OCMS

DECEMBER 2024 | Newsletter

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Welcome to our Holiday Party
Friday Dec. 13, 2024 at 6:30pm
in the Chester Senior Center located at
81 Laroe Rd, Chester NY 10918.

Be ready to enjoy lots of good food, music and conversation! Don't forget the large Chinese auction including many diffrent minerals.

let's MINGLE & JINGLE

A LOOK INSIDE:

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8. Mission Statement & Contacts

A LOOK AHEAD:

Our January 10th 2025 meeting will feature a presentation by Amanda Rotundo about Cobalt-60 Gamma Irradiation and it's application in different industries.

Email us at:
ocmineralny@gmail.com

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President's Message

Happy Thanksgiving and please come join us indoors at The Chester Senior Center on Friday, December 13, 2024, at 6:30 PM for our annual holiday potluck dinner, auction/raffle and monthly business meeting. Please welcome our new members to their first holiday meeting with us. Special thanks to all the members for a successful year including great speakers, enjoyable membership, field trips and more.

The large auction/raffle with 80 specimens and all members are welcome to bring in any extra specimens, books or journals, etc. that they wish to donate and share. While you are perusing the auction items, you can enjoy the tales and camaraderie of your society members and the pot luck dinner.

Pot luck dinner. OCMSNY will provide some main dishes such as a large hero and hot dishes such as pizza and chicken Parmesan. Members can bring in a prepared dish of their choice to share such as salad, veggies, appetizer, or desserts to enjoy together.. You are encouraged to bring a beverage of your choice. The pot luck aspects of our previous holiday meetings and September BBQs have worked out deliciously.

Our monthly business meeting will include election of 2024 officers and some planning for the June 7-8 annual mineral show, now just 6 months away! Please forward your favorite club photos for inclusion in our web page, facebook, and new club brochure. Also consider joining the ranks of our officers to help in the tasks needed to function throughout the year. This is your club and we welcome your assistance in any and all aspects.

Thank you.. We are thankful for the contributions and shared experiences of our society membership and officers. Heartfelt wishes for peace on earth and good health for all.

Sincerely, Michael G Tedford, MD, MS, MBA

Mineral of the Month

FLUORITE

Introduction to Fluorite

Fluorite, also known as "fluorspar," is a colorful mineral composed of calcium fluoride (CaF_2). This striking mineral is renowned for its wide range of vibrant hues, which can include shades of green, purple, blue, yellow, and even colorless varieties. Its captivating colors and unique properties make it a favorite among mineral collectors and enthusiasts alike, especially during the festive winter season.

Physical Properties

- **Color: Fluorite can be found in an array of colors, including purple, blue, green, yellow, and clear. Its ability to exhibit multiple colors in a single crystal is known as "zoning."**

- **Streak: The streak of fluorite is white, which can be observed when the mineral is scraped across a porcelain plate.**

- **Hardness: With a Mohs hardness of 4, fluorite is relatively soft compared to many other minerals, making it easy to carve and shape.**

- **Crystal System: Fluorite crystallizes in the isometric system, forming cubic or octahedral crystals that can be quite striking in appearance.**

- **Luster: The luster of fluorite can range from vitreous (glass-like) to resinous, depending on the specific conditions of formation.**

Formation and Occurrence

Fluorite typically forms in hydrothermal veins, where hot, mineral-rich fluids flow through rock fractures. It can also be found in sedimentary deposits, where it often occurs alongside minerals such as quartz and barite. Notable locations for fluorite deposits include:

- **China:** The largest producer of fluorite globally, particularly in the regions of Inner Mongolia and the Xinjiang Uygur Autonomous Region.
- **Mexico:** Known for its stunning purple fluorite crystals from the mining district of Naica.
- **United States:** Significant deposits can be found in Illinois, Kentucky, and New Mexico.

Historical Significance and Uses

Fluorite has a rich history that dates back to ancient times. It was used as a flux in the production of iron and steel, helping to lower the melting point of raw materials. The mineral is also essential in the manufacture of aluminum, gasoline, and uranium fuel.

Cultural and Aesthetic Value

Fluorite is often referred to as the "most colorful mineral in the world" because of its diverse color range. Its beauty makes it a popular choice for jewelry, decorative objects, and mineral collections. Fluorite is also believed to possess metaphysical properties, promoting clarity of thought, decision-making, and emotional balance. Many collectors appreciate its aesthetic appeal and the vibrant colors it can bring to their displays.

Fun Fact:

One of the most intriguing characteristics of fluorite is its ability to fluoresce under ultraviolet (UV) light. When exposed to UV light, certain specimens of fluorite can emit a bright glow, often in colors that differ from their appearance in natural light. This phenomenon makes fluorite a popular specimen for educational demonstrations and mineral shows.

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Geological Spotlight

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The Importance of Weathering in December

As winter settles in, it's crucial to understand how weathering continues to shape our landscape. Weathering is the process that breaks down rocks into smaller pieces, influenced by temperature changes, moisture, and biological activity.

Types of Weathering:

1. **Physical Weathering:**

- In the Northeast, freeze-thaw cycles can cause rocks to crack as water seeps into crevices and expands when it freezes. This process is especially prominent during winter months.

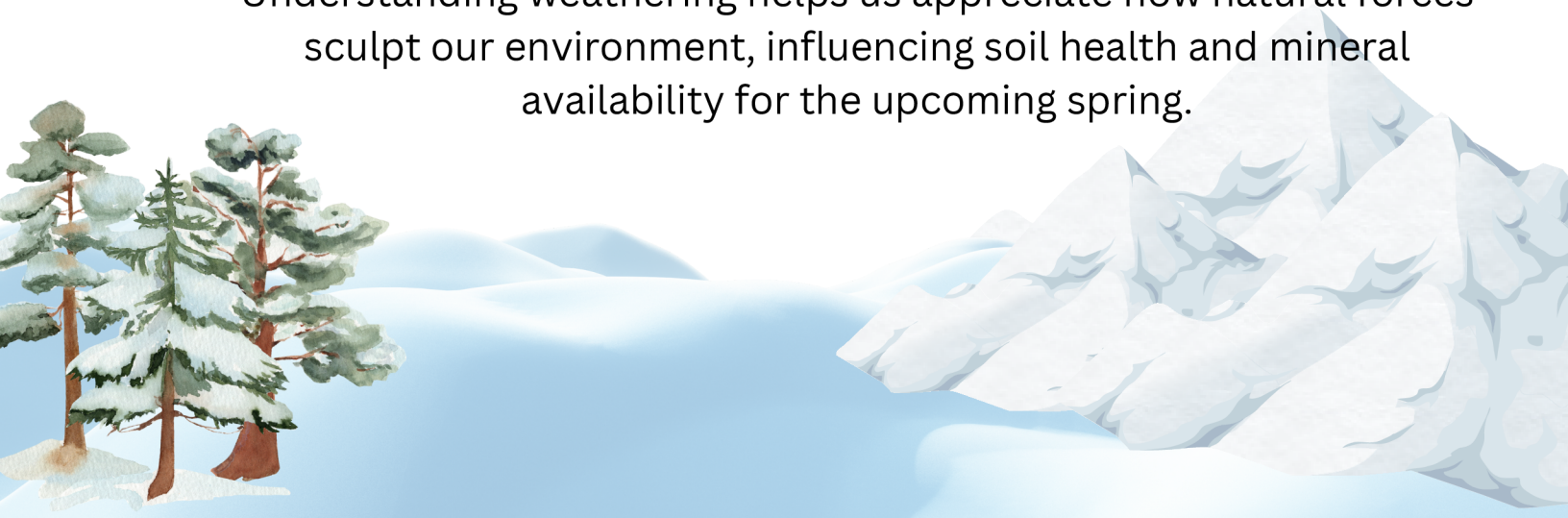
2. **Chemical Weathering:**

- The presence of moisture and slightly acidic rain can lead to the chemical alteration of minerals, affecting the rock composition.

3. **Biological Weathering:**

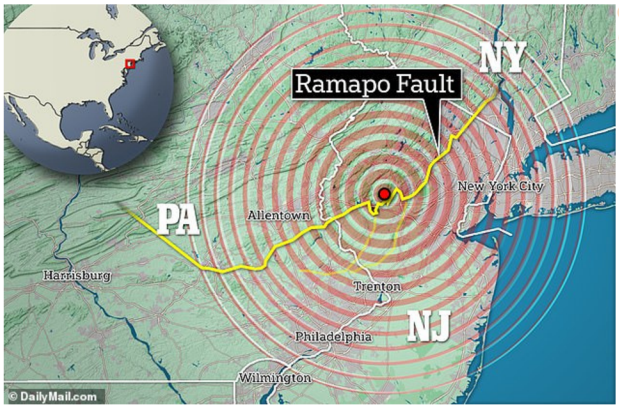
- In winter, the growth of moss and lichens on rocks can slow down, but the effects of previous seasons continue to shape the rock surfaces.

Understanding weathering helps us appreciate how natural forces sculpt our environment, influencing soil health and mineral availability for the upcoming spring.



Local Geology

****Local Geology: Orange County, NY****
- **The Ramapo Fault Zone:**



The Ramapo Fault Zone is a significant geological feature that stretches through parts of New York, New Jersey, and Pennsylvania. In Orange County, New York, this fault zone can be particularly relevant due to its potential to generate seismic activity.

In 2012, a significant rockfall occurred along the Palisades Parkway near the State Line Lookout rest area. This event involved a large section of the cliff collapsing, which was attributed to a combination of factors, including weather conditions and geological instability.

Details of the Rockfall:
- **Location**: The rockfall occurred on the Palisades, a steep cliff that offers scenic views of the Hudson River and New York City.
- **Impact**: Fortunately, there were no reported injuries, but the rockfall posed a hazard to motorists and necessitated the closure of parts of the roadway for safety inspections and cleanup.
- **Response**: Following the incident, geologists and transportation officials assessed the stability of the cliff and implemented measures to prevent future rockfalls. This included monitoring the area for further geological activity and reinforcing sections of the cliff to enhance safety for travelers.

Geological Context: Formation of the Palisades Sill was a Volcanic Intrusion

The Palisades are formed from a sill of igneous rock (diabase) which formed when magma intruded into the existing sedimentary rock layers, creating a sill. The Ramapo Fault and it's movement has tilted the landscape, including the palisades, which can exacerbate weaknesses in the rock formations creating cracks in the rock, which over time, with weathering and erosion, can lead to rockfalls.

This event highlighted the importance of geological monitoring and the need for infrastructure maintenance along roadways that traverse areas with steep cliffs. It also served as a reminder of the natural processes that can impact human activities and the need for preparedness in managing such risks.

Global Mineral Highlights

Sustainable Mining Practices:

As the world shifts towards sustainable practices, many mining companies are investing in eco-friendly technologies to minimize environmental impact. This trend is crucial for maintaining biodiversity and protecting mineral resources. The International Council on Mining and Metals (ICMM) was founded in 2001, as a CEO-led leadership organization, on the premise of improving sustainable development in the mining and metals industry.

Sustainable mining practices help protect the environment and local communities while reducing the impact of mining operations:

- Use renewable energy: Switch from coal to renewable energy sources to power mining operations.
- Use eco-friendly equipment: Use electric-powered trucks, loaders, and excavators.
- Reduce waste: Reuse extracted residual metals from previous mining projects.
- Rehabilitate land: Reforest and manage waste to reverse the impact of mining after a project is complete.
- Manage water: Adopt water recycling and treatment systems.
- Use lower-impact mining techniques: Use in-situ, selective, or solution mining.
- Reduce greenhouse gas emissions: Use advanced carbon capture and storage techniques.
- Conserve biodiversity: Consider the impact on local biodiversity.
- Work with local communities: Consult with the communities that will be affected by mining to address their concerns.
- Use new exploration technologies: Use geospatial analysis, drone surveying, and artificial intelligence (AI) to identify mineral deposits.

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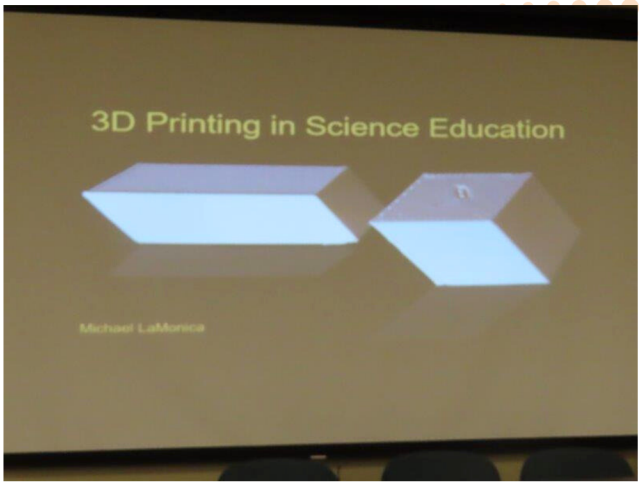
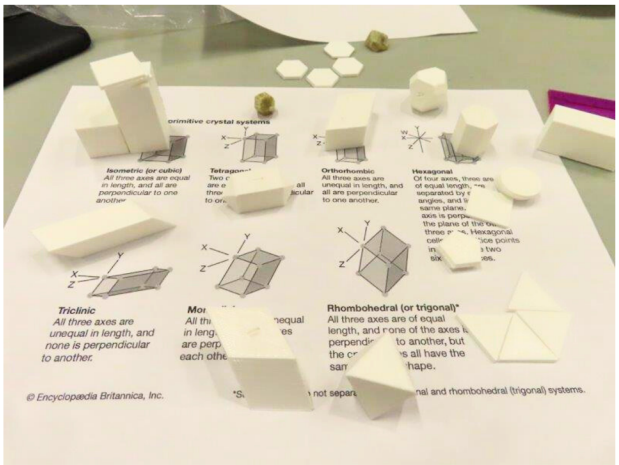
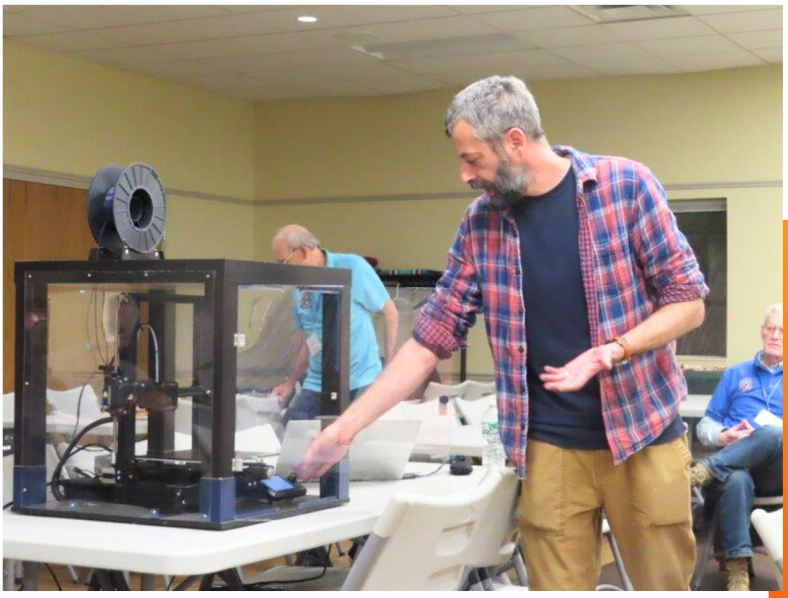
Recap of November Events

Our speaker for the evening was Michael LaMonica. His topic on 3D printers was not only educational but entertaining as well. He passed out samples for all the members. Everyone was hypnotized watching the 3D printer in action. He also passed out kits for helping to identify crystal structures thankfully with an answer sheet.
Thank you Mike for a wonderful presentation!







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The Orange County mineral Society was established in 1953 in Orange County, New York as a not-for-profit organization. We are a 501(c)(3) and registered NYS charity. Our goal is to promote interest and education in geology, mineralogy, paleontology, archaeology, and lapidary. We are a mineral club, whose main focus is Orange County, New York, and the surrounding areas. We want to share our knowledge and teach others about the history of the mines and mineralogy of Orange County. We also collect minerals and fossils in various locations, including New York, New Jersey, Pennsylvania, and Connecticut. Additionally, we are members of the American Federation of Mineralogical Societies (AFMS), and the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS). Please visit our website at www.ocmsny.org

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