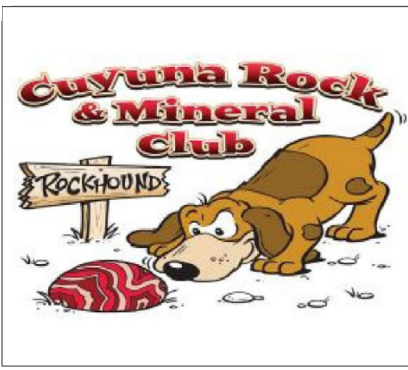


The Agate Explorer

March 2024



March 9 Meeting

10:00—Clubhouse, Rock Room Open & Rock Wrappers (wire wrapping group)

12:00 noon—Board Meeting

2:00— General Meeting with speaker Jon Hellerman on photographing stones.



Rock Wrappers

Open gathering for wire wrappers starting at 10 a.m. on meeting Saturdays.

Hang out with other wrappers, and work on your projects.

*(Bring all supplies needed.)
Learn tricks to make wrapping easier, a new design, or perhaps a new place to find supplies.*

All skill levels welcome!



Franklin Art Center

Club Information

Website-www.cuyunarockclub.org
Email-cuyunarockgemclub@gmail.com

Meeting Place

Lower level
Franklin Arts Center
1001 Kingwood St, Brainerd, MN 56401

Directions

.4 mile east of Business Hwy. 371 & Hwy. 210 intersection.
(Castle turret water tower.)

Date/Time

the 2nd Saturday of each month at 2 p.m. unless otherwise noted.

Club Dues

\$20/ family
Free /unaccompanied juniors
Membership runs from Jan. 1-Dec. 31st.



Pebble Pup Day Camp

This event will be held all day Friday, June 7, and the morning of Saturday, June 8.

Do you have ideas for topics related to rocks that could be taught to 6-12 year olds in a fun way? Games? Demonstrations? Crafts?

Of, if you are interested in volunteering that day, most likely co-teaching a station with a geology topic (information and supplies provided) to small groups of 3-5 kids several times that day, please contact Marcia Opatz at theisma@hotmail.com, or text 320-250-8120.

2024 Field Trips

Trips are in the planning stages. Where would you like to go? When would you like to go?



The Club is also looking for field trip coordinators. These people would look for locations to

rockhound and organize the trip. It would not be necessary to go on every trip.

Assistance given by Board members.
Call/text Ed Opatz at 320-250-1363.

The Club is always looking for places to pick Lake Superior agates or other Minnesota rocks. If you know of somewhere that we can get permission a group to pick, please call Ed Opatz at 320-250-1363. A stipend is paid to the landowner.

Club Calendar

- March 9**—meeting date
- April 13**—meeting date
- May 4**—meeting date—show prep
- May 10**—show set up
- May 11-12**—Cuyuna Agate and Mineral Show
- June 7**—Pebble Pup Day Camp
- June 8**—Pebble Pup Agate Pick and Club meeting date



Information subject to change.

Club Purpose:

To foster an interest (& encourage young & old) to study earth science, enjoy the art of lapidary, hunting for rocks, and semi-precious stones. We also strive to use what we know and acquire to further educate everyone who has an interest in our hobby.

We are a not-for-profit organization.

Board Meeting

Call to Order- The meeting was called to order at 12:09 pm by President Ed Opatz (via phone). Present were Vice-President Lori DuBois, Secretary Joanie Hanson, and board Members at Large Vern Iverson, Alan Busacker, and Mike Stanwood.

A motion was passed to approve the minutes from the December meeting.

Treasurer's Report: Kevin paid the annual fee for the club website maintenance. Full report at the rock club.

2024 summer field trips, U.P. Michigan- we are looking at timing & cost. More later.

Food vendors are mostly set for the show. Vendor registration will start after Jan. 15.

Sharon memorial plan- we will have a small memorial for Sharon Smith at the rock show.

Show volunteer signups start now.

Grand Prize- ammonite? Budget maximum \$300.00. - Ed will be purchasing this in either Quartzite or Tucson.

Show Budget- the advertising budget is \$2000.00. The Rock&Gem Magazine ad will be in the April Issue.

Club member Jim Albers volunteered to send in the Genie motor for repair to California. Estimate was \$350.00.

General Meeting

Today was a cleanup day. Several members came early to help clean, sweep, wipe down cabinets, and clean the machinery and areas around them. Thank you to all who helped.

The meeting was called to Order at 2:05pm by Secretary Joanie Hanson. There were 19 members present.

The upcoming rock show was discussed.

We will have 2 tables at the entrance with hand stamps available at both entrance and exit for anyone that wants to leave and return the same day. The volunteer signup sheets are now available so we encourage all member to sign up to help at the show. Rock club sweatshirts are available to purchase at the meeting.

Speaker: Lilly Peterson on cutting cabochons & You Tube video on rock tumbling.

Door Prizes: Kathy Peterson, Chuck Durnan, Mike Stanwood.

Just a reminder that it is important for all members at the meeting to help clean up our space at the end of the day. If we all do our part, it gets done quickly. Thank you. Meeting adjourned at 3:30pm

Respectfully submitted,
Joanie Hanson

Gem Encyclopedia Kyanite

Of all the feldspars, none besides orthoclase is as frequently encountered as a faceted gem as is labradorite. The material ranges in color from colorless to yellow, but inclusions of minerals such as hematite and copper create a wide range of other body colors. These are best known from localities in Oregon. In addition, the phenomenon of Schiller is best developed in the labradorite range of plagioclase compositions. Translucent to opaque labradorite that shows blue, green, and golden Schiller colors is widely cut by hobbyists. Labradorite with Schiller is also a component of many dark-colored igneous rocks that are used in building and construction as facing materials. Such rocks are very attractive when polished because the blue sheen of the labradorite grains flashes out at many different angles.

The Schiller in labradorite is similar to that in peristerite, but the color range includes blue, green, blue-green, gold, yellow, and purple. The color play is iridescent like the feathers of a peacock.

Faceted labradorite makes a handsome, although unusual jewelry stone. It is as hard as moonstone or any of the other feldspars that are worn regularly in jewelry, but the cleavage is always worth minding. Gems larger than 20 carats can be considered exceptional. Oregon material is abundantly available in the 2-10 carat range. Oregon gems are colorless to pale yellow but often are green or red-orange with a pink Schiller. These odd colors are due to copper and lead, and the Schiller is due to colloidal copper.

Labradorite was, of course, named for its occurrence in Labrador.

Zircon and magnetite; also ilmenite and rutile tablets (Madagascar). Hematite inclusions



create an aventurescence or sparkly effect due to reflection off of parallel included flakes. This reflection creates a rolling sheen of golden red spangles, leading to the name sunstone. Sunstone is also characteristic of oligoclase and is discussed below. Microscopic particles of metallic copper and lead account for some of the unusual colors observed in Oregon labradorite.

A labradorite moonstone is known from Madagascar. It has a blue sheen and the indices are: $a = 1.550-1.553$; $\gamma = 1.560-1.561$; birefringence $0.008-0.010$; S.G. 2.70.

Locations:

Labradorite is best known from Labrador, Newfoundland. Labrador: crystals here are up to 2 feet long, but are badly cracked.

New York; Texas.

Modoc County, California: facetable crystals to 1 inch.

Finland: fine Schiller, very intense; cut stones called spectrolite.

Clear Lake, Millard County,

Utah: facetable crystals.

Nevada: facetable crystals.

Madagascar: moonstone effect.

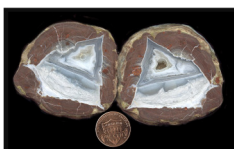
Australia: pale yellow, transparent material; indices

Oregon: facetable.

Labradorite rocks are available in very large sizes, suitable for facings of office buildings. This material is also sometimes cut into cabochons. Labradorite in larger crystals, with uniform Schiller (rather than in smaller, randomly oriented grains) is frequently cut into cabochons by hobbyists. The best material for this purpose comes from Finland, but the material is not common and is fairly expensive compared to other feldspars.

Faceted gems up to about 130 carats are known. It is likely that somewhat larger material exists, but fracturing of rough prevents the cutting of larger stones.

<https://www.gemsociety.org/article/labradorite-jewelry-and-gemstone-information/>



Agates From Around The World Black Queen

Deming, New Mexico

Situated along the "Sugar Bowl" strike which the thunderegg-enriched pertile/tuff flow occurred in lens (pockets).

The unusual thing about the thundereggs themselves is that the color of their shells varies in color and hardness. Toward the southern edge, the thundereggs have red to orange shells while those on the northern edge are brownish similar to those of Sugar Bowl thundereggs. Further to the north, the thunderegg shells are poorly silicified ("rotten shells"). To make the thundereggs even more unusual, high percentage of the thundereggs contain white bladed calcite inclusions in geometric patterns and Simelane (manganese) inclusions.

<https://www.sailorenergy.net/Agates/AgateThundereggNewMexicoBlackQueen04lg.jpg>

Dino Quiz Answers from page 7.

1. Three
2. True
3. The Jurassic Period
4. Herbivore
5. False
6. True
7. Two
8. Brontosaurus
9. False (65 million years ago)
10. Raptor (Velociraptor)
11. True
12. Jurassic Park
13. True
14. Four
15. False (Megalosaurus 1824)
16. The Triassic Period
17. False (Stegosaurus)
18. Spinosaurus
19. Paleontologist
20. True

Connecticut State Fossil

Fossil:
Dinosaur
Tracks
(Eubrontes
giganteus)

Age: Jurassic



Year Designated: 1991

The Connecticut Valley is home to one of the most impressive dinosaur track sites in the world. Tracks of many different types of dinosaurs have been found preserved in the Valley's sandstone dating back to the Early Jurassic. Eubrontes is the name given to the three-toed tracks but no skeletal remains have been found of their creator and the specific genus of dinosaur is not yet known. These tracks were the first known dinosaur fossils to be discovered in North America.

<https://www.fossilera.com/pages/state-fossils>

March 2024 Upcoming Midwest Shows

1-3—RICHMOND, IN: Eastern Indiana Gem & Geological Society; Wayne County Fairgrounds; Fri./Sat. 10-6, Sun. 11-4; \$5, Srs \$3/Students 7-18 \$1; contact Judy Lee, (937) 339-1966; Email: jleeburton@woh.rr.com

8-10—KANSAS CITY, MO: The Association of Earth Science Clubs of Greater Kansas City; KCI Expo Center; Fri. 10-8, Sat. 10-7, Sun. 10-5; Adults \$7, Children 5-14, \$4, 4 and under Free; Website: kcgemshow.org

9—SKOKIE, IL: Chicago Rocks & Minerals Society; St. Peter's United Church of Christ; Sat. 6-9; Free; Website: chicagorocks.org

9-10—MACOMB, IL: Geodeland Earth Science Clubs Inc; Western Illinois U Ballroom; Sat. 10-6, Sun. 10-5; Free; Website: <https://geodeland.com/>

9-10—KALISPELL, MT: Northwest Montana Rock Chucks; Flathead County Fairgrounds; Sat. 9-6, Sun. 10-4; \$5, kids 8th grade & younger, free; Website: rockchucks.org

15-17—JACKSON, MI: Michigan Gem and Mineral Society; American One Event Center; Fri. 10-7, Sat. 10-6, Sun. 11-5; \$5, Srs - \$3, Students - \$2; Website: mgmsrockclub.com

23-24—CEDAR RAPIDS, IA: Cedar Valley Rock And Mineralogical Society; Hawkeye Downs Expo Center; Sat. 8:30-6, Sun. 9:30-4; \$3, student 12-18 \$1, under 12 free; Website: cedarvalleyrockclub.org

24—SAINT CLOUD, MN: St.Cloud Agate Swap; Best Western Kelly Inn /Green Mill, Sun. 10-4; Free Email: Stcagateswap@gmail.com

(320) 217-2757

The Rock & Art Shop



Bringing Rocks, Gems, & Lapidary Arts Together

Sat. 10-6 Mon. Closed Wed. 10-6
Sun. 10-4 Tue. 10-4 Thur. 10-6
Fri. 10-6

1700 W. St. Germain, St. Cloud

Bench Tip

Here is a tip to put money back into your jewelry work/business. Save your precious metal scraps and refine them with @garfield refining. You should also save used sandpaper, bits and all your other "dirty bench sweeps" and refine those too! Get started by requesting a label from Garfield Refining today.



<https://tips.metalsmithsociety.com/tips>



**SeashellsbyShelly
Rock & Crystal Shop**
2625 County Road 37 NE
Monticello, MN
Open Mon 12-4, Fri 3-6
Sat 11-5, Sun 12-3
ph 763-295-2440
Huge shop with tons of inventory!
Rock cutting services and a dark room with
fluorescent minerals!
Seashellsbysshelly.com

Minnesota Rock Shops

Agate City 721 7th Ave., Two Harbors
218-834-2304

Agate Trails of Fellerer Creations 471
Arrowhead Ln, Moose Lake 320-279-3553

AM Rock Shop 710 E River Rd, Anoka
763-421-2807

Art & Soul 5124 202 Main St Stillwater,
651-275-0255

Beaver Bay Agate Shop 1003 Main St.,
Beaver Bay 218-226-4847

Christy's Crystals 407 N Riverfront Dr,
Mankato 507-720-1061

Designed In Stone 841 Forest Ave E Suite
110, Mora 651-248-8768

Dream in Jasper Crystal Shop 107 N
Meridian St, Belle Plaine 763-301-1058

Enchanted Rock Garden 1228 E 66th St,
Richfield 612-866-1140

Jon's Gem Emporium 184 North Hwy
10, Motley 218-640-1047

Magic Mushrooms in the Crystal Garden
171 Lake St N, Big Lake 612-805-7111

MO'R Designs 2100 Snelling Ave N
Suite 13, St Paul 651-294-3069

Naturally Unique 137 Western Ave N,
Park Rapids 701-429-0409

Rock and Art Shop 1700 W St. Germain,
St. Cloud 320-217-2757

Rocks and Things 201 N Rum River Dr,
Princeton 763-389-0979

**Rocks & Tools SeashellsbyShelly Rock
and Crystal Shop** 2625 County Rd 37 NE,
Monticello 763-295-2440

Sacred Sage and Crystals 118 Broadway
E, Little Falls 320-360-3611

Sample's Agates Gem and Mineral Shop
18581 MN-371, Brainerd 218-821-6623

Taylor's Falls Bead Store 364 Bench St,
Taylor's Falls

Those Blasted Things 924 Kniss Ave.,
Luverne 507-283-4027

Twin Pines Trading Post 31049 Front St,
Pequot Lakes 218-839-0829

Uncle Tom's Rock Shop 2746 Hoffman
Dr. NW, Owatonna 507-451-2254

ZRS Fossils and Gifts 3018 Lyndale Ave
S, Minneapolis 612-824-1068

St. Cloud
Agate Swap

Sunday
March 24th
10am to 4pm

Over 30 Artisan vendors with agates,
crystals, jewelry, wirewraps, beads,
stickers, apparel and more!

100 4th Ave S - St. Cloud, Minnesota

stcagateswap@gmail.com

Sunshine Requests

If you know someone who could
use a little sunshine—birth,
illness, surgery, family death—
please contact Joanie Hanson at
218-831-2665.



We're on Facebook!

**Cuyuna Rock,
Gem & Mineral Society**

is a closed group, so you must ask to join.

After being approved you can
follow the members' posts and add your own
information.

**Rocks Fossils
Gems Minerals**

**JON'S GEM
EMPORIUM**

Call Or OPEN FRI AND 218-
Text To SAT 10-6 SUN 12-5 640-
Shop Off Hours Motley, MN 1047

2024 Cuyuna Agate & Mineral Show

Saturday, May 11 9 - 5 Sunday, May 12 10 - 4

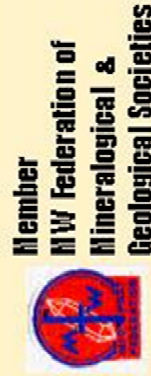
Crow Wing County Fairgrounds

2000 S. E. 13th St., Brainerd, Minnesota



Admission: \$2 Adults, Kids under 12 \$1 Mothers free on Sunday!

**Agate from around the world ♦ Handcrafted Jewelry ♦ Fossils ♦ Prizes
Crystals ♦ Fluorescents ♦ Specimens ♦ Unique Décor Items
Spinning Wheel ♦ Displays ♦ Knappers ♦ Rough Rock
Equipment & Lapidary Supplies ♦ Minerals ♦ Agate rock pile for kids
Slabs & Cabochons ♦ Rock Cutting ♦ Geode Cracking ♦ Sluicing
Ask the Wizard of Rocks ♦ Concessions ♦ ATM Available**



For more information call /text Ed Opatz at 320-250-1363 or email at opatz1@att.net

www.cuyunarockclub.org

2024 Show Volunteer Lists

To volunteer, call
 Joanie Hanson at 218-831-2665
 or Ed Opatz at 320-250-1363

Show Set up Starting on Fri, May 10 at 12

Vern Iverson
 Lilly Peterson
 Joanie Hanson
 Mike Stanwood (and helper)
 Paulette Wosniak
 Mike Ott
 Bruce Curley
 Merlin Thorn

Set up Display late Friday afternoon

Mike Stanwood (and helper)

Security—Back Gate

Sat., 6-9 _____
 Sat., 9-12 Bruce Curley _____
 Sat., 12-3 _____
 Sat., 3-5 _____
 Sun., 9-12:30 _____
 Sun., 12:30-4 _____

Security –Show
Volunteers STRONGLY urged
to attend free Fri. night meal and hear
speaker on security and theft.

Sat., 9-12 Dan Hammond _____

 Sat., 12-3 Mike Ott _____

 Sat., 3-5 _____

 Sun., 10-1 Dan Hammond
 Kathy Peterson
 Marie Rose

Exit Gate

Sat., 9-12 _____
 Sat., 12-3 _____
 Sat., 3-5 _____
 Sun., 10-1 _____
 Sun., 1-4 _____

Door Admissions

Sat., 9-12 Vern Iverson _____

 Sat., 12-3 Michael Maddox _____

 Sat., 3-5 _____

 Sun., 10-1 Vern Iverson _____

 Sun., 1-4 Kathy Peterson
 Marie Rosa
 Michael Maddox

Club Table

Sat., 9-1 Lilly Peterson
 Joanie Hanson _____
 Sat., 1-5 _____

 Sun., 10-1 _____
 Sun., 1-4 _____

Rock Saw/Geode Cracker

Times can be split into shorter increments

Sat., 9-5 _____

 Sun., 10-4 _____

Spinning Wheel

Sat., 9-12 _____
 Sat., 12-3 Mike Stanwood
 Kathee Stanwood
 Sat., 3-5 _____
 Sun., 10-1 Mike Stanwood
 Kathee Stanwood
 Sun., 1-4 _____

Kids' Corner/Sluice Box
 Sat., 9-1 Paulette Wozniak
 Braydon Wozniak
 Sat., 1-5 Marie Rose
 Kathy Peterson
 Sun., 10-1 _____
 Sun., 1-4 Bruce Curley _____

Wizard of Rocks

Sat., 9-12 _____
 Sat., 12-3 _____
 Sat., 3-5 _____
 Sun., 10-1 _____
 Sun., 1-4 _____

Saturday Admissions Count—Sat. night

Show Tear Down Starts Sun., May 12 at 4

Lilly Peterson
 Mike Stanwood (and helper)
 Paulette Wozniak
 Bruce Curley
 Les Tix
 Mike Ott

Show Clean up Mon. May 13


Mike Stanwood (and helper)
 Paulette Wosniak
 Merlin Thorn

Pass The Word!

Show cards and show flyers are available at the Clubhouse, and a full size flyer is in this newsletter. PLEASE pass these out to friends, co-workers, and neighbors, and stop at local businesses to ask to display a flyer. You can give them a few show cards too.

There are also half sheet and quarter sheet flyers available, or you can email Marcia Opatz at theisma@hotmail to have an electronic copy sent for printing or for social media.

Sharon Smith Memories
 February 26, 1956-November 26, 2023



Sunday, May 12th
 8:00-9:45 a.m.

Curling Club building
 Mezzanine level

A gathering will be held on Sunday to remember the Cuyuna Rock, Gem, and Mineral Society's long time show coordinator, Sharon Smith.

Please feel free to bring any photos or other memorabilia to share.



OSU-CHS Student Discovers New Dinosaur Species

Atkins-Weltman, an anatomy and vertebrate paleontology

Ph.D. student in the School of Biomedical Sciences, was studying a small collection of foot and leg bone fossils of what was believed to be a juvenile *Anzu wyliei*, which was described as a “chicken from hell” when it was discovered in 2014. But histology tests of the bones conducted at OSU-CHS determined that it wasn’t a juvenile, but a different species in the dinosaur family caenagnathid.

Atkins-Weltman named the new dinosaur *Eoneophron infernalis*, which translates to Pharaoh’s dawn chicken from hell.

Based on rough estimates, *Eoneophron* weighed around 150 to 160 pounds and stood about 3 feet tall at the hip, about the size of a human.

“It was a very bird-like dinosaur. It had a toothless beak and relatively short tail. It’s hard to tell its diet because of the toothless beak,” he said. “It definitely had feathers. It was covered in feathers and had wings.”

“Kyle is the first student researcher at OSU-CHS to reveal, describe and name a new dinosaur,” said associate professor of anatomy Eric Snively, Ph.D., and Atkins-Weltman’s faculty advisor.

The fossils were found in the Hell Creek Formation that spans parts of Montana, Wyoming, and North and South Dakota and date back to the end of the Cretaceous period before dinosaurs went extinct.

When it looked like the fossils may not belong to an *Anzu*, Atkins-Weltman turned to caenagnathid researchers Greg Funston, Ph.D., a paleontologist with the Royal Ontario Museum in Ontario, Canada, and paleontology Ph.D. candidate Jade Simons with the University of Toronto for their help and expertise.

He also called on the help of OSU-CHS associate professor of anatomy Holly Woodward Ballard, Ph.D., whose own research utilizes paleohistology — the study of fossil bone microstructures. Through paleohistology techniques, they were able to determine that the foot and leg bones were not structurally those of a juvenile, but of a more mature specimen, meaning a new dinosaur species in the caenagnathid family.

“It was really thrilling. Based on the work and research I do, I never thought I would be someone to discover a new dinosaur species,” he said.

<https://news.okstate.edu/articles/health-sciences/2024/osu-chs-student-discovers-new-dinosaur-species-kyle-atkins-weldman-eoneophron-infernalis.html>



There are Club members who teach lapidary related classes at the Paramount in St. Cloud. Here are the upcoming classes:

More information is available at:
www.paramountarts.org

Beyond the Basics of Wire Wrapping

Saturday, April 6

9 a.m.—3 p.m.

\$95

Instructor:


Jo Schwalboski

Beginner, no prior experience needed Ages 18+



The World of Jasper

Tire Track Jasper Nannine, Western Australia



Red and Black brecciated jasper healed in tan jasper to produce an impression of tire tracks through the outback.

https://thegemshop.com/products/tire-track-jasper_pos=27&_sid=fd04ad145&_ss=r

Bench Tip: Repair a Fine Chain with a Soldering Technique

Chain repair is a set of fundamental skills and techniques every goldsmith needs to master, but the structure and design of the chain dictate what you need to do for a successful repair.

This bench trick focuses on fine cable and rope chains with tiny links made from extremely thin wire. It is difficult to manipulate these links, reconnect them and then solder them. Study the chain to determine how each link connects to the next and remove all damaged links, leaving only the sound links that will be joined back together.

Use a permanent marker to color some of the links near the joint so you can find the links that need to be soldered. Cut open one or more links, depending on the style of chain, and open them slightly to connect to the other section of chain. Make sure you fit the cut ends of the link together as tightly as possible to ensure a good solder joint.

The next and most important step is to solder the open links together so they are joined in an inconspicuous way. The chain should look as if it had never been damaged. So easy to say and so hard to do!

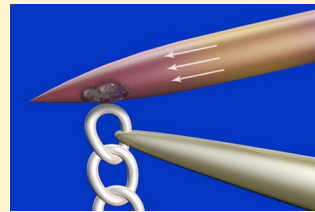
You will likely have problems if you apply flux and solder to the open link, then heat it directly with the torch:

- The solder might not flow to both sides of the joint
- A lump of excess solder will adhere to the link because it is impossible to cut solder into small enough pieces for fine gauge links
- Heating the links directly may fuse several links together, which means you must start over on a now shorter chain

This “Sneaky Goldsmith Trick” makes it

possible for you to avoid all the pitfalls and do a clean job every time.

The secret weapon is the trusty soldering pick. Normally, goldsmiths use a pick to hold a piece of solder in place or position it on the work. In this case, you will use the tip of the soldering pick to expose the clean metal and apply the flux.



Pick up a piece of easy solder about 1.0 mm square with the pick and heat it directly with the torch until it flows and covers

the tip of the pick with a thin layer of solder. Be sure to choose a steel pick, because solder won’t adhere properly to titanium or tungsten.

Bring the solder-coated pick into contact with the open joint of the link. Instead of pointing the torch directly at the chain, heat the pick about 8 to 10 mm from the tip. The pick will act as a thermal conductor to carry the right amount of heat to the joint to be soldered. When the solder flows again, a small amount of solder will transfer to the joint. Lift the pick quickly. Allow the chain to cool, pickle and clean up as needed.

This trick simplifies the soldering process and enables the goldsmith to do better work, faster and with fewer mistakes.

<https://www.gia.edu/bench-tip-repair-fine-chain-with-soldering-technique>

Cuyuna Rock, Gem, & Mineral Society on the Web

www.cuyunarockclub.org



Geology and Home Building

You probably don't give much thought to the ground under or around your home. What follows are a few true stories that may change your perspective. If you're in the market to buy land to build your dream home, or if you're looking to buy an existing home, this information could prevent financial ruin.

Topographic maps can shed light on many things. A man purchased a lot in a new subdivision in Cincinnati about 20 years ago. The developer had to do lots of cut and fill. This lot was land that was fill dirt. The dishonest excavator dumped dirt on fallen trees to bury them. Within a year the house was built, it started to crack in half. The basement floor looked like a dough bubble on a pizza. The entire foundation was dropping but the floor was not falling at the same rate.

About 30 years ago, a family was almost killed in a flash flood. They bought a home in a nice subdivision nestled on rolling land. Their home was right on top of an old dry creek. Under their driveway was a hidden 5-foot-diameter storm sewer that was installed when the farmland was converted to residential property. The people had no idea this pipe was in the ground.

One day a huge storm caused storm water to completely fill the pipe and then run across the land to a depth of eight feet in my the driveway. It completely flooded their basement in a matter of minutes. Had they studied a topographic map before buying this home, they could have seen from the contour lines how much land above them collected water and then funneled it to their lot.

As most of us know, active geologic faults can be found all over the western United States. But the center of the USA is not immune from tremendous earthquakes. In 1811-12, the New Madrid earthquake caused massive damage where western Tennessee touches southeast Missouri and northeast Arkansas. If you live near here or intend to build there, talk to your insurance agent about an earthquake rider on your homeowner's policy.

Landslides can also cause nightmares and death. Just three years ago, two friends of mine died when a propane explosion destroyed their home. Heavy rain caused a landslide that dislodged their propane tank resulting in a gas leak in their home. This was preventable to a large degree, but the average person would never think about the relationship of a propane tank to a hillside.

Humble Cincinnati is the epicenter of some

Rock Room

This Club is unique because it has its own rock store. Here is an inventory of what is available for Club members to purchase. Stop in when you come to the Clubhouse!



| | | |
|------------------------------|----------------------------|----------------------------------|
| Grit and Polish | Colorado | Royal Imperial Jasper |
| Oregon Geodes | Snowflake Obsidian | Dino Bone |
| Chalcedony | Utah Petrified Wood | Coyamito Agate |
| Plume Agate | African Blue Lace Agate | Grape Agate |
| Owyhee Picture Jasper | Carnelian Agate | Root Beer Selenite |
| Brazilian Agates | Tiger Eye—red and blue | Gold Diggins |
| Amethyst | Tiger Eye—gold & blue | Red Cloud (Fluorescent) |
| Hauser Bed Geodes | Variegated | Pumice |
| Thundereggs | Miscellaneous Obsidian | Mookaite |
| Mexican Geodes | Condor Agates | Coming soon! |
| Montana Petrified Wood | Blue Forest Petrified Wood | Mookaite |
| Montana Moss | Polychrome Jasper | El Picacho Agate |
| Tee Pee Canyon Agate | Sunset Jasper | New Mexican Geodes with crystals |
| Slabs of all sizes and types | Noreena Jasper | Apache Tears |
| Septarian Nodules—Utah | Tiger Iron | Laguna Agate |
| 79 Bed Geodes—Oregon | Kumerha Jasper | |
| Moroccan White Agate | Swazi Agate | |
| Small Botswana Agate | Calandria Agate (Mexico) | |
| Smokey Quartz crystals - | Bear Canyon Agate | |



Dino Quiz

1. How many horns did Triceratops have?
2. True or false? The name dinosaur means 'terrible lizard'.
3. Which came first, the Jurassic or Cretaceous Period?
4. Was Diplodocus a carnivore or herbivore?
5. True or false? Tyrannosaurus rex was the biggest dinosaur ever.
6. True or false? Iguanodon was one of three dinosaurs that inspired the appearance of Godzilla.
7. Did Theropods such as Allosaurus and Carnotaurus move on two legs or four?
8. Apatosaurus is also widely known by what other name?
9. True or false? Most dinosaurs became extinct during an event that occurred 500 years ago.
10. What type of dinosaur features on the

logo of the Toronto based NBA basketball team?

11. True or false? Dinosaur fossils have been found on every continent of Earth.
12. What dinosaur themed book was turned into a blockbuster movie in 1993?
13. True or false? Ankylosaurus featured huge plates of bone that acted as body armor.
14. Did Sauropods such as Brachiosaurus and Diplodocus move on two legs or four?
15. True or false? Pentaceratops was the first dinosaur to be officially named.
16. Which came first, the Jurassic or Triassic Period?
17. True or false? The US state of Colorado lists the Allosaurus as its state dinosaur.
18. What weighed more, a fully grown Spinosaurus or Deinonychus?
19. A person who studies fossils and prehistoric life such as dinosaurs is known as a what?
20. True or false? Birds evolved from dinosaurs.

Answers on page 2.

<https://www.sciencekids.co.nz/quizzes/dinosaur.html>

of the highest landslide damage in the U.S. The media darling for landslides is California, where each winter we seem to see houses falling into the ocean during fierce winter storms. But in Cincinnati, the bedrock geology is such that thousands of homes are built on unstable clay soil that can be found on the hillsides all around the tri-state region.

How disappointed would you be if you had bought raw land only to discover there's no water? Yes, this happened to friends of mine in Washington state. They had to stop drilling after boring a hole 700 feet. This might have been avoided had they talked to well drillers

before buying the land. The drillers might have told them land to avoid and the places where water is discovered at a shallow depth.

You can make the best decision when buying land by hiring a professional geotechnical engineer or a professional geologist. These folks can look at raw or developed land and produce a report indicating any potential issues that could affect your major investment.

<https://www.chicagotribune.com/2024/01/19/ask-the-builder-how-to-avoid-geologic-hazards-when-building/>

Marcia Opatz, Editor
Cuyuna Rock, Gem
& Mineral Society
1001 Kingwood Street
Suite B-40
Brainerd, MN 56401

FIRST CLASS MAIL



The Agate Explorer

March 2024
Official Publication of the Cuyuna Rock,
Gem & Mineral Society



Members of AFMS & MWF

Notes from the President

I would like to thank the Club members that have been working on cleaning and repairing the equipment. It's great when everything is working well.

After looking at the volunteer sign up sheets for the show it looks like we have about 25% of the spaces filled. Most jobs are easy and require little training. Even new members can do it! May seems a long way away, but it's only two months. PLEASE sign up so that a few of us don't have to do all the work.

We are working on a possible field trip to the upper peninsula of Michigan some time this year/summer? If you are interested, please SPEAK UP NOW, as to when would be a good time for you. We don't want to get all the planning done and have you say you wanted to go, but the dates don't work for you.

Do you have topics for speakers that you would like to have at a Club meeting? Or, do you know someone who would make an interesting speaker? Please contact me! I am always looking for speakers for the meetings. The Club pays a stipend to the speaker; they don't have to do it for free.

Please mark your calendar for the show on May 11 and 12! Plan on volunteering a couple of hours and spending time shopping and finding new and interesting rocks at the show.



Ed Opatz

**Club Officers
& Board of Directors**
cuyunarockgemclub@gmail.com

President: Ed Opatz
opatz1@att.net
320-250-1363

Vice-President: Lori DuBois
waboos.dubois@gmail.com
(320) 237-4761

Secretary: Joanie Hanson
secretarycuyunarockgemclub@live.com
218-831-2665

Treasurer: Kevin Martini
treasurer@cuyunarockclub.org
kjspumanti69@gmail.com
218-770-8917

Director: Alan Busacker
Director: Vern Iverson
Director: Mike Stanwood

Newsletter Editor: Marcia Opatz
theisma@hotmail.com
320-250-8120