CANCELLED due to the pandemic.

A Summer Swap is in the planning stages, tentatively scheduled for June 26 & 27. Stay tuned for more information.

All articles, tidbits, and photos not individually identified as being contributed to this publication are provided by the Editor.

February: Ed Dvorak
Allan Gossman
Connie McCartney
Charles Wooldrige

Please send your birth month to the editor so the Club can recognize you and offer birthday wishes in this publication.

Juniors! See the rules to enter the 2021 National Youth Poster Contest on page 6.

Thanks to Jim Brace-Thompson for alerting us to the contest.

DUES

If you were a paid member in 2020, **DO NOT PAY DUES FOR 2021**. 2020 memberships have automatically rolled over to 2021, due to the pandemic and lack of club activities.

2021 Summer Swap Committee

Chairman: ..... Corey Beer
Vendors: ..... Sharon Marburger
Finance & Ticket Sales: ..... Jim Atkins, Vera Lyman
Floor Chairman: ..... Corey Beer, Jayne Beer
Insurance ..... Jayne Beer
LGMC Club Booth: .....
Publicity & Promotion: ..... Jim Marburger
Silent Auction: ..... Sharon Marburger
Web Master: ..... Sharon Marburger
Youth Activities: ..... Brett Jurgens, Corey Beer

Would you like to help with the planning of the 2021 Summer Swap? The club has many decisions to make before hosting this first-time event.

We are in need of volunteers to help out at the Swap. Please contact Corey Beer or any other Board member.

2020-2021 Board of Directors

President
Charles Wooldridge, 402.975.0416, charles.wooldridgeii@gmail.com

1st Vice-President
Jayne Beer, 402.890.3307, JBeer60070@aol.com

2nd Vice-President
Brett Jurgens, 402.850.3256, quartz89@aol.com

Treasurer
Vera Lyman, 402.464.6089

Secretary
James Marburger, 402.430.6703, james.marburger@outlook.com

Board Member
Corey Beer, 402.466.6628

Board Member
Jeff Kubitz, 402.540.9395, jkubitz@neb.rr.com

Board Member
Sharon Marburger, 402.429.3323, lgmc.editor@outlook.com

Board Member
Ed Ridge, 402.805.8248

Long Range Planning & By-Laws Committee

Jayne Beer, Chairman

1 year: Pat Dvorak
Robert Grimit

2 years: Charles Wooldridge
Sharon Marburger

3 years: Vera Lyman
Jim Marburger

Nominating Committee

Jayne Beer, Chairman

1 year: Linda Guenter
Vera Lyman

2 years: Brett Jurgens
Sharon Marburger

3 years: Jim Atkins
Open

Pick & Shovel Staff

Publisher:
Lincoln Gem & Mineral Club, Inc.
P.O. Box 5342
Lincoln, Nebraska 68505-0342

Editor:
Sharon Marburger
E-mail: lgmc.editor@outlook.com

Circulation:
Vera Lyman
402-464-6089
Sharon Marburger
402.429.3323

Deadline:
Date of Board Meeting, usually 1st Thursday of the month.

Standing Committees

Audio/Visual:
Jayne Beer
Audit:
Ed Dvorak, Jayne Beer
James Marburger
Christmas Party:
Edward Ridge
Door Prizes:
Corey Beer, Brett Jurgens, Charles Wooldridge
Facebook:
James Marburger, Jayne Beer
Field Trips:
James Marburger
Historian:
Sharon Marburger
Legislative Liaison:
Susy McMahan
Membership Record:
Edward Ridge
MWF Liaison:
Vera Lyman
Programs:
Charles Wooldridge, Brett Jurgens
Property:
James Marburger
Recognition/Awards:
Ed Dvorak, Jayne Beer, Charles Wooldridge
Refreshments:
Vera Lyman
Show—2021:
CANCELLED
Swap—June 2021:
Corey Beer
Website:
Jim & Sharon Marburger
Youth Activities:
Brett Jurgens, Corey Beer, Sampson Bayer

Advertising Information

Advertising by rock / hobby business or interest is permitted with the approval of the Board of Directors. Contact the Editor with your proposed ad. The rate is set at $20.00 per full page; $10.00 per 1/2 page; $5.00 per 1/4 page (minimum) per issue, paid in advance to the Club treasurer. Ads will be placed throughout the newsletter as space permits.

Membership Information

Membership dues for the Lincoln Gem & Mineral Club are as follows:

- Adults (age 16 and over) - $20 per year or $30 per couple (within the same household)
- Juniors - $3 per year (with a responsible adult)

All new memberships must be accompanied by a written application. Prospective members must gain Board approval and attend one regular meeting before paying dues. Applications are available on the website: https://www.lincolngemmineralclub.org/about/membership, or you may contact Treasurer Vera Lyman for a printed copy.

President's Message

by Charles Wooldridge

2021 has started out with a blast...a wintery blast! Last week we had the deepest one day snowfall; January was the snowiest ever; and now we are looking forward to the coldest 10-day stretch so far this winter in Lincoln. Days are getting longer, however, and Unadilla Bill says spring is just around the corner.

To tumble rocks and flat lap in freezing temperatures, one little trick I have is to use recreational vehicle ("RV") water system antifreeze in my equipment (figure 1). I recently discovered not all RV antifreezes are the same. All are fairly safe and non-toxic, but there are differences. There are two types containing different ingredients.

Type 1 is ethanol (grain alcohol) based. It provides good protection from freezing and is relatively safe. It can, however, affect rubber and corrode metal, and it is flammable. This type is readily available at hardware stores, Wal-Mart, etc.

Type 2 is propylene glycol and is more expensive, usually found at RV specific stores. It is non-toxic and less harmful to rubber and metal. It also has a lubricating effect.

To determine which type of antifreeze you are buying, look at the label to find the ingredients (figure 2). Ethanol-based will include a warning that it is flammable. I have found both types generally work well. In the future, I will be switching to propylene glycol to save wear and tear on my equipment.

I hope this information is useful; I found it interesting. Remember, any time new substances are used, you should always refer to the Material Data Sheet. These are available online and will list ingredients, hazards, and how to dispose of any product.

Take care and reach out to someone, even if it's only to say hi. We all are missing human contact these days.

Figure 1

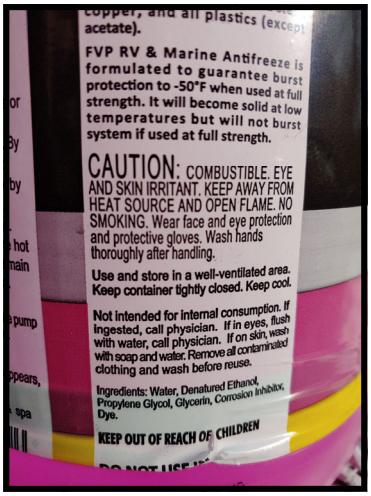


Figure 2

AFMS Show & Convention

The 2021 show will be held in Big Piney, Wyoming **on June 17th - 20th.**

Big Piney is the oldest settlement in Sublette County in Wyoming, founded in 1879 by ranchers from Nevada hoping to ship out a thousand head of cattle. However, the weather did not cooperate and instead spent the winter in the Green River Valley. A year later the family joined the ranchers and the town, which derived its name from the water that flowed through Big Piney Creek - named after the pine trees that lined the banks.

Cattle and oil have traditionally been the two primary industries for the area.

More information should be out in the next few weeks.

Discussion of field trips for Petrified Wood (Blue Forest), fish fossils, and they're working on other trips (in case you cannot make the inter-regional field trip run by Doug True, Chair of the Inter-Regional Field Trip).

Interesting: the town is known as "the icebox of the Nation" with the motto "Best People on Earth!" - and you may be able to meet most of the 492 residents while at the convention!

Board Meeting Minutes:

Lincoln Gem and Mineral Club, Inc. Board of Directors Meeting January 7, 2021. Meeting held via Zoom teleconferencing. Minutes recorded by Sharon Marburger, Asst. Secretary.

Meeting called to order by President Charles Wooldridge at 6:39 p.m. The rules of meeting conduct continue to be suspended, due to COVID-19.

ROLL CALL

Charles Wooldridge	President	Present
Jayne Beer	1 VP	Present
Brett Jurgens	2VP	Present
Vera Lyman	Treasurer	Present
James Marburger	Secretary	Present
Corey Beer	Board	Present
Jeff Kubitz	Board	Present
Sharon Marburger	Board	Present
Ed Ridge	Board	Present

The Minutes were sent electronically and read aloud. Motion by Vera to accept the minutes, 2nd by Jim. Passed.

The Treasurer's Report was read. Motion by Corey to accept the Treasurer's Report, 2nd by Jeff. Passed.

OLD BUSINESS

Brett has specimen boxes for the juniors' specimens. He will have two boxes for each junior. Thanks to Kim Nielsen for his generous donation of specimens.

Brett also reported that we need to send a box of Nebraska material to the Montana club that sent specimens to the juniors last year. Wooly has offered material for this purpose. All others are encouraged to participate.

Schramm Park is in need of larger pieces of Nebraska material for its display. Contact Brett with your donations.

There is no new information on the status of the Lapidary Class and its equipment. A location to store the equipment has been secured. Brett will contact Rowdy Cropp to see if they can check on the equipment and determine a time that the equipment can be moved to storage. All ideas for a potential new class location will be considered.

Jim recorded a video on Three Bucket Tumbling Clean-up. The video is available on the club's Facebook feed. A link to the feed is also shared on the club's website.

NEW BUSINESS

No new business.

COMMITTEE REPORT

The Summer Swap proposed to be held at the Beer Family Farm in Ashland is moving forward. Jayne will check on and purchase liability insurance for the landowner; the club will pay the premium.

There have been three show and swap vendors express interest in having booths.

Discussion of tables, electricity, tents, and booth rent. Swap committee will meet at the Beer Farm on Thursday, January 14 to try to pin down details.

Jim moved to adjourn the meeting, Vera 2nd. Meeting adjourned at 7:35 p.m.

Silversmithing classes
2021 Schedule

Tuesday Evenings
7:00 p.m. - 10:00 p.m.

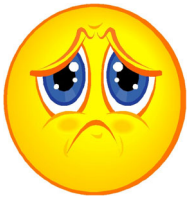
The Jewelry Connection Ltd.
Indian Village Shopping Ctr.
13th & Arapahoe, Lincoln

Tuition: $150 plus $30 supply deposit

Session 1: Jan 5 - Feb 23
Session 2: Mar 2 - Apr 20
Session 3: Apr 27 - Jun 15
Session 4: Aug 17 - Sep 5
Session 5: Oct 12 - Nov 30

Contact: Jayne Beer 402-890-3307
Judith Bay 402-423-7058
jbeer60070@aol.com

MWF Spring Meeting has been cancelled.



JUNIORS

Hey Juniors! Here is a fun thing you can do! Some of our juniors participated in this contest in 2015. We had a first place and a second place winner that year! So, sharpen your crayons and art pencils and enter this competition. Give your entries to Brett and Corey, and they will see that all entries for LGMC are sent together in one package.

2021 NATIONAL YOUTH POSTER CONTEST

Sponsored by North Lakes Academy Rockhounds of Minnesota

THEME: "Rockin' Around the USA" – Rocks and Minerals from around the USA
Pick a rock or mineral you are passionate about, create a poster featuring it, and provide a brief explanation of why you like that particular rock so much. **OR Pick a location in the USA where you LOVE to go rockhounding and craft a poster around that while providing a brief write-up about where it is, what you've found, and why others should go there.**

ELIGIBILITY: Any student in 1st through 8th grade.

ENTRY CATEGORIES: Posters will be judged by grade level.

PRIZES: Ribbons and prizes will be awarded for 1st – 5th place in each grade. Overall Champions will also be selected and will receive a prize.

CONTEST RULES:

- All entries must be presented on 12"X18" paper.
- Include name, address, and school grade of participant on BACK of entry.
- The title should be on the FRONT of the poster.
- No three dimensional posters accepted.
- Accompany the poster with the background info requested in the 1st paragraph above.
- Posters will not be able to be returned.
- Any poster postmarked after the deadline will not be accepted. (Please allow a week for posters to arrive.)
- All entries become property of the North Lakes Academy Rockhounds and AFMS.

SCALE OF POINTS:

- Originality and Art Work – 30 points
- Title / Theme Organization, Design, Spelling, Grammar – 10 points
- Information Provided – Facts and Details – 20 points

ARTWORK: Artwork can be done with pen, ink, crayons, magic markers, paint, print, photography, or any other artist's medium.

DEADLINE: Entries must be postmarked by **May 1, 2021**

SEND TO: Michelle Cauley
c/o North Lakes Academy Rockhounds
4576 232nd Street North
Forest Lake, Minnesota 55025

QUESTIONS: Contact Poster Competition Coordinator Michelle Cauley by email at mcauley@northlakesacademy.org. Contest info on AFMS website, www.amfed.org/kids.htm.

CHARACTERISTICS OF GEMSTONES

by Roger T. Simmons
As published in the May 1973 Pick & Shovel

Most people find the subject of gemology fascinating, whether they have any direct application for the information or not. Our study of how materials form in nature into mineral we see and the growth of crystals are subjects that still retain many facets of mystery.

The things which we have around us everywhere can be divided into two very broad classes, *organic* and *inorganic*. Organic of course includes those items in the plant and animal kingdoms as well as those gem materials such as pearl, coral, amber and jet. Inorganic then is confined to the mineral kingdom.

For our session this time, let us only consider the mineral kingdom. Minerals, therefore, are natural inorganic products that possess a characteristic chemical composition and usually a definite crystal structure. Everything in our world is composed of one chemical element or a combination of elements (i.e., diamond is composed of carbon, a single element) whereas most other gemstones are composed of combinations of elements. Metals usually are made up of a single element. Mineral species[a] are classified according to their chemical composition and the arrangement of the atoms that comprise them. A mineral formed under favorable conditions results in a definite and characteristic internal structure (atoms of the elements that make up the mineral will have arranged themselves in an orderly fashion). This definite structure is known as *crystal structure* or *crystalline structure*.

If, on the other hand, the elements do not form under reasonably favorable conditions, such as formation too rapidly so as to not permit the atoms to arrange themselves into their orderly fashion, then we call the material *amorphous* (pronounced ah-MOR-fuss), meaning without form. (Amber, jet, glass and opal are amorphous.) "The difference in internal arrangements of atoms in any single plane in crystalline and amorphous materials might be likened to the difference between a battalion of soldiers at attention and a crowd of people standing in a field to watch a spectacle."[1]

Why all this talk about atoms and crystal structure? Gemologists, as well as lapidarists, have found that a direct relationship exists between the crystal structure and the important properties that lend beauty and durability to a gemstone. Also, these properties are important in cutting and vital to the identification of gem materials. The cutter must know enough about the stone to be able to cut it to maximum advantage in terms of the ultimate beauty the rough can yield. Knowledge of crystals and crystal structures lead to the correct orientation of cutting so as to obtain the best color for beauty and value of the gem material.

External reading from an encyclopedia concerning the atom is suggested here so you thoroughly understand the formation of crystals. However, I'll give a very brief idea here of this formation process.

"The affinity of atoms of one element for atoms of other elements often results in a growing process, although not in the same sense that plants and animals grow. Crystal growth may be likened to the growth of a mass of tiny iron filings attracted to a magnet. It can better be described as the attraction of like atoms forming layer upon layer from the center outward producing a definite geometric form. This growth results in a crystal form with faces so symmetrically placed and so smooth and highly reflective that it creates doubt on the part of an inexperienced observer that they have not been fashioned by man. Crystals are among the most unusual objects in nature, since they do seem to have this growth characteristic even though they are inorganic and have no life. Each crystal attracts the same kind of material of which it is composed and arranges them with a fantastic accuracy in specific positions and holds or locks each atom into place. Almost every compound that forms in nature takes on a crystal structure as it accumulates. It is rare to encounter inorganic materials in nature without a definite internal structure, such as glass and opal. They are the exceptions rather than the rule."[2]

Hence, the physical properties of a gem material, such as cleavage, hardness, and toughness depends on the internal structure. These items vary as the arrangement of the internal particles vary.

Each mineral species has a characteristic pattern of its own that results in like external forms or crystal shapes.

Now I know some of you are thinking that if he said everything forms into a characteristic crystal pattern, then why can't I see the structure or outward appearance of crystals in all my gem materials? *Crystalline* is the answer. Often a crystalline structure does not result in a definite geometric external form that is recognizable to the eye - such material, although, has an internal crystalline structure, appears to the unaided eye as a *massive* form, more or less a shapeless mass. This is most commonly encountered when the position in which the mineral grew was confined by other growing crystals (i.e., crystalline quartz: variety chalcedony).

"It is obvious that, scientifically, the term crystal means *with* orderly internal structure, whereas the term glass means *without* orderly internal structure. It is correct to refer to an amethyst necklace as being crystal, but a manufactured glass imitation of amethyst is *not* crystal. Also, a manufactured glass replica of a rough diamond crystal is not crystal. It is clear from this that fine lead glassware is incorrectly called "crystal." Certain naturally occurring substances possessing neither orderly arrangement of atoms nor constant chemical formulae, such as obsidian, are known as *natural glasses*."[3]

Terms we should become familiar with to best describe materials based on their appearance to the unaided eye since crystalline materials occur in the natural in several different forms are as follows:

(Continued on page 8)

CHARACTERISTICS OF GEMSTONES - CONTINUED

(Continued from page 7)

A. Crystals

Crystals are substances that possess a crystal structure and are wholly or partly bounded by natural, plane surfaces.

B. Twin Crystals

Sometimes two crystals, or two parts of the same crystal, are joined together along a common axis, or plane. Such a formation is called a twin crystal.

C. Crystal Aggregates, or Groups

A number of crystals sometimes grow together. Each crystal in the group is large enough to be seen easily and is more or less perfect. A group of such crystals thus grown together is known as a *crystal aggregate* or a *crystal group*.

D. Crystalline Aggregates

Crystalline aggregates are composed of many very small individual crystals, often too small to be seen by the unaided eye. Metals such as gold and silver in their native state, as alloys, and even when rolled and shaped for use in jewelry, are *crystalline aggregates*.

E. Cryptocrystalline Aggregates

These are aggregates of crystal so tiny that even high magnification fails to resolve them. Their presence is proved by their effect on polarized light. Agate, carnelian and other varieties of chalcedony are examples.

F. Distorted Crystals

These seldom approach perfection in their shapes but are more or less distorted, since their faces have not all enjoyed an exactly equal and perfect development. Probably faces develop unequally due to their relationship to the source of supply of the solutions carrying the atoms of which they are composed. Growing in confined spaces, as most crystals do, some faces, or sides, are likely to grow faster than others. Such crystals may appear to be drawn out, shortened or flattened, but the corresponding angles between faces are constant.

G. Deformed Crystals

These have been bent and twisted out of their normal shape, usually by some later deforming force, so that the corresponding angles between faces may differ widely. This, however, is not a common occurrence.

H. Pseudomorphs (from *pseudo*, meaning *false*, and *morph*, meaning *form*)

After the original growth, if the chemical composition or the structure of a crystal becomes altered without modifying or destroying its original faces, the sesult is a crystal whose faces are unchanged but whose internal structure has become that of an entirely different mineral. The resulting crystal is known as a *pseudomorph* (pronounced SUE-doe-morf). Tiger's-eye is an excellent example. In this mineral, the original fibers, consisting of monoclinic crystals of crocidolite (pronounced kro-SID-oh-lite), or blue asbestos, have been replaced by minute grains of quartz that, in mass, have retained the original external form of the crocidolite but each of which has assumed the internal crystal structure for quartz.

I. Crystal Axes

To describe a crystal form it is necessary to visualize the existence of certain fixed lines of reference, similar to the imaginary line, or axis, from the north to the south pole about which the earth rotates. In an ideal crystal form, these lines are of definite length in relation to each other, extend in certain definite directions, and intersect in the middle of the crystal at a point called the *origin*. Such imaginary lines are called *crystal axes* (the plural of axis). There must be at least three axes to describe a crystal, and in one case, four are necessary. These are indicated in the accompanying pictures of models of the Six Crystal Systems.

J. Crystal Systems

For convenience of study and reference, crystals are divided into six great systems, described by the comparative length and angular relation of their crystallographic axes.

1. Cubic (or Isometric) System

A mineral is placed in the cubic system if it can be described by three axes of equal length at right angles to one another. In a cube, if axes were passed from the center of each face to the center of the opposite face, the axes would be equal in length and at right angles to one another. Diamond, spinel and garnet crystallize in the cubic system.

2. Hexagonal System (pronounced hex-AG-uh-nul)

Hexagonal crystals have four axes, three of which are equal in length and intersect at 60° angles. The fourth is perpendicular to these and longer or shorter than the three previously described axes. Ruby, sapphire, emerald and aquamarine crystallize in this system.

3. Tetragonal System (pronounced the-TRAG-uh-nul)

The tetragonal system is one in which there are three axes that intersect at right angles, but only tow of which are equal in length, the third being either longer or shorter than the first two. The basic form resembles a cute elongated in one direction. Zircon crystallizes in this system.

(Continued on page 9)

CHARACTERISTICS OF GEMSTONES - CONTINUED

(Continued from page 8)

4. Orthorhombic System (pronounced or-tho-ROM-bik)

   This system is characterized by three mutually perpendicular axes of unequal length. The basic form resembles a box with length, width and depth unequal. Topaz crystallizes in this system.

5. Monoclinic System (pronounced mon-oh-KLIN-ik)

   The three axes in this system are unequal, two intersect at an angle other than at right angles, and a third is perpendicular to these two. The basic form can be visualized as a box deformed so that the top is still rectangular but one side view is a parallelogram. Jadeite and nephrite crystallize in this system.

6. Triclinic System (pronounced try-KLIN-ik)

   The triclinic system is the one of least symmetry. It is described by three axes, all unequal in length, and inclined to one another at angles other than 90°. A basic form would resemble a box deformed so that all sides are parallelograms. Labradorite and microcline feldspars crystallize in this system.

Within each crystal system there are many different shapes that crystals can take; each basic shape is called a *crystal form*. The form or combination of forms most commonly taken by crystals of a given gem mineral is known as the *habit* of that mineral. For example, the habit of a garnet is the *dodecahedron* (pronounced doe-dek-uh-HEE-drun); of zircon, a prism modified by a pointed form called a *dipyramid*, etc. (See accompanying pictures of examples of Crystal Forms.) For reasons related to the conditions during growth, crystals of the same mineral may take different forms or combinations of forms. For example, ruby and sapphire, varieties of the same gem species, usually occur in crystals with different shapes.

Endnotes:

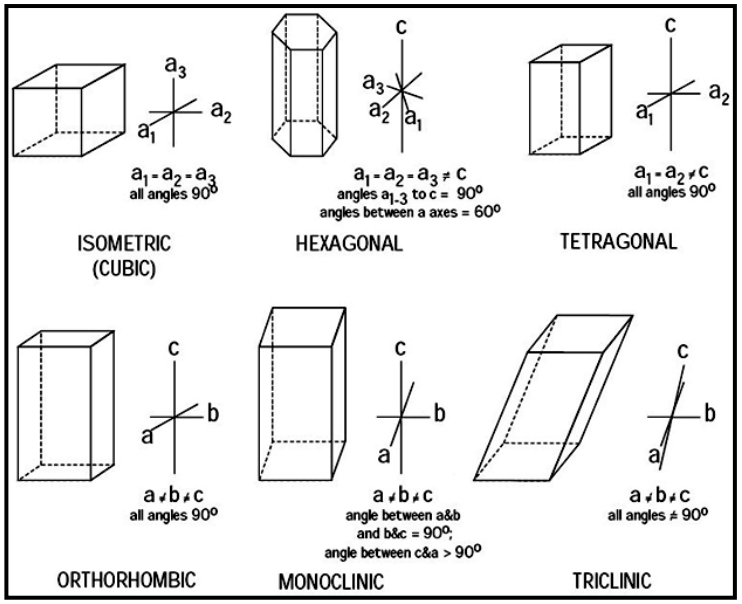
(a) refer to definition in first article, Pick & Shovel, March 1973

(1) GIA, COLORED STONES, chapter 2, page 2, copyrighted 1964, Gemological Institute of America, Los Angeles, California

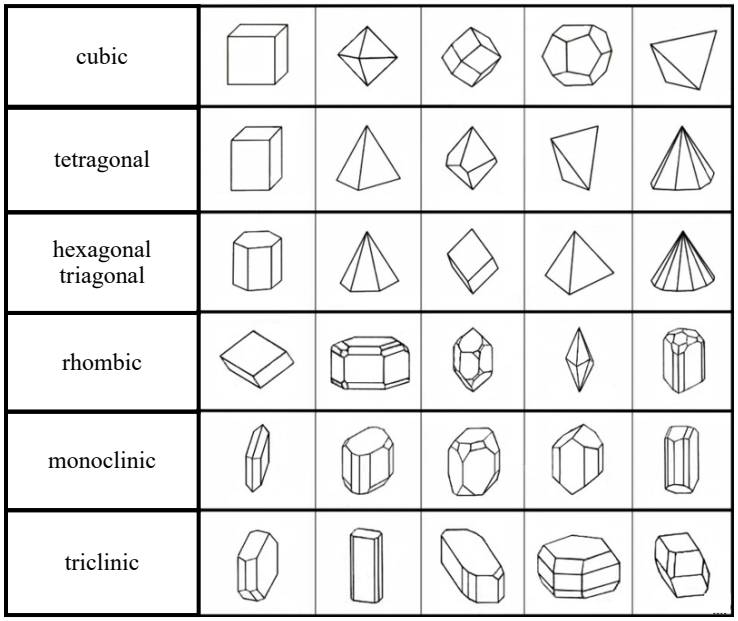
(2) GIA, COLORED STONES, chapter 2, page 3, copyrighted 1964, Gemological Institute of America, Los Angeles, California

(3)GIA, COLORED STONES, chapter 2, page 5, copyrighted 1964, Gemological Institute of America, Los Angeles, California

Models of the Six Crystal Systems



Samples of Crystal Forms



diagrams from geology.com

Cleaning Specimens Without Chemicals

by Jim Brace-Thompson

Found at rockngem.com/cleaning-specimens-without-chemicals/
January 2021

A newly discovered chalcedony desert rose packed with dirt and grime.

Do you have specimens like desert roses, quartz crystal clusters, or geode halves that sat for eons in the open before being collected? If so, those specimens probably have baked-in dirt, grime, desert varnish, or encrustations from moss and lichens. Scrub as much as you may with a toothbrush and pick away with a dental pick, yet grime remains lodged within cracks and crevices of mineral and crystal structures. What to do?

A friend suggested a sure-fire way to clean specimens such as chalcedony desert roses with baked-in grime: soak them in a solution of diluted muriatic acid. Muriatic acid is sold with swimming pool supplies in hardware stores. It is used by rockhounds who dilute it with three parts water to one part acid to dissolve calcium or organics encrustations such as lichens. However, acids are dangerous to work with and to dispose of and thus are not especially recommended. Again, what to do?

A thoroughly cleaned chalcedony desert rose.

Another friend suggested a much safer and more earth-friendly method of cleaning chalcedony desert roses and minerals with sturdy crystal structures. Start by soaking your specimen overnight in water and detergent, such as dishwashing liquid. Then use a dental water flosser or oral irrigator. Almost instantly, baked-in dirt and grime will disappear.

After soaking your rock overnight in water plus detergent, a dental water flosser will quickly remove baked-in dirt and grime.

This suggestion is a messy process. It's best done outdoors, and you may want to don a rain slicker and goggles, if not a snorkel! Water will splash all over, but it will get the job done. Only do this with rocks and crystals that are sturdy and won't dissolve in water or be dislodged by the flosser's shooting spray.

The result will be a clean and beautiful specimen.

2021 Summer Swap

LGMC is hosting its first public summer swap on June 26 & 27 at the Beer Family Farm near Ashland, Nebraska. Provided COVID doesn't alter the plans, here is what we know so far:

- Vendors will include dealers and swappers.
- Anyone wishing to swap or sell geology or hobby-related items are welcome to rent booth space.
- As with our usual Mid-Winter Swap, members of the public are welcome.
- Twelve booths of various sizes and rental rates are available inside a rustic barn; electricity available. These booths will be assigned on a first-come, first-served basis. Advanced reservations are encouraged. Rentals range from $40 to $160.
- Nearly unlimited spaces available outside, rented at $25 per 10'x10' increments. Tables are available at $10 per 8-foot table, advanced reservations only.
- Reservations are preferred, however, booth spaces will be available to those not having advanced reservations. Without an advanced reservation, barn spaces and table availability are not guaranteed.
- Outside vendors to provide their own awnings or pop-ups.
- Friday setup noon to 8 p.m.; Saturday setup 7 a.m.
- Saturday hours 9 a.m. to 6 p.m. Sunday hours 10 a.m. to 4 p.m.
- Silent Auction both days.
- Grill-out supper at 6 p.m. Saturday. Voluntary donations for meal will be accepted.

Let Jayne and Corey know if you can help out with any aspect of the Swap. Let's make this a mammoth event!

Copied from https://www.featherriverrocks.org/show/rock-tumbling-contest-drop-down2

Rock Tumbling Contest

2021 Worldwide Tumbling Contest!

Update: December 17, 2020

The rock for 2021 is **Burris Creek Jasper** from the northern part of the Sacramento Valley of California. Entry fee is $35 for 3 pounds of rough rock for continental US residents. This includes shipping the material to you. Outside the USA will be $35 plus any additional shipping. Contest rules and application available through link on the web page shown above. Form is fillable via free pdf software.

- 3 lbs of rough rock will be shipped to you when the application and payment is received beginning in early January 2021.
- Deadline for application is June 1, 2021.
- Mail 5 (yes only 5) of your best finished rocks and a copy of the entry form postmarked no later than August 15.
- Apply early in the year to have plenty of time to tumble. Take your time tumbling!
- Cash prizes = $250, $100, and $50 for first, second, and third place winners!

To enter the contest:

- Digitally: fill out the application on the website and email the completed form to Tumbling@FeatherRiverRocks.org (save completed document to your computer or print to pdf) and pay via PayPal (see link on web page)

- Hard Copy: print and fill out the application. Mail the application and payment to FRLMS to: **Tumbling Contest, c/o Lori Millard, 2660 Cherokee Road, Oroville, CA 95965**

For more information, call Lori at (530) 533-2968 or email Tumbling@FeatherRiverRocks.org
Results will be posted on Facebook and here after the show in mid-September.

Editor's Note: Jim and I each have entered this contest. We are using different tumbling methods to see which gets better results.

Let's see how many club members we can get entered into this competition, and see who has the best tumbling skills. The challenge is on!!!

DUES

If you were a paid member in 2020, **DO NOT PAY DUES FOR 2021**. 2020 memberships have automatically rolled over to 2021, due to the pandemic and lack of club activities.

Mail Exchange Newsletters to:

Lincoln Gem & Mineral Club, Inc.
P.O. Box 5342
Lincoln, NE 68505-0342

Or e-mail newsletters to:
lgmc.editor@outlook.com

A color version of the Pick & Shovel is available at:
http://www.lincolngemmineralclub.org/index.php/newsletters/current

PICK & SHOVEL

Please send your hobby-related photos with captions or explanations for publication in the Pick & Shovel. Field trips, lapidary projects, fossil projects, metal projects, wire wrapping, tumbling, or any other activity of interest to the club. Since we are not allowed to meet in person at this time, it is important to share with others what you are doing. Your project may inspire someone else. Send via email (lgmc.editor@outlook.com) or via Facebook Messenger.