

MAPLEWOOD ROCK AND GEM CLUB

2021
JULY



Inside this issue

August Sales	1
Board meeting	15
Connect with us	15
Do you sell rocks, gems, crystals, or minerals?	6
Facebook	14
Field trips	8
General meeting: July 19	1
Image license attributions	15
Iridescence	11
July Birthdays	10
Juniors' Page - Rocks and Stones ... What's the difference?	3
Liberty Bell Ruby	9
Rock Sales: We-R-Spherious	5
Rock shows	6
Sister club in Australia	16
Steamboat Rock Maze Answers	13
Steamboat Rock Maze for Juniors	4
Structure creates the color	12
The Ellensburg Blues	8
Win-win for everyone	14

General meeting: July 19

Our July meeting will be in-person on the clubhouse lawn. This will not be a regular meeting, but rather a long hoped for chance to gather together and socialize. Bring a chair and a snack for yourself, if you want to. We won't have a pot luck with shared food this month.

The silent auction will be open and we will also have prizes. Questions? Contact our Board President, Sandra: ask.sandra@yahoo.com

August Sales

The current Facebook silent auction will end on August 16 at 10 pm. After that, your next chance to buy rocks and minerals is August 14 - 15 at our August Sale. You will find details on the next page.

Rockhounding Tips

In the 1970's our club member, Bernadine Larsen, offered these words of wisdom:

When one goes rock hunting, one should go in the right season and know exactly where to dig and what to dig for — or one could wait and buy good rocks at the Maplewood Rock and Gem Show.



Maplewood

Rock & Gem Club

Since 1951

14th Annual | Rock & Mineral Sale

August 14-15, 2021

Saturday, 9am-5pm
Sunday, 10am-5pm

All Kinds of Rock,
from Rough to Jewlery

Free Rock for the Kids

Free Admission

Fantastic Mineral
& Fossil Specimens

Huge Selection

Over 20 Dealers

www.maplewoodrockclub.com
www.facebook.com/MaplewoodRCG

8802 - 196th St. SW
Edmonds, WA 98026

Our Clubhouse is located
just 3 miles west of I-5.

For club information and
membership:
ask.sandra@yahoo.com



Juniors' Page - Rocks and Stones ... What's the difference?

Most of us use the words *rocks* and *stones* the same way. But geologists define those words differently.



Steamboat Rock, Washington by [J Brew](#) under the license, [CC BY-SA 2.0](#)

Rock

A rock is a piece of the earth's crust that is made up of one or more minerals and is too large for someone to move without machines or tools. Examples are rock cliffs or Steamboat Rock in Eastern Washington. Steamboat Rock is basalt (rock formed from lava) and is several miles long and 800 feet high which makes it as tall as a 57 story building.

Have you heard someone say, "She's my rock" or "He's my rock"? The meaning of *rock* there means that the person is a solid, reliable friend or family member who will be there for you when you need support. Who is your rock? Are you the rock in someone's life?

Stone

A stone is a small, hard, solid, moveable, non-metallic piece of mineral. When you dig in a garden, you find stones — lots of them if you are digging in Puget Sound.

But wait! It's not really that simple

If you found a small, hard piece of mineral but it was partly made of metal, perhaps iron, gold, or copper, would it be a rock or a stone? If you can pick it up, it's too small to be a rock. Because it has metal, it's not a stone. *Aargh!* Typically, this would be called an ore or a rock. Just remember, definitions can vary depending on who is speaking and what they are talking about; definitions are not cast in stone.

What are some different definitions for rocks?

When a geologist says a rock is so large you can't move it without machines and a rockhouser holds a piece of magnetite and calls it a rock, we don't say either of them is wrong.

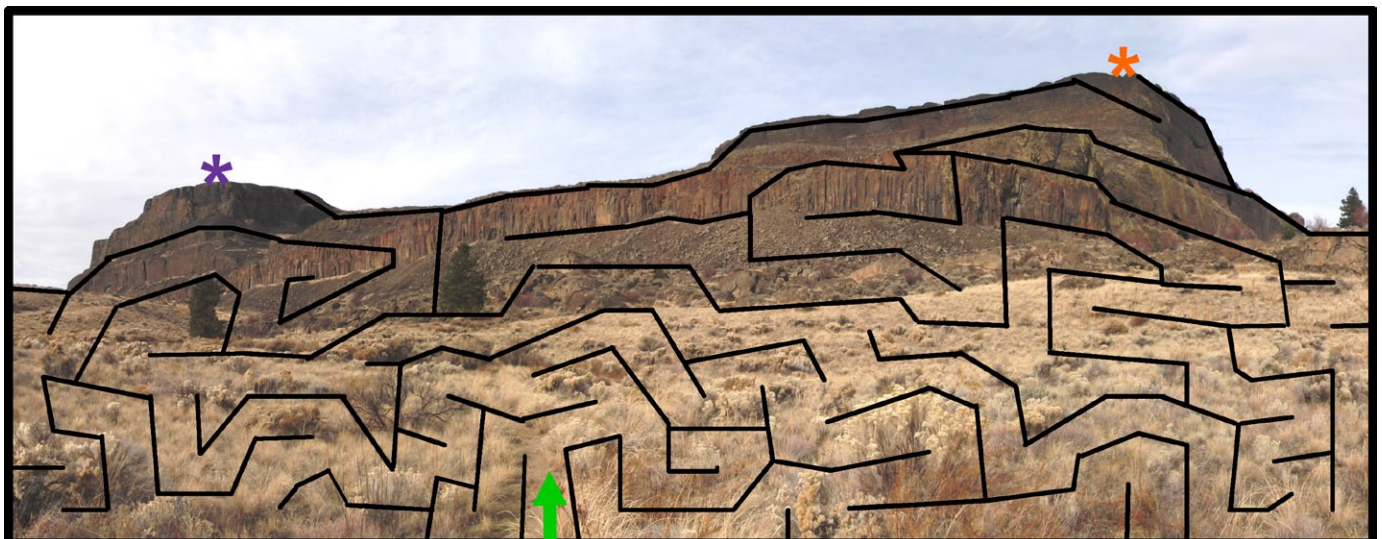
We talk about definitions for words as though they are the only way to explain a word, but different groups of people define words a little differently. Often, it is because in their work or community, they use the thing the word refers to in different ways. You might enjoy [Explainer: What is a Rock?](#) on Cosmos.

If you Google *what is a rock*, you get pages that seem to use various meanings for *rock*, including these:

- Geology: natural solid lump made of one or more minerals or mineraloids (things that are very similar to minerals, like obsidian which only misses being a mineral by not having a crystal structure)
- Miners and gemologists: coal and amber are called a biogenic rocks, because they look like rocks but are made from dead plants, not minerals
- Builders: coquina is rock-like material made of tiny seashells that settled to the bottom of the sea and hardened over time. The shells are made of minerals, but the coquina is made of seashells, not directly made of minerals.
- Jewelry store: diamond

Steamboat Rock Maze for Juniors

Can you find a path to climb Steamboat Rock? Using a purple marker trace the path from the starting arrow up to the purple person at the top. If that wasn't too much of a challenge for you, and you are ready for a harder maze, get out an orange marker and find the path to the orange person standing on the rock.



Rock Sales: We-R-Spherious

August 14 from 9 am to 3 pm

4707 Strumme Rd, Bothell, WA 98012

425-280-1833

You will find plenty of rocks at Beverly and Dennis Ryder's Saturday sale. Dennis cuts and polishes gorgeous spheres of rocks — in countless stones, sizes, and colors. You will find these glossy globes for sale along with cabochons, crystals, wands, knapped stone,

fossils, bowls, unworked rocks, and much more.



Stone spheres

You can find We-R-Spherious on [Facebook @WeRsph](#)

Mike Collins will have a table at the show too. Mike cuts and polishes cabochons, hearts, and other items.



Wands, stars, and a bowl



Cabochons



Ammonite fossils



Bins of rocks ready for you to work or display

Rock shows

July 17 and 18-21 from 10 am to 5 pm

Darrington Rock and Gem Show and Sale

See the next page for details about the Darrington sale.

August 14th - 15th

Saturday 9 am - 5 pm and Sunday 10 am to 5 pm

Maplewood Rock and Gem Club is having a sale! With free admission and a free rock for each child you will be off to a great start at the sale. Shop from over 20 dealers with a wide variety of rocks including fossils, raw stones, and jewelry.

August 13th through 15th from 10 am to 6 pm

Gem Show in the Trees by the [Puyallup Valley Gem and Mineral Club](#)
at Tacoma Sportsmen's Club: 16409 Canyon Rd E, Puyallup, WA

Free parking and admission. Come visit gem, mineral, and fossil venders, and see demonstrations.

Do you sell rocks, gems, crystals, or minerals?



If you sell stone hearts, cabochons, spheres, slabs, crystals, gems, minerals, or related specimens, let me know about what you sell, so I can feature your shop here in the newsletter. With a little publicity and good fortune, perhaps our whole club membership will have hearts of stone - the good kind!

~ Nancy Samuels:
mrgc@nancysamuels.com

From a 1972 club publication

Blessed are those who can give without remembering and take without forgetting.

DARRINGTON

Rock & Gem Show & Sale

July 17&18-21 - 10 to 5

Mansford Grange 1265 Railroad Ave (Behind IGA 300 Yards)

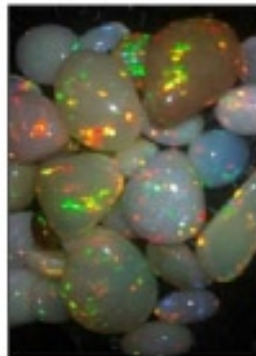
Free Admission—Free Prizes—Free Rocks

Displays & Demonstrations



Kids Activities
Door Prizes
Rock Collecting Maps
Used Tools
Custom Rock Cutting
Dealer Certificates
Free Rocks

**Saturday 11 AM
Collecting Field Trip**



Travertine from show fieldtrip

Mansford Grange 1265 Railroad

Field trips

Questions? Email Ed Lehman at wsmced2@outlook.com or call him at (425) 334-6282 or (425) 760-2786.

August 21st and 22nd at 9 am

Meet at the Enumclaw Ranger Station: 450 Roosevelt Ave E, Enumclaw, WA 98022
Trip ends at Greenwater, WA

September 18 at 10 am

Meet on Hwy 410 and NF-19 (Little Naches Road): 46.989699, -121.096497
Looking for: Thunder eggs, lily pad jasper, and fossils

October 16th at 9 am

Meet at the Money Creek Campground
off Hwy 2 before Skykomish
Stevens Pass Hwy, Skykomish, WA 98288
Looking for: Picture jasper

November 13th at 9 am

Meet: Take I-5 exit #240 and go toward Blanchard Hill. Meet at the Shell Gas Station by the exit.
Looking for: Dalmation stone

The Ellensburg Blues

The 1974 Annual for members included a poem by Barbara Cruchon, *The Ellensburg Blues*, about a field trip she took with the club.

We drove for miles and dug with smiles,
Amid the ticks and sagebrush;
With aching backs we filled our packs,
Crossed the Pass in the Sunday Crush.

But Puget rot transformed the lot--
When we viewed our gems in Monday's light,
That lovely Blue was a grayish hue,
We had 80 pounds of Leavorite!

Liberty Bell Ruby

The largest ruby in the world was found in East Africa in the 1950's. This gem weighs close to 4 pounds and is about 8,500 carats! To honor this country's bicentennial in 1976 a sculptor carved the ruby into a miniature model of the Liberty Bell for Kazanjian Brothers Jewelry in Beverly Hills, California. Fifty sparkling diamonds surround the bell in the sculpture which is valued at \$2 million.

In 2011 four men armed with guns and hammers entered the Stuart Kingston Galleries. They tied up the employees, and then smashed display cases and stole a large volume of high-end jewelry and diamonds. The Liberty Bell Ruby was part of their loot.

The gem was being kept there on behalf of a foundation. Although a reward of \$10,000 was offered for its recovery, police do not expect the sculpture to reappear. The [four men were caught](#) and convicted of the heist.



Ruby basics

Category: oxide mineral

Formula: $\text{Al}_2\text{O}_3:\text{Cr}$

Crystal system: trigonal

Crystal class: hexagonal scalenohedral

Crystal habit: Terminated tabular hexagonal prisms

Mohs: 9.0

Cleave: none

Color: orange-red through purple-red

Luster: subadamantine, vitreous, pearly

Streak: white

Diaphaneity: transparent, translucent

Specific gravity: 3.97 - 4.05

Birefringence: 0.008 - 0.010

Refractive index: 1.77 - 1.76

UV fluorescence: red under longwave

Pleochroism: strong purple-red to orange-red

July Birthdays

Happy birthday to everyone born in July! Ruby is your gemstone. Rubies are just behind diamonds on the Mohs scale, making them resilient for rings and other jewelry. Rubies are gorgeous gems that have been treasured probably since the first human found one. Here are some random factoids for you to enjoy.

The Bible says ruby is the most precious of the 12 gems created by God.

To Hindus ruby is Ratnaraj, the king of precious gems.

Burmese soldiers believed rubies worn on the left made their bodies invincible! Many soldiers had rubies surgically placed under their skin!

In 1365 Sir John Mandville said that if you touch the 4 corners of your land with your ruby, then your house, vineyard, and orchard will be safe from lightening, poor harvest, and tempests.

Rubies help bannish evil thoughts and diminish anger.

Rubies represent love, passion, and romance, but also danger and anger.

An 8th century Arabic book on dreams said if you dream of rubies, good things will come.

The Greek philosopher, Theophrastus (371-287 BCE), said rubies came in male and female types. The males were darker & more brilliant.

Iridescence

Some stones are iridescent; that is, they show a different color when viewed at different angles. Two examples are pearl and opal. The mechanism by which they show different colors is called *thin film interference*.

Light bounces in and out again

We know that sunlight is composed of different rays of light, each one a different color depending on its wavelength. Let's consider a pearl. What happens when a ray of blue light hits the surface of the nacre (mother of pearl)? One ray of blue light will reflect off the exterior surface and continue its wave pattern with peaks and troughs as it flies off in a new reflected direction.

Another blue ray dives into the pearl where it has to slog through a much denser medium than the air. Its work is made even harder than its twin's because this ray has to travel farther: down into the nacre and back up before re-entering the air. As the ray finally escapes the pearl, it bends to parallel the path of its sister ray. Free and unencumbered by all that mass in the pearl, the light ray speeds up to match the speed of its sister ray.

Wave phase is key

The light that travels through the material has farther to go, and its speed is curtailed because the material is denser than air. By the time it exits, its wave phase is likely different than the phase of the ray that merely reflected off the surface.

If the ray exits and happens to be exactly one (or a multiple of one) phase behind the other ray, their phases are in sync and visually the color of the ray is intensified. This is constructive interference. If the ray exits and is exactly 1/2 a phase behind, the trough of one wave is in sync with the peak of the other. This destructive interference results in that color being diminished.

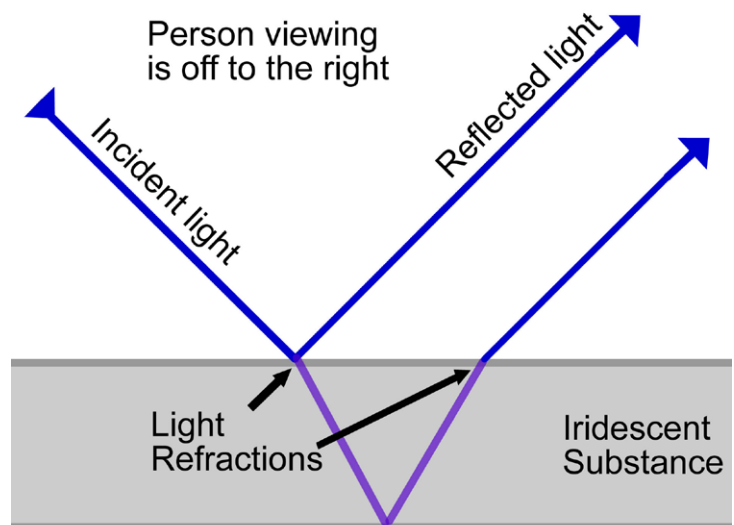
Words of the month

schemochrome: a structural color

light reflection: the act of a light ray bouncing off a surface

light refraction: the act of a light ray bending as it passes from one medium to another

phase of a light wave: one wave cycle including one peak and one trough



Thin film interference

Structure creates the color

At a specific viewing angle an iridescent structure, such as nacre, determines which single color of light (if any) will experience constructive interference. By changing the viewing angle (or the light angle), a different color might have constructive interference. Substances that are colored with structural colors (schemochromes) take advantage of these principles to intensify and diminish certain colors.

Peacock feathers and buttercup petals employ both schemochromes and pigments to create color. Peacock feathers are pigmented with brown, and the structure of fine hairs in the feathers create the gorgeous iridescent colors we admire. Buttercups have bright yellow pigment which is enhanced with structural coloring that also brings out yellow.

Pearl

Mother of pearl is made of nacre, which is built of thin plates which are about as deep as a wavelength of light. This means that light reflecting off the surface and light bouncing off the bottom of a plate will often be in sync. Whether they are in sync depends on the depth of the plate, the angle of light, and the wavelength of the light.

Opal

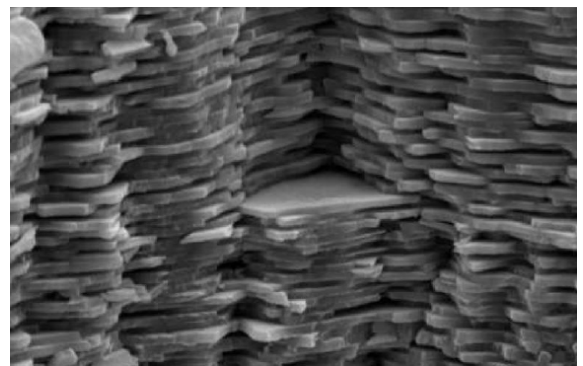
Precious opal is made of a nano-structure of tiny silica spheres which are 150 - 300 nanometers in diameter. These spheres are packed into a tight hexagonal or cubic lattice of planes. The spacing between the planes, the depth of the planes, and the angle of light, determine what colors will be intensified or diminished due to constructive or destructive interference.

Learn more about structural color

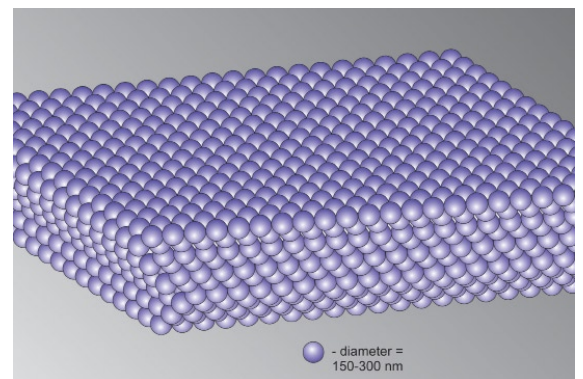
Video: [Structural Color Explained](#) by @Ecotasia

[What is structural color?](#) by Raymond Weitekamp

[Where do butterflies get their striking colors?](#) by Jennifer Horton

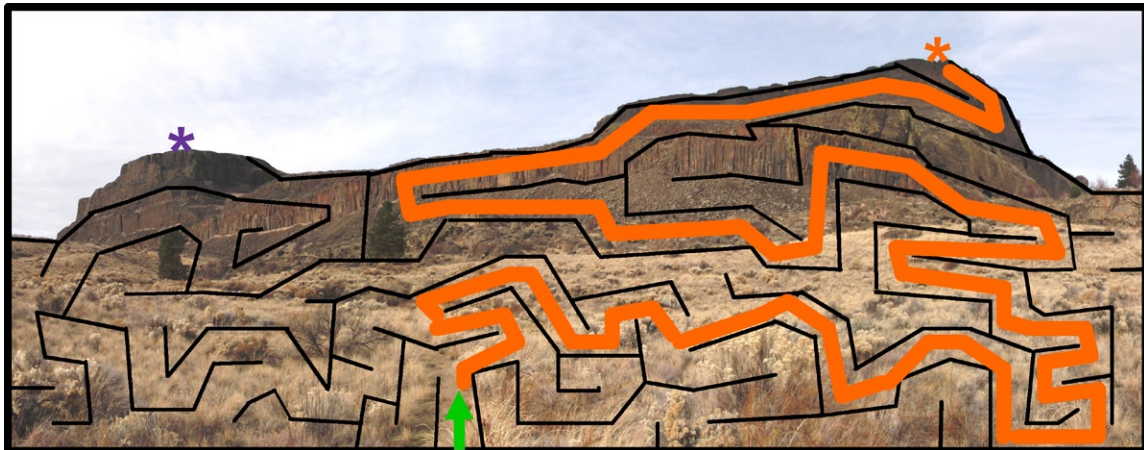


Layers of aragonite platelets in a fractured surface of nacre (mother of pearl) by Fabian Heinemann



Idealized molecular structure of precious opal by Dpultz, CC BY-SA 3.0

Steamboat Rock Maze Answers



Win-win for everyone

Until we can resume having rock shows, our building upkeep and other costs need to be covered by other means. You can help the club while getting a win-win outcome.



Selenite desert rose

Bid in the silent auction

Bidding on items in the silent auction is a way to give back to the club. You get a gorgeous specimen of rock or mineral and the club has a little more money for paying bills. All the items available in the silent auction were donated, so even before you bid, people have already generously supported our club.

When bidding, remember that this is a fundraiser where you might get a huge bargain; you might pay a fair price; or you might even bid generously. Don't be afraid to bid up on something you like. The previous bidder, might respond in kind to your bid.

Buy grit for your rock tumbler

Contact Sandra to buy grit: ask.sandra@yahoo.com

Donate to the club

Our club is a 501(c)(3) organization, so if you itemize deductions, you might receive a tax deduction. Ask your tax expert.

Checks can be made out to *MRGC* if you don't want your hand to cramp from writing the entire club name, *Maplewood Rock and Gem Club*. The club address is

8802 196th Street SW
Edmonds, WA 98026

Maplewood membership

While the world around us seems in a state of confusion, we have the unique opportunity of having a nice place to meet with friends that we enjoy and the harmony of fellowship.

~ Merle DeGarmo,
President 1974

Facebook

Our [facebook page](#) has up to date information about what is happening at our club. When we have online auctions, they happen on our page.

We also have a Facebook group — [MRGC Sales and Trades](#) — which is open to members of our club.



Board meeting

If you have questions for the board or if you'd like to attend a meeting, please email our Board President, Sandra: ask.sandra@yahoo.com

Connect with us

Website: <http://www.maplewoodrockclub.com/>

Facebook page: [Maplewood Rock & Gem Club](#)

Facebook group for members: [MRGC Sales and Trades](#)

Address: 8802 196th St SW, Edmonds, Washington 98026

Washington State Mineral Council

Our club, along with many other rock and gem clubs in the state, is a member of the [Washington State Mineral Council](#).

This organization helps us by

- advocating for access to public lands
- advocating for beneficial land use policies
- compiling and sharing maps and other information
- publicizing shows and field trips so members learn about and can participate in events at other clubs

Read their latest [Newsletter](#).



Image license attributions

We use abbreviations in the license attributions. Here are the definitions.

CC: Creative Commons license

BY: attribute the author, link to the license, and indicate if changes were made.

SA: share alike - If you publish the image, you must use the same license.

ND: no derivatives - You may not alter the image.

NC: non-commercial use - You may not use the image for commercial use.

3.0 or other number: version of the license

Sister club in Australia

Our sister club in Australia is the Atherton-Tableland Mineral & Lapidary Club in Tolga, Queensland. Connect to them on Facebook:

www.facebook.com/groups/197340266987276

One hundred million years ago the eastern edge of the Australian continent extended much farther to the east. Tectonic forces broke off and submerged into the ocean the eastern section while a rising mantle caused the remaining land to lift.

Beginning 4 million years ago large basalt flows filled river valleys and formed a relatively flat landscape. Following that period the volcanoes became more gaseous spewing lava in violent eruptions. This landscape is now called the Atherton Tablelands. You can learn more on Wikipedia.



This issue

Maplewood Rock and Gem
Club News

Volume 7

Publication Year: 70

News to share? A suggestion? A correction?

Please send news ideas and images you'd like to share to the newsletter editor, Nancy Samuels at mrgc@nancysamuels.com.