



Mid-Ohio Mineral and Fossil Club

The LITHNICS

Volume 64 Issue 2

April 2026

THE LITHNICS



A QUARTERLY PUBLICATION OF
THE MID-OHIO MINERAL AND FOSSIL CLUB
MANSFIELD, OHIO



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VICE-PRESIDENT	Jim Baumgartner
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RECORDING SECRETARY	Pat Everly
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TRUSTEES	Jason Larson + Joel Likins + Lawrence Hull

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DOOR PRIZE	Pam Kottyan
EDUCATION	Tom Kottyan
FIELD TRIPS	
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HISTORIAN	Jason Larson
HOSPITALITY	Joel Likins
MEMBERSHIP	Pam Kottyan and Jason Larson
SHOP	Walt Upchurch
SHOW	Tom Kottyan and Jason Larson
SPECIAL INTERESTS	Susan Mathews
VIDEO/BOOK LIBRARY	Carolyn Kelly
LITHNICS EDITOR	Bryan Summer

1290 Fairview Ave
Galion, OH 44833
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OUR CLUB

PURPOSE: The purpose of the Mid-Ohio Mineral and Fossil Club, is to create an interest in and study of the earth sciences and all lapidary arts and to afford an opportunity to share knowledge and working techniques with others.

MEETINGS:

General club meetings are at 7:00 pm on the first Monday of the month at:

Gorman Nature Center, 2295 Lexington Avenue, Mansfield, Ohio.

If the first Monday falls on a holiday we meet one week later.

Visitors are always welcome.

Special Interest Group (Classes) meetings are held September through May at 7:00 pm on the second Monday of the month. See Special Interest Chair, Mike McCullough.

CANCELATION OF A MEETING

If for any reason the club officers feel that a meeting should be canceled you will be notified by email as soon as possible. If Mansfield schools are closed so are we. If for any reason you don't feel safe to drive to a meeting, please, please stay home.

Annual dues are:



Adults	\$ 15.00
Children under 16	\$ 5.00
Family	\$ 20.00

Dues are due Jan. 1st of every year. Whether you join in January, December, or any month in between, the cost is the same. Everyone's dues are due again the next January 1st .

LITHNICS: Our quarterly newsletter.

Permission is hereby granted to use any original **LITHNICS** articles, whole or in part, as long as proper recognition is noted with the reprint.

Club members are encouraged to make contributions to the LITHNICS.

Contact: Bryan Summer (bryansummer1@gmail.com)

The Mid-Ohio Mineral and Fossil Club



Presidents Message

To my fellow mineral and fossil friends. I really enjoyed seeing the club members that came to the Columbus club show this past weekend. I counted over ten members who came to the Columbus show.

Spring in Ohio is traditionally the time for the shows after what I think was a very hard winter. This a great place to educate yourselves on what is new in our hobby from various dealers across the country. There were great fossil dealers (better than I have seen before) selling shark teeth, mammoth bones, dinosaur bones, etc. I was very impressed. There was also a great array of mineral dealers and dealers selling bulk rock, (of which several had new material that I learned about from them). I still think the best way to learn the multiple facets of our hobby is to go to these shows. The Columbus club also had multiple show cases of their theme which was basically “Not everything that has a metallic shine is Pyrite”. I think the club shows are the way to learn and Ohio has many excellent shows this spring season . I know that gasoline is up and you have to travel to these shows, but trust me the educational knowledge that you will gain from this will serve you well. Every day that you do not learn something new puts you behind on the learning curve. I really learned a great deal just at this one show. Columbus club has had their issues with venues and dates, none of which were their fault, but I think this new Venue is a really good one. Coming up is the Akron show, Troy show, Cincinnati show and of course our show in June.

I had wonderful comments about our shows from patrons that have come before. They are excited to come to our show because we are very friendly, have great case displays, a great silent auction (they say the best btw) and exceptional dealers. I hope you take all of this to heart and venture out to educate yourselves and have some fun at the same time.

Tom Kottyan

Mid-Ohio Mineral and Fossil Club President

Upcoming Meetings – all meetings are at the Gorman Nature Center at 7:00 pm
Continue to watch for information about future meetings in your email.

- Monday, April 6 7:00 Meeting Gorman Nature Center
- Monday, May 4 7:00 Meeting Gorman Nature Center Club Pot Luck
- Monday, June 1 7:00 Meeting Gorman Nature Center
- June 6 - 7 Mineral Show Sat + Sun Richland Fairgrounds

- Monday July 6 7:00 Meeting Gorman Nature Center
- Monday, August 3 7:00 Meeting Gorman Nature Center
- Monday, September 14 7:00 Meeting Gorman Nature Center
- Monday, October 5 7:00 Meeting Gorman Nature Center
- Monday, November 2 7:00 Meeting Gorman Nature Center
- Tuesday, December 1 Annual Christmas Dinner Golden Corral 5:30 - 8:00

Area Events

Saturday, April 11

Lowe Volk Park Mineral + Fossil Day 10 - 2

Saturday, May 9

Gorman Nature Center Mineral + Fossil Day 11:00 - 3:00

**GEM, MINERAL, JEWELRY,
BEAD, & FOSSIL SHOW 2026**



**MINERAL ODDITIES
& PSEUDOMORPHS**

<p>QUALITY DEALERS</p> <p>DOOR PRIZES EVERY HOUR</p> <p>GRAND PRIZE DRAWING</p>	<p>JUNE 6 - 7</p> <p>Saturday 10 AM - 6 PM</p> <p>Sunday 11 AM - 5 PM</p>	<p>GEODE BREAKING DEMONSTRATIONS</p> <p>SILENT AUCTIONS EVERY HOUR</p> <p>KID ACTIVITY ZONE</p>
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Richland County Fairgrounds
Fairhaven Hall
750 North Home Road
Mansfield, Ohio

Admission
Adults.....\$5.00
Seniors.....\$4.00
Children 6 - 16.....\$3.00
Children 5 + Under.....Free
Scouts in Uniform.....Free

For More Information contact Tom Kottyan 419-561-3595
 SPONSORED BY THE MID-OHIO MINERAL & FOSSIL CLUB
 Website: <http://www.midohiomineralandfossilclub.com>
 Mid-Ohio Mineral & Fossil Club

Mineral Oddities or Pseudomorph Minerals

Geology In (geologyin.com)

Pseudomorph is a mineral formed by chemical or structural change of another substance, though retaining its original external shape. Although pseudomorphs give the appearance of being crystalline, they are commonly granular and waxy internally and have no regular cleavage; those that are crystalline have optical properties different from those required by their outward form.

They retain the external shape and form of a pre-existing mineral, called the protolith, but their internal composition has been transformed into a different mineral, called the neomorph. Imagine a mineral wearing a mask, its true chemical identity hidden beneath the familiar form.

A common example of this is petrified wood, in which all the cellulose fibers have been replaced by silica, even those in the bark. Pseudomorphs can be formed by deposition of one mineral on the surface of crystals of another (see also epitaxy).

History of Orton Hall

The Ohio State University



One of the most iconic buildings on Ohio State's campus, Orton Hall, under construction in 1893.

Completed in 1893, it's the second-oldest building on Ohio State's campus and was designed to be the world's only building that intentionally reflects geologic time.

The building is constructed using 40 different Ohio building stones, arranged in correct stratigraphic order - with the oldest Silurian rocks at the base and younger Carboniferous stones near the top of the bell tower.

The iconic bell tower, added in 1915, contains 25,000 pounds of bells that chime every 15 minutes, playing either Westminster Quarters or Carmen Ohio.

The building's namesake, Edward Orton Sr., was Ohio State's first president and would work late in the tower by coal oil lamp - the black marks from his lamp are still visible today.

Twenty-four hand-carved gargoyles around the tower depict prehistoric animals that once lived in Ohio, representing creatures from the Mesozoic and Cenozoic eras.

The columns in the foyer showcase the 24 principal 19th-century building stones of Ohio, with

column capitals featuring progressively younger fossils as you move through the space.

It was the first building erected in Ohio specifically to house a museum, originally containing both the Geological Museum and the University Library.

The building features Richardsonian Romanesque architecture, characterized by massive stone blocks, a steeply-pitched red clay tile roof, round arches, and bay windows.

In 2018, the hall added a 24-foot Cryolophosaurus skeleton to its lobby, funded by a worldwide crowdfunding campaign.

Even the floor tiles in the building's entrance have geological significance - they're made from Ohio clay.

From: **Cindy Eusey** <ceusey@icloud.com>

The Nautilus and the Ammonite

By Lunnella, age 10
Indian Mounds Rock & Mineral Club (MI)
From Crack the News, July 2025



The author, with an ammonite on the left and a nautilus on the right. Photo from Crack the News.

Have you ever wondered what the difference is between a nautilus and an ammonite? Or maybe you are wondering what they are? Or when they lived? Well, to figure out answers to these questions just keep reading. If we look at them, nautiluses and ammonites have many differences, yet they have more similarities than differences.

Before we keep going, why don't we learn about what they are? They are both ancient squid-like sea creatures that lived in a shell. Their scientific classification is cephalopod. This means that they are related to today's squid, octopus, and cuttlefish. So, you might think they are related to snails, but really, they aren't!

We just say ammonites and nautiluses, but really there were so many different species that lived in all the ancient oceans. So, we don't know exactly what ammonites ate, but we do know this: modern nautiluses eat fish and small crustaceans by using their arms to pull their food to their beak.

Yeah, you heard me right. Ammonites and nautiluses have beaks, but although they are like bird beaks, they do have some differences. Bird beaks are made of bone, but cephalopod beaks are made of keratin. And for those who don't know what keratin is, it is the same stuff your hair and fingernails are made of.

Since they are both cephalopods and eat the same way, we think they might both have had the same diet. Nautiluses and ammonites are both cephalopods that lived in oceans all around the world and they most likely were both carnivores.

So, we talked about what they were like. Now we are going to talk about the differences in their shells and their shape. The first nautilus started out straight but then as they evolved, they turned into spirals like the ones that live to this day. The first ammonites were originally spiral, but as they started evolving, they started getting funky shapes, such as knots and paper clip shapes.

The siphuncle was a tube that helped with buoyancy. Buoyancy is the ability to float. By adding or removing gas to the shell, it makes them float higher or sink lower. A nautilus siphuncle ran through the *(Continued from page 6)* middle of the shell. An ammonite siphuncle ran along the outer shell.

Both start with a tiny shell and as they grow, they make a new chamber and close off the old one. The walls between the chambers are called septa. The sutures are lines created where the septa touch the shell. In nautilus the suture lines are mostly straight but just slightly curved toward the opening, but ammonite sutures are wiggly and bumpy. Now you know how to tell the difference between nautilus and ammonites by their siphuncle and suture lines.

So you know that nautilus and ammonites lived together, but have you ever wondered which one appeared first? Well, if we look at a timeline, we can see that nautilus appeared in the late Cambrian Period about 488 to 500 million years ago. When they first appeared, nautilus were straight, as we talked about earlier.

But did you know that the popular fossil *Orthoceras* is actually a cousin of the nautilus. Yeah, it is shocking! I was shocked too when I figured it out. So, every time you look at an *Orthoceras* you know that you are looking at a cousin of the nautilus.

If we look at when nautilus first started coiling, that was in the Ordovician Period, 488 to 443 million years ago. And then they coiled and started to look like today's nautilus in the Devonian period, 416 to 259 million years ago. By now you might be wondering, when did ammonites come into the nautilus' lives? Well, they started appearing around the same time that nautilus started to look like the ones today.

Then 350 million years later ammonites died off during the mass extinction of the dinosaurs, 66 million years ago. But thankfully nautilus survived. Scientists think that it was because ammonites lived in shallower water and nautilus lived in deeper water. The shallow swimming ammonites were more vulnerable to the planetary effects of the mass extinction than the deep-sea nautilus, causing ammonites to die off but nautilus to live.

So now you know all about what nautilus and ammonites were like, what they ate, how they were different, when they lived and when they died. And if you are ever interested in a craft, then look at the recipe at: nhm.ac.uk/discover/how-to-make-a-salt-dough-ammonite-fossil. You can make your own ammonite or nautilus out of salt dough. You can paint it, or you can decorate it too. I even made their soft bodies out of modeling clay in my models. You can look up what colors scientists thought they were, or you can just get creative! Oh, and if you like poetry then you can read the poem, "The Nautilus and the Ammonite" _by George F. Richardson.

[Crack the News is the AFMS's newsletter by and for juniors. You can find it at juniors.amfed.org/juniors-newsletter.]



The Nautilus and the Ammonite

By George F. Richardson - 1838

The Nautilus and the Ammonite,
Were launch'd in friendly strife ;
Each sent to float, in its tiny boat,
On the wide wild sea of life!

For each could swim on the ocean's brim,
And when wearied its sails could furl ;
And sink to sleep in the great sea deep,
In its palace all of pearl !

And their's was a bliss, more fair than this,
That we feel in our colder time ;
For they were rife, in a tropic life,
In a brighter, and better clime !

They swam 'mid isles whose summer smiles
No wintry winds annoy ;
Whose groves are palm—whose air is balm—
Where life is only joy !

They sailed all day through creek and bay,
And traversed the ocean deep ;
And at night they sank on a coral bank,
In its fairy bowers to sleep !

And the monsters vast of ages past,
They beheld in their ocean caves ;
They saw them ride in their power and pride,
And sink in their deep sea graves !

And hand in hand, from strand to strand,
They sailed in mirth and glee ;
These fairy shells, with their crystal cells,
Twin creatures of the sea !

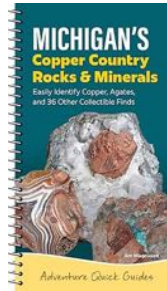
And they came at last, to a sea long past,
But as they reached its shore,
The Almighty's breath spoke out in death,
And the Ammonite lived no more !

And the Nautilus now, in its shelly prow,
As over the deep it strays ;
Still seems to seek, in bay and creek,
Its companion of other days !

And thus do we, in life's stormy sea,
As from shore to shore we roam,
While tempest-tost, seek the loved, the lost,
But find them on earth no more !

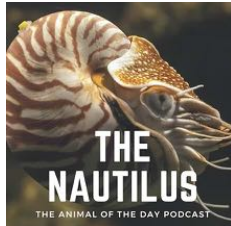
Yet hope how sweet, again to meet,
As we look to a distant strand ;
Where heart finds heart, and no more they
part,
who meet in that better land !

Geology Books



Michigan's Copper Country Rocks & Minerals: Easily Identify 38 Collectible Finds, Including Copper and Agates (Adventure Quick Guides)

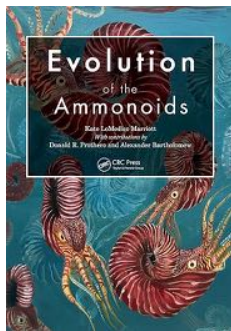
by [Jim Magnuson](#) | Apr 7, 2026



The Nautilus Paperback – September 28, 2021

by [Animal of the Day Podcast](#) (Author)

Learn more about the nautilus in this colorful book filled with fun facts!



Evolution of the Ammonoids Paperback – September 25, 2023

by [Kate LoMedico Marriott](#) (Author), [Alexander Bartholomew](#) (Author)

Ammonites are an extinct and charismatic lineage that persisted for over 300 million years. They were used, with other fossils, to corroborate the principle of faunal succession and launch the field of biostratigraphy. Despite intense research, many important questions remain unanswered.



It always starts off with just a few rocks.



Orton Geological Museum: Dino-Dreams

1.4K views · 9 years ago

The Ohio State University College of Arts and Sciences

The Ohio State University's Orton Geological Hall Museum is free and open to the public and fun for kids of all ages. Its treasure ...

CC



Orton Hall | Ohio State University | The Oval Columbus Ohio

477 views · 13 years ago

CUREBOR

OSU Football and Ohio State Champions Buckeyes! Historical Photos of Orton Hall at Ohio State University that I compiled ...



Nautilus (10 FACTS You NEVER KNEW)

40K views · 2 years ago

Animal Fact Files

Nautilus (10 FACTS You NEVER KNEW) Be sure to watch our full Nautilus Facts episode to learn more about...

CC

10 chapters: 1. Nektorio | 3. Chambers | 4. Mother-of-Pearl | 5. Sellybutton | 6. Callus L.



All About Ammonites

65K views · 5 years ago

South Carolina State Museum

State Museum Natural History Curator, Dave Cicimuri, shows off some of the Ammonite fossils in the muse...

4 chapters: Introduction | Ammonites vs Nautilus | Heteromorph Ammonites | History



Ammonite - extinct marine mollusc

209K views · 7 years ago

Paleozo

Ammonites are extinct marine molluscs of the class Cephalopoda that appeared midway through the Paleozoic Era (400 Mya).



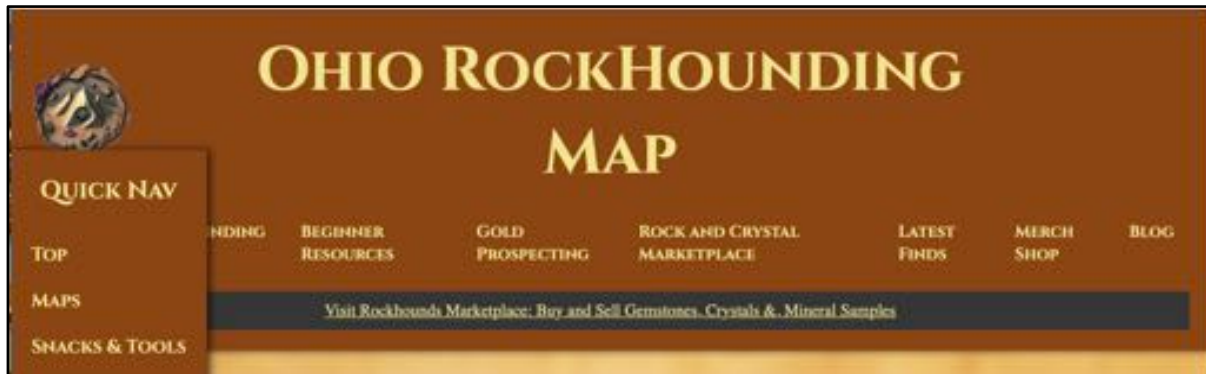
Interesting Web Sites

1. Mineralogy4kids
 - a. <https://min4kids.org>
2. Minerals by Name
 - a. [http://www.galleries.com/Minerals By Name](http://www.galleries.com/Minerals_By_Name)
3. Ology - the science website for kids from the American Museum of Natural History
 - a. <https://www.amnh.org/explore/ology?channel=earth>
4. Fascinating Geology for Kids
 - a. <https://littlebinsforlittlehands.com/geology-for-kids/>
5. Geology for Elementary Schools
 - a. <https://study.com/academy/topic/geology-for-elementary-school.html>
6. Elementary School Science
 - a. <https://www.elementaryschoolscience.com/lesson-plan-intro-rocks-minerals>



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2026 Rockhound Holidays (Rock + Gem Magazine)

People often say there's a holiday for everything, and they're right. The good news is there are some fun holidays for Rockhounds to enjoy and celebrate.

Old Rock Day – January 7

National Jewel Day – March 13

Geologists Day – April 5

Earth Day – April 22

Nickel Day – May 16

Dinosaur Days – June 1

National Caves & Karst Day – June 6

World Oceans Day – June 8

International Drop a Rock Day – July 3

International Rock Day – July 13

National Pet Rock Day – September 6

Collect Rocks Day – September 16

National Fossil Day – October 14

St Barbara's Day - December 4

Upcoming Events and Rock Shows – (Ohio and close to Ohio)

Check the Midwest Federation of Mineralogical + Geological Societies for Calendar Updates

APRIL

17-18—GRAND RAPIDS, MICHIGAN: Annual show; FS Hunter; Kent Wood Parks & Recreation Building, 355 48th St SE; Fri. 2-8, Sat. 10-4; Adults \$5, kids under 12 free, active military and first responders free; contact John Dean; Email: BAhandyman28@yahoo.com

17-19—DANVILLE, INDIANA: Annual show; American Gem, Mineral And Jewelry Shows LLC; Hendricks County 4H Fairgrounds, 1900 East Main Street; Fri. 10-6, Sat. 10-6, Sun. 11-4; Adults 18 and older \$8, Juveniles 11-17 \$3, Kids 10 and under free; Tickets at the door. Good all three days. We have some new vendors this year. There will be a food vendor at the show. Bringing you gems, minerals, jewelry, beads, fossils and meteorites from around the world; contact Alan Koch; Email: agmjs3@gmail.com; Website: americangemshow.com

25-26—TROY, OHIO: Annual show; Miami County Gem & Mineral Show; Miami County Fairgrounds - Duke Building, 650 N. Co Rd 25A; Sat. 10-6, Sun. 10-4; Adults \$3, free admission for children under 18; contact Dewey Buck, (937) 308-3012; Email: deweybuck12@gmail.com; Website: www.mcgamc.com

25-26—CUYAHOGA FALLS, OHIO: Show and sale; Akron Mineral Society & Summit Lapidary Club; Emidio & Sons Expo Center, 48 East Bath Road; Sat. 10-6, Sun. 10-5; Adults \$6, Seniors (55+) & High School & College Students \$5, Children 7-14 \$1, Scouts In Uniform & Children 6 and Under Free; Celebrating 50 years - 1976 to 2026. We expect 40 vendors with a large variety of products. We will have geode cracking, a gem mine, children's craft table, demonstrations of lapidary arts, silent auction, food trucks, handicap accessible; contact Evelyn Tryon, (330) 673-9664; Email: etjtryon@juno.com; Website: summitlapidaryclub.com/gemboree

MAY

1-3—KALAMAZOO, MICHIGAN: Annual show; Kalamazoo Geological & Mineral Society; Kalamazoo Expo Center, 2900 Lake St; Fri. 2-8, Sat. 10-6, Sun. 10-5; Adult \$5, Kids under 12 and scouts in uniform free; Something for everybody! Kids Games & Crafts, Gold Mine & Panning, Petoskey Stone Polishing, Specimen Table, Demonstrators, Daily Prize Drawing, Grand Prize Drawing Sunday, Hourly prize drawing, Displays and Over 45 Vendors from across the USA; contact David Haas, (269) 370-3656; Email: stonehouserock@cs.com; Website: kalamazoorockclub.org

16-17—NORTH OLMSTED, OHIO: Annual show; Parma Lapidary Club; Soccer Sportsplex, 31515 Lorain Rd; Sat. 10-6, Sun. 10-5; \$6 for adults (both days), free for children under 12 and Scouts in uniform; Get ready to experience the ultimate celebration of geological wonders and artistic craftsmanship at the 55th Annual Rock-a-Rama Jewelry Arts, Rock, and Gem Show; contact Ruth Sholtis-Furyes; Email: showchair@parmalapidaryclub.com; Website: <https://www.parmalapidaryclub.com/rock-a-rama>

May 16-17 Cincinnati Mineral Society Event Center, County Fairgrounds, Terry Huizing, Sat 10-5, Sun 11-5 1715 Fairgrove Ave., **Hamilton, OH** tehuizing@fuse.net

May 29-31 State Line Gem & Mineral Junior Fair Building, County Sherman Kardatzke, Fri noon-6, Society Fairgrounds, **Wauseon, OH** sakardatzke@gmail.com
Sat 10-6, Sun 11-4

JUNE

6-7—MANSFIELD, OHIO: Annual show; Mid-Ohio Mineral and Fossil Club; Richland County Fairgrounds, 750 North Home Road; Sat. 10-6, Sun. 11-5; Adults \$5, Seniors \$4, Children 6-16 \$3, Children 5 & Under Free; Gem, Mineral, Jewelry, Bead, and Fossil Show - Grand Prize Drawing, Door Prizes Every Hour, Silent Auctions Every Hour, Kid Activity Zone, Geode Breaking; contact Tom Kottyan; Email: themineralhouse75@gmail.com; Website: <http://www.midohiominerallandfossilclub.com>

26-28—BEDFORD, INDIANA: Annual show; Lawrence County Rock Club; Lawrence County Fairgrounds, Hwy 50; Fri. 10-6:30, Sat. 9-6:30, Sun. 10-4; Free Admission & Parking; 61st Annual Gem, Mineral & Fossil Show, Wide variety of Gems, Jewelry, Beads, Minerals, Fossils, Rocks, Lapidary Equipment & Supplies, Rockhound & Prospecting Supplies, 4-H Project & Science Project Material. A fun, interesting & educational experience for all ages; contact Kathy Shaffer, 812-929-5367; Email: djt5766jkft@msn.com; Website: [lawrencecountyrockclub.org](http://www.lawrencecountyrockclub.org)

JULY

18-19—ERIE, PENNSYLVANIA: Show and sale; Gem City Rock and Mineral Society; Zem Zem Shriners Banquet and Conference Center, 2525 West 38th Street, Corner of West 38th and Zuck Road; Sat. 10-6, Sun. 10-5; Adults \$4, Children under 12 free; Dealers Door Prizes Activities for Kids Crystals-Fossils-Geodes-Jewelry-Beads; contact Robert Gallivan, (814) 636-7317; Email: gallivan427@gmail.com

Our Club's Craft Program

We will send out information about craft classes as we get them planned and scheduled.

Mineral Club Meeting Minutes

January

Minutes Jan 5, 2026 Meeting - Recorded by Bryan Summer

Tom Kottyan Opened the Meeting

Lawrence Hull gave an official transfer of Presidential position to Tom Kottyan

January 1, 2026 Finance Report - by Pam Kottyan

Checking	\$11,434.36
Savings	\$ 4,892.04
CD's	<u>\$76,124.50</u>
Balance	\$92,450.90

- Guests were introduced
- Field Trips - Need a Committee
- Special Interest Craft Program - We need a Chairperson
- Silent Auction- Pick up 2 slips if you would like to enter an item in the Silent Auction. 25% Club Charge
- Old Business - None
- Walt - the Shop is Open
- New Business - Stan become very ill after a cruise. Possible mosquito bite.
- Lithnics - Will be emailed by the weekend
- Personal Exhibits were shown

Pam - Door Prize Larry White January Garnet Pseudomorph
 Mike Kelly November Bone Iguanodon

Meeting was Adjourned
 Presentation by Tom Kottyan

February

March

Recorded by Bryan Summer

Financial Ending Balance \$92,730.66

- Guests were introduced

New Lithnics will be published April 1

Silent Auction Tonight

April Program: Jason Larson

May Program : Potluck

Lowe Volk Mineral + Fossil Day

April 11 10:00 - 2:00

Gorman Nature Center Mineral + Fossil Day

May 9 11:00 - 3:00

Drawing: Rob Ledgewig - Prize Jasper

MIDWEST FEDERATION OF MINERALOGICAL & GEOLOGICAL SOCIETIES

Website: <https://www.mwfed.org>

Juniors Website: <https://www.mwfed.org/juniors>

FUTURE ROCKHOUNDS OF AMERICA

(American Federation of Mineralogical Societies)

Lora Hall, AFMS Youth Director

youth@amfed.org

Future Rockhounds of America (FRA) is a whole lot more than just the badge program! The new FRA website is packed FULL of lots of resources for activities with kids and teens in YOUR club - Any Midwest Federation Club. Features like **Rock Pals, the Junior Volunteer Award, Contests and rock-related activities for Kindergarten-12th grade kids** can make your club attractive to families and increase your membership. Check out the links below for ideas, and visit www.juniors.amfed.org/rock-mineral-activities for more!

The Midwest Federation of Mineralogical + Geological Societies

You can check out all the Shows and Events in our Midwest Region (Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska) at the Midwest Federation of Mineralogical + Geological Societies <https://www.mwfed.org>



The U.S. Geolog



science (YES) Team.



Revamped their web presence to better assist with online and home learning.

The new USGS learning from home portal for lesson plans and activities, grades K – 12.

www.usgs.gov

Students of all ages can always tap into the USGS Resources for Teachers for over 140 years of USGS research in the natural sciences in the form of lesson plans and activities, maps, podcasts, online lectures, videos and animations, and much more. Browse thousands of ideas for using these resources in elementary, secondary, university, and informal education settings

Don't Forget to Check Out our Website for Club Information:

<http://www.midohiomineralandfossilclub.com>



The Lithnics

If you have any club news, articles you would like share with members, mineral collecting trips, and updates on your committee, etc. please email info to:



Bryan Summer – bryansummer1@gmail.com
The Lithnics is Published Quarterly
January 1, April 1, July 1, October 1