Grindings

Idaho Gem Club, Inc.

P.O. Box 8443 Boise, Idaho 83707-2443

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DIRECTORY

The deadline for issues is the Friday after each Board Meeting for the current month's edition. To submit articles, please send them through email to Dana Robinson, Editor drobinso@boisestate.edu

PRESIDENT'S MESSAGE

Hello Fellow Rockhounds:

April and spring are finally here. It's about time! I'm ready for some warner weather and some field trips. Saturday, March 25th, the club went to the Natural History Museum at the College of Idaho. Mr. Don Dixon was kind enough to open it up for 12 members and their families. Thank you, Don!

At our next meeting on April 18th our Scholarship winner, Kathleen Whitacre, will do a brief presentation. She is a member going to school and a ROLE workshop participant. Great Job Kathleen.

This month we're heading to Marsing and Graveyard Point. We'll be looking for world famous plume agates. We will meet up at 8 am at the Gas 'n Go Station at the corner of Highway 95 and 55 (Main St. in Marsing). We will be leaving at 8:30 am. Our new Field Trip Coordinator, Jenni Gudapadi, will take a head count and then we're off. To keep the impact to the area and roads as low as possible, only Idaho Gem Club members and their families are invited. If you want to come on our field trips, please join our club and you will be welcomed.

Our next workshop is an advanced class called ROLE, Recognition of Lapidary Excellence, April 17th at 6-8:45 pm. See you there! Our next general workshop is Saturday, April 29th at 10 am-2 pm. All are welcome to come learn about the lapidary arts. Cutting and polishing rocks and gems is what it's all about.

Spring is here! It's time to get out and have some fun!

Respectfully Submitted, Rick Corbett, President

ACTIVITY CALENDAR

APRIL

SUN	MON	TUE	WED	THU	FRI	SAT
						1 Workshop 10 am-2 pm
2	3 ROLE Workshop 6-8:45 pm	4 Board Meeting 7 pm	5	6	7	8
9	10	11	12	13	14	15
16	17 ROLE Workshop 6-8:45 pm	18 General Meeting 7 pm	19	20 Workshop 6-8:45 pm	21	22 Field Trip Graveyard Pt. 8 am
23 30	24	25	26	27	28	29 Workshop 10 am-2 pm

MAY

SUN	MON	TUE	WED	THU	FRI	SAT
	1 ROLE Workshop 6-8:45 pm	2 Board Meeting 7 pm	3	4	5	6
7	8	9	10	11	12	13
14	15 ROLE Workshop 6-8:45 pm	16 General Meeting 7:00 pm	17	18 Workshop 6-8:45 pm	19	20 Field Trip Queenstone/ Whangdoodle
21	22	23	24	25	26	27 Workshop 10 am-2 pm
28	29	30	31			

JUNE

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3 Beacon Hill Field Trip 8 am
4 Beacon Hill Field Trip 8 am	5 ROLE Workshop 6-8:45 pm	6 Board Meeting 7 pm	7	8	9	10
11	12	13	14	15	16	17
18	19 ROLE Workshop 6-8:45 pm	20 General Meeting 7 pm	21	22 Workshop 6:45-8 pm	23	24
25	26	27	28	29	30	

JULY

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3 ROLE Workshop 6-8:45 pm	4 Board Meeting 7 pm	5	6	7	8
9	10	11	12	13	14	15
16	17 ROLE Workshop 6-8:45 pm	18 Annual Picnic 6 pm	19	20 Workshop 6-8:45 pm	21	22 Field Trip Silver City 8 am
23 30	24 31	25	26	27	28	29

Upcoming Events

Parade of Gems, April 21, 10 am-4 pm, April 22, 10 am-5 pm, April 23, 10 am-4 pm. Central Washington State Fair Grounds, 1301 S. Fair Ave., Yakima, WA

Lakeside Gem & Mineral Show, April 29, 10 am-5 pm, April 30, 10 am-4 pm. Benton County Fairgrounds, 1500 S. Oak St., Kennewick, WA

Richland's Rock Tailgate, April 30, 9 am-5 pm, Benton County Fairgrounds. 1500 S. Oak St., Kennewick, WA

Bozeman Gem & Mineral Club, May 13, 10 am-6 pm, May 14, 10 am-4 pm. Gallatin County Fairgrounds, Bldg #1, 901 N Black, Bozeman, MT

Hatrockhounds Gem & Mineral Show, May 13, 10 am-5 pm, May 14, 10 am-4 pm. Eastern Oregon Trade and Event Center, 1705 E. Airport Rd., Hermiston, OR

North Idaho Mineral Club Annual Show, June 3, 9 am-5 pm, June 4, 10 am-4 pm. North Idaho State Fairgrounds, Jacklin Building, 4056 N. Government Way, Coeur d'Alene

FIELD TRIPS

The field trip for April will be to our claim at Graveyard Point. We will be meeting at the Gas 'n Go Station at the corner of Hwys. 95 and 55, just outside of Marsing, at 8 am on Saturday, April 22nd. Jenni Gudapadi, our new trip coordinator, will take a head count and then lead us out to the collecting area. Sandy Blodgett has offered to help her out as well. Be sure to bring lunch, water and any snacks you may want. It will likely be cooler in the morning, so dress in layers for this one.

FIELD TRIP SUPPLIES

Rock Hammer	Water
Chisel, Pick, Pry Bar	Sunscreen and a Hat
Shovels	Knee Pads
Garden Claw Rake	Safety Glasses
Buckets or Sacks	Gloves
Screening Box	First Aid Kit
Map or GPS	

Good boots or hiking shoes are recommended
Rain Coat (dress in layers for cooler mornings)
Lunch/Dinner/Snack Foods/Camping supplies

WORKSHOPS

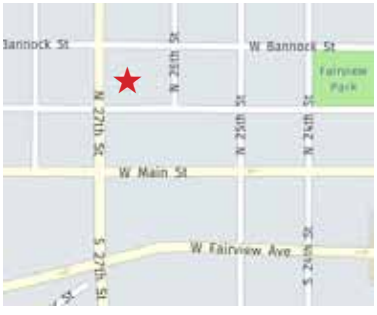
See the calendar for upcoming workshop dates! Come cut your rocks and learn cabochon making! Brent Stewart, Rick Corbett, and Liz Warner keep the club lapidary workshop operating year round.

Third Thursday of each month from 6:00 pm-8:45 pm
Saturday the week after general meeting -- 10:00 am-2:00 pm

WORKSHOP LOCATION

2620 W. Idaho St., Boise, ID
Next door to Stewart's Gem Shop

$5 Fee for each visit (kids free)



IDAHO NEEDS A STATE DINOSAUR!

Joel Walton, Ucon Elementary School teacher, and his class of fourth graders are heading an effort to designate the *Oryctadromeus cubicularis* (Orycto) as our state dinosaur. They are joined in their efforts by Senator Kevin Cook of Idaho Falls and L.J. Krumenacker, Professor of Geology and Biology at ISU and the College of Eastern Idaho. Mr. Krumenacker recently penned an opinion piece for the Idaho Statesman outlining the project.

Idaho doesn't have a lot of dinosaur fossils, but the most commonly found is Orycto. It is only found in southeastern Idaho and southwestern Montana.

Fourteen other states have designated a state dinosaur, like Wyoming and Utah. For Idaho, SB 1127 is proposing to name Orycto as an official state symbol. It is a process all of us can support by writting to our state legislators and senators to tell them how much this would mean to our state. Idaho currently has 15 state symbols.

WELCOME NEW MEMBERS

Bill & Linda Vermette
Tony & Susie Powell
Lauren Peck
Katy Tillotson
Duane & Suzanne Peck
Conrad Colby
Anette Reeder & Philip Camacho, III

Correction: Angela Hellickson
(previously misspelled; many apologies)

WELCOME NEW JUNIORS

Miranda Reeder
Audrey Camacho
Alexander Camacho

QUARTZ

Quartz is a hard, crystalline mineral composed of silica (silicon dioxide). The atoms are linked in a continuous framework of SiO_4 silicon-oxygen tetrahedra, with each oxygen being shared between two tetrahedra, giving an overall chemical formula of SiO_2. Quartz is the second most abundant mineral in Earth's continental crust, after feldspar.

There are many different varieties of quartz, several of which are classified as gemstones. Since antiquity, varieties of quartz have been the most commonly used minerals in the making of jewelry and hardstone carvings, especially in Eurasia. Quartz is the mineral defining the value of 7 on the Mohs scale of hardness.

History

The word "quartz" comes from the German *Quarz*, which is of Slavic origin. Other sources attribute the word's origin to the Saxon word *Querkluftertz*, meaning cross-vein ore.

While jade has been the most prized semi-precious stone for carving in East Asia and Pre-Columbian America, in Europe and the Middle East the different varieties of quartz were the most commonly used for jewelry and hardstone carving, including engraved gems, rock crystal vases, and extravagant vessels.

In the 17th century, Nicolas Steno's study of quartz paved the way for modern crystallography. He discovered that regardless of a quartz crystal's size or shape, its long prism faces always joined at a perfect 60° angle.

German mineralogist Richard Nacken achieved some success during the 1930s and 1940s with his efforts to synthesize quartz under lab conditions. By the 1950s, hydrothermal synthesis techniques were producing synthetic quartz crystals on an industrial scale, and today virtually all the quartz crystal used in the modern electronics industry is synthetic.

Crystal Habit and Structure

Quartz belongs to the trigonal crystal system at room temperature, and to the hexagonal crystal system above 573 °C (1,063 °F). The ideal crystal shape is a six-sided prism terminating with six-sided pyramids at each end. In nature quartz crystals are often twinned (with twin right-handed and left-handed quartz crystals), distorted, or so intergrown with adjacent crystals of quartz or other minerals as to only show part of this shape, or to lack obvious crystal faces altogether and appear massive. Well-formed crystals typically form as a druse (a layer of crystals lining a void), of which quartz geodes are particularly fine examples. The crystals are attached at one end to the enclosing rock, and only one termination pyramid is present. However, doubly terminated crystals do occur where they develop freely without attachment.

Varieties (according to microstructure)

Although many of the varietal names historically arose from the color of the mineral, current scientific naming schemes refer primarily to the microstructure of the mineral. Color is a secondary identifier for the cryptocrystalline minerals, although it is a primary identifier for the macrocrystalline varieties.

Major Varieties of Quartz

Herkimer Diamond	Amethyst	Citrine
Ametrine	Rose quartz	Chalcedony
Carnelian	Aventurine	Agate
Onyx	Jasper	Milky quartz
Smoky quartz	Tiger's eye	Prasiolite
Rutilated quartz	Dumortierite	

Varieties (according to color)

Pure quartz, traditionally called rock crystal or clear quartz, is colorless and transparent or translucent, and has often been used for hardstone carvings. Common colored varieties include citrine, rose quartz, amethyst, smoky quartz, milky quartz, and others. These color differentiations arise from the presence of impurities which change the molecular orbitals, causing some electronic transitions to take place in the visible spectrum causing colors.

The most important distinction between types of quartz is that of macrocrystalline (individual crystals visible to the unaided eye) and the microcrystalline or cryptocrystalline varieties (aggregates of crystals visible only under high magnification). The cryptocrystalline varieties are either translucent or mostly opaque, while the transparent varieties tend to be macrocrystalline. Chalcedony is a cryptocrystalline form of silica consisting of fine intergrowths of both quartz, and its monoclinic polymorph moganite. Other opaque gemstone varieties of quartz, or mixed rocks including quartz, often including contrasting bands or patterns of color, are agate, carnelian or sard, onyx, heliotrope, and jasper.

Amethyst

Amethyst is a form of quartz that ranges from a bright vivid violet to a dull lavender shade. The world's largest deposits of amethysts can be found in Brazil, Mexico, Uruguay, Russia, France, Namibia, and Morocco. Sometimes amethyst and citrine are found growing in the same crystal. It is then referred to as ametrine. Amethyst derives its color from traces of iron in its structure.

Blue Quartz

Blue quartz contains inclusions of fibrous magnesio-riebeckite or crocidolite. Sometimes called "blue quartz," "Dumortierite quartz" has inclusions of the mineral dumortierite within quartz pieces that can result in silky-appearing splotches with a blue hue. Shades of purple or grey may also be present. It will sometimes feature contrasting light and dark color zones across the material. It is a minor gemstone.

Citrine

Citrine is a variety of quartz whose color ranges from pale yellow to brown due to a submicroscopic distribution of colloidal ferric hydroxide impurities. Natural citrines are rare; most commercial citrines are heat-treated amethysts or smoky quartzes. A heat-treated amethyst will have small lines in the crystal, while a natural citrine has a cloudy or smoky appearance. It is nearly impossible to differentiate between cut citrine and yellow topaz visually, but they differ in hardness.

Milky Quartz

Milk quartz or milky quartz is the most common variety of crystalline quartz. The white color is caused by minute fluid inclusions of gas, liquid, or both, trapped during crystal formation, making it of little value for optical and quality gemstone applications. It is most commonly used as landscape rock.

Rose Quartz

Rose quartz is a type of quartz that exhibits a pale pink to rose red hue. The color is usually considered as due to trace amounts of titanium, iron, or manganese, in the material. Some rose quartz contains microscopic rutile needles that produce asterism in transmitted light. There is also a rare type of pink quartz with color that is thought to be caused by trace amounts of phosphate or aluminum. It is called crystalline rose quartz and the color in the crystals is apparently photosensitive and subject to fading.

Smoky quartz

Smoky quartz is a gray, translucent version of quartz. It ranges in clarity from almost complete transparency to a brownish-gray crystal that is almost opaque. Some can also be black. The translucency results from natural irradiation acting on minute traces of aluminum in the crystal structure.[41]

Prasiolite

Not to be confused with Praseolite.

Prasiolite, also known as vermarine, is a variety of quartz that is green in color. Since 1950, almost all natural prasiolite has come from a small Brazilian mine, but it is also seen in Lower Silesia in Poland. Naturally occurring prasiolite is also found in the Thunder Bay area of Canada. It is a rare mineral in nature; most green quartz is heat-treated amethyst.

Synthetic and Artificial Treatments

Not all varieties of quartz are naturally occurring. Some clear quartz crystals can be treated using heat or gamma-irradiation to induce color where it would not otherwise have occurred naturally. Susceptibility to such treatments depends on the location from which the quartz was mined.

Prasiolite, an olive colored material, is produced by heat treatment; natural prasiolite has also been observed in Lower Silesia in Poland. Although citrine occurs naturally, the majority is the result of heat-treating amethyst or smoky quartz. Carnelian has been heat-treated to deepen its color since prehistoric times.[46]

Because natural quartz is often twinned, synthetic quartz is produced for use in industry. Large, flawless, single crystals are synthesized in an autoclave via the hydrothermal process.

Like other crystals, quartz may be coated with metal vapors to give it an attractive sheen.

Occurrence

Quartz is a defining constituent of granite and other felsic igneous rocks. It is very common in sedimentary rocks such as sandstone and shale. It is a common constituent of schist, gneiss, quartzite and other metamorphic rocks. Quartz has the lowest potential for weathering in the Goldich dissolution series and consequently it is very common as a residual mineral in stream sediments and residual soils. Generally a high presence of quartz suggests a “mature” rock, since it indicates the rock has been heavily reworked and quartz was the primary mineral that endured heavy weathering.

While the majority of quartz crystallizes from molten magma, quartz also chemically precipitates from hot hydrothermal veins as gangue, sometimes with ore minerals like gold, silver and copper. Large crystals of quartz are found in magmatic pegmatites. Well-formed crystals may reach several meters in length and weigh hundreds of kilograms.

Elemental impurity incorporation strongly influences the ability to process and utilize quartz. Naturally occurring quartz crystals of extremely high purity, necessary for the crucibles and other equipment used for growing silicon wafers in the semiconductor industry, are expensive and rare. These high-purity quartz are defined as containing less than 50 ppm of impurity elements. A major mining location for high purity quartz is the Spruce Pine Gem Mine in Spruce Pine, North Carolina. Quartz may also be found in Caldoveiro Peak, in Asturias, Spain.

Mining

Quartz is extracted from open pit mines. Miners occasionally use explosives to expose deep pockets of quartz. More frequently, bulldozers and backhoes are used to remove soil and clay and expose quartz veins, which are then worked using hand tools. Care must be taken to avoid sudden temperature changes that may damage the crystals.

Almost all the industrial demand for quartz crystal (used primarily in electronics) is met with synthetic quartz produced by the hydrothermal process. However, synthetic crystals are less prized for use as gemstones. The popularity of crystal healing has increased the demand for natural quartz crystals.

Piezoelectricity

Quartz crystals have piezoelectric properties; they develop an electric potential upon the application of mechanical stress. An early use of this property of quartz crystals was in phonograph pickups. One of the most common piezoelectric uses of quartz today is as a crystal oscillator. The quartz clock is a familiar device using the mineral. The resonant frequency of a quartz crystal oscillator is changed by mechanically loading it, and this principle is used for very accurate measurements of very small mass changes in the quartz crystal microbalance and in thin-film thickness monitors.

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MINUTES OF THE IDAHO GEM CLUB GENERAL MEETING

MARCH 21, 2023

Meeting called to order at 7:14 by Rick Corbett, and the Pledge of Allegiance was recited. Seven guests introduced themselves.

Rick asked for any corrections to the minutes as printed in the *Grindings*. Willa made a motion to accept the minutes, Terri seconded, the membership voted and the motion passed.

If you need a name badge, get on the list and Becky will make you one.

Becky drew winning door prize tickets for 5 juniors and then gave out four adult door prizes. Rick asked club artists to please donate nicer items or the adult door prizes, then fewer will be awarded at each meeting. Please contact him at 208-890-2599.

Secretary Report: No report.

Program: Cordell Blaine and Paul Verhage did a cool presentation on meteorites. The talk was very informational and discussed the difference in stony and metallic meteorites. They had a slide presentation and several samples to look at. One sample is from the Chelnyabinsk meteorite in Russia.

Juniors head back to their meeting.

Treasurer Report: Teresa went over the financial statements, including the Titan purchase for the workshop. The full report is on the front table.

Cheryl Link is selling the small display boxes at the front table for $5 each. Great to show special pieces!

Field Trip Report: The field trip will be to the Boone Science Building with the Orma J. Smith Museum of Natural History and the Glen and Ruth Evans Gem and Mineral Collection. We will be meeting at 9 am at the O'Connor Field House in Caldwell. At the College of Idaho Don Dixon will be opening the museum for use. See the newsletter for more details. Graveyard Point will be in April. More information next month and in the newsletter.

Workshop Report: Liz reported on the upcoming dates. The regular workshops will be Thursday after the general meeting, 3-23 from 6-8:45 pm, and Saturday, 4-1, 10 am-2 pm. The April workshops are 4-20 from 6-8:45 pm and 4-29 from 10 am-2 pm. The next ROLE workshops will be on 4-3 and 4-17 from 6-8:45 pm.

Library Report: The Library is open for checking out any books or videos.

Old Business: Willa gave a big Thank You to everyone who helped with the annual show. There were more people through the doors than last year, but set-up and tear down were much easier. She also went over the final figures from the financial statement.

We are almost done with the storage unit. Jason is putting shelving in the new trailer to store totes, the black light totes etc. The changes will save us a lot.

Teresa needs any remaining expense reports for the show turned in for payment.

New Business: Willa will be starting new silversmithing classes soon. Contact her for dates and times.

Meeting was adjourned at 8:15 pm.

Respectfully submitted, Dana Robinson, Secretary

MINUTES OF THE IDAHO GEM CLUB BOARD MEETING

APRIL 4, 2023

Rick Corbett called the meeting to order at 7:02 pm.
Present: Rick Corbett, Deana Ashton, Willa Renken, Teresa Nebeker, Terri Frostrom, Cheryl Link, Brent Stewart, Liz Warner, and Dana Robinson
Absent: Jason Smith
Guests: Ed Moser, Debbie Mitchell and Cheryl Lawson

Rick asked for any corrections to the minutes as printed in the *Grindings*. Cheryl made a motion to accept the minutes, which was seconded by Dana. Board members voted, motion carried.
Secretary Report: No report.
Treasurer Report: Teresa went over the financial statements for deposits and disbursements. She also reported on the last figures for the show. The recap is on the last pages of the statement.

We have received the first interest payment on the Treasury I-Bond. It will be a much better return than traditional bonds.
Program Report: The program will be a short presentation by the Scholarship recipient, Kathleen Whitaker.
Junior's Report: Deana reported that Paul is doing an Earth Science Plan of Walk. She also talked about doing a survey of participants to see what they would like to see in the program.

The articles on the Junior participants in the show went over very well and were spread statewide to encourage participation.
Field Trip Report: There were twelve people at the CofI field trip, all new members. They had a great time. The next field trip will be on April 22 going to Graveyard Point. Meeting at the Gas 'n Go Station at the corner of Hwys. 55 and 95, just outside of Marsing, at 8 am, leaving at 8:30. Our new leader, Jenni, will take us out and Sandy will help out.
Workshop Report: The workshop for April will be on the 20th from 6-8:45 pm. The next Saturday workshop will be the 29th, 10 am-2 pm. The May workshops are the 18th, 6-8:45 pm and the 27th from 10 am-2 pm. The ROLE workshops will be May 1st and 15th.

Liz reported that folks are doing very well in the ROLE proram and love the support they receive from the club.
Old Business: Jason has requested more time to finish the alterations to the new trailer. Shouldn't be a problem at this time.

We need a trailer for the silent auction rock that will fit the storage space we have. It needs to be 7' or 8' x 14', preferrably enclosed. Willa and Terri are researching possibilities.
New Business: Cheryl Lawson inquired about funds for the Library for new books. There is funding in the budget for that.

It was pointed out that we need to watch out for overloading in the power sockets. It may be affecting our power bill.

Lewiston club has invited us to visit their garnet claim by Emerald Creek. We will need to coordinate with them. They are coming to the Beacon Hill field trip so we can visit with them then.

Six new member applications were reviewed. Willa made a motion to accept the new applications, Terri seconded, the board voted and the motion carried.

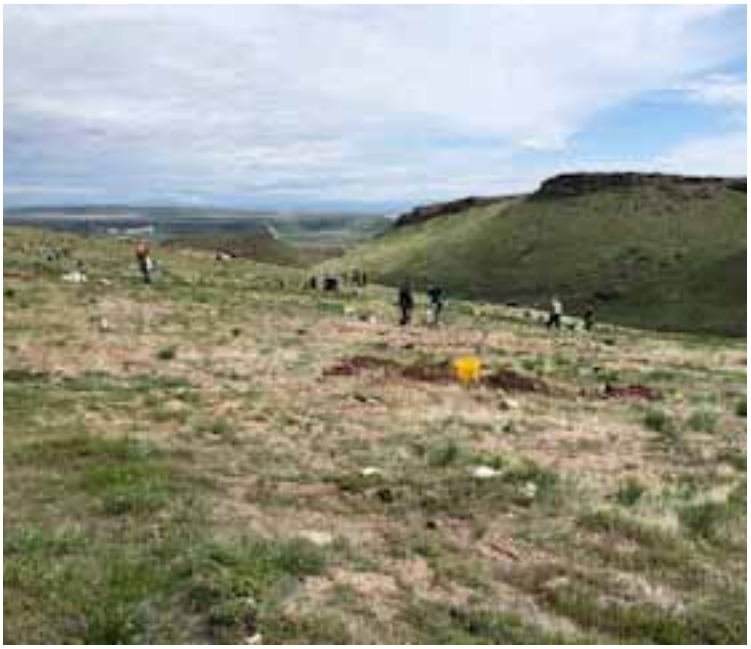
Meeting adjourned at 8:06 pm.

Respectfully submitted, Dana Robinson, Secretary

SUNSHINE LADY REPORT

By Deana Ashton

IGC Sunshine Lady sends cheerful greetings to club members needing , get well wishes, sympathy and anniversary expressions. If you know someone in need of cheer or attention, Please text or call Deana at 208-794-5628.



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CHECK OUT THE CLUB WEBSITE!
www.idahogemclub.com

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RETURN SERVICE REQUESTED

The purpose of the Idaho Gem Club is to promote mutual, educational and scientific interests and benefits of it's members in mineralogy, geology, gemology, the art of lapidary and kindred arts and sciences. Applications and/or renewals may be sent to the Idaho Gem Club, P.O. Box 8443, Boise, ID 83707-2443.

Dues:
$22.00 individual
$25.00 couple
$28.00 family

Subscription only:
$10 per year

GENERAL MEETING:
3rd Tuesday of every month: 7:00 p.m.

BOARD MEETING:
1st Tuesday of every month: 7:00 p.m.

ADDRESS:
Maple Grove Grange
11692 W. President Dr., Boise