



the CMS Tumbler

September
2018

The monthly newsletter of the **Cascade Mineralogical Society, Inc.** Kent, Washington

Next Meeting:
September 13, 2018
7:00 p.m.

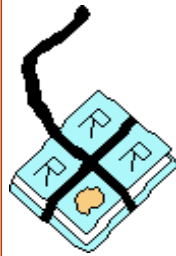
**American Legion Hall
25406 97th Pl S
Kent, WA**

Meeting Topic: Our upcoming Gem Show by Mark Hohn, Show Chairman
Our meeting will mark 7 days until we need to be ready for show setup.
We are getting down to showtime!

We will also be handing out AMFS' Future Rockhounds of America badges to all of our Young Tumblers plus a gift from CMS. We will also hand out the Rock Bucks our members have earned.

We missed our volunteer recognition award in July so we will be acknowledging someone tonight.

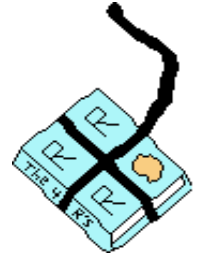
The Show & Tell Theme is your favorite crystal in your collection.



*This month remember
to wish a
Happy Birthday to*
Jody Flores on September 3,
Angie Bayer on September 4,
Bill Flores on September 15,
Vicki Ruegg on September 22,
Philip Trepanier on September 23,
Betty Swift on September 25,

*and also remember
to wish a*

Happy Anniversary to
Michael & Mrs. Watson on September 5 (26 years),
Scott & Pat Thomasson on September 6



Connect with us!

Website: www.cascademineralogicalsociety.org

Club Facebook: www.facebook.com/CasMinSoc/

Show Facebook: www.facebook.com/cascadegemandmineralshow

Instagram: www.instagram.com/cascadegemandmineralshow/

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Tips, suggestions, recipes and experiments printed in this newsletter are the experiences and/or opinions of the individuals submitting them. We are not responsible for their authenticity, safety, or reliability. Caution and safety should always be practiced when trying out any new idea.

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Webmaster Mark Hohn	253-332-3736	showchair@cascademineralogicalsociety.org

2018 CMS Dues are \$30 per year per family

Pay online, by mail, or at our meetings.

Mailing Address: Richard Russell

14431 SE 254th St.

Kent, WA 98042

You can pay your dues via credit card! We now accept all cards through our website, or at the meeting. You can renew your membership, or enroll as a new member, and pay your dues all in one shot online. You will find it under the "Membership" tab on our website <http://www.cascademineralogicalsociety.org>

The object of the Society shall be to stimulate interest in the study of the earth sciences, lapidary arts and related subjects.

This Society is affiliated with the *American Federation of Mineralogical Societies*; the *Northwest Federation of Mineralogical Societies*; and the *Washington State Mineral Council*.

Every member of the club should be receiving a copy of the Northwest Newsletter. If you are not receiving a copy contact Mike Blanton in person or by telephone at (425) 271-8757 or by computer at mblanton41@hotmail.com

To get information to the Tumbler via the Internet send it to greenrockdraggin@yahoo.com Please put Tumbler and subject in the Subject Line. The deadline is the 20th of each month.



The Cascade Mineralogical Society Facebook page is <https://www.facebook.com/CasMinSoc/>

The Cascade Gem & Mineral Show Facebook page is <https://www.facebook.com/cascadegemandmineralshow/>



September



SUN	MON	TUE	WED	THUR	FRI	SAT
Cascade Gem & Mineral Show						1
September 22 & 23 at Green River College						
2	3	4	5	6	7	8 <i>Marcus Whitman Show</i> <u>Red Top Trip (Pow Wow)</u>
9 <i>Marcus Whitman Show</i> <u>Red Top Trip (Pow Wow)</u>	10 Show Meeting 6:30 PM Board 7 PM 	11	12	13 General Meeting 7 PM 	14	15 <u>Little Naches Trip (NOA)</u>
16	17	18	19	20	21 Set-up for Show	22 <i>CMS Show</i>
23 <i>CMS Show</i>	24	25	26	27	28	29
30						

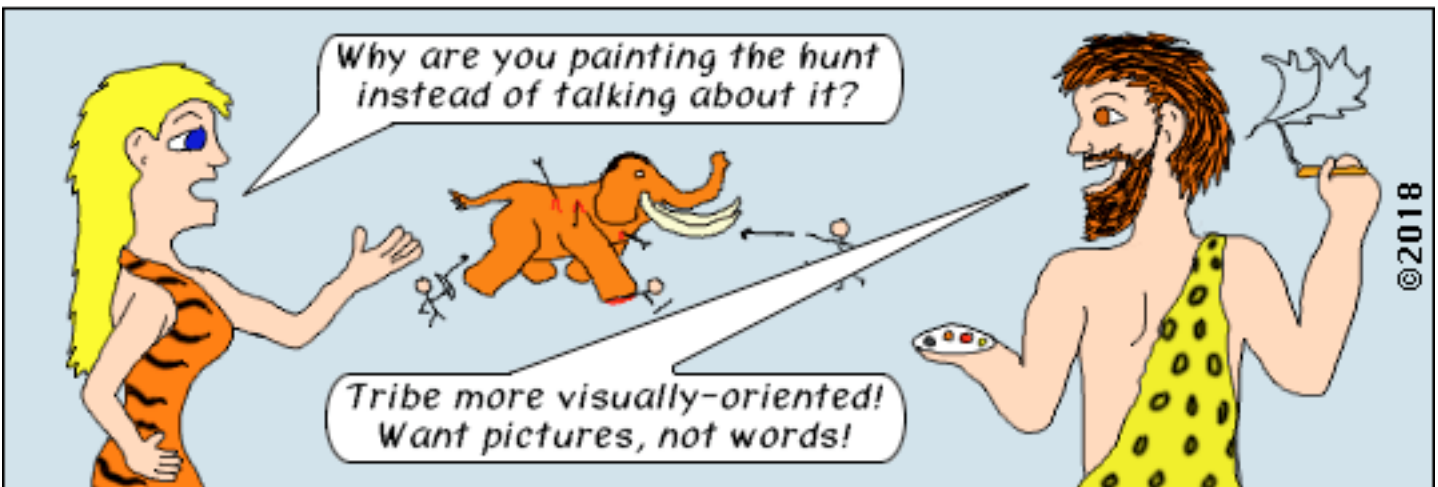
CMS Show Committee Meeting: ...Monday, September 10.....6:30 pm to 7:00 pm
 CMS Board Meeting:.....Monday, September 10.....7:00 pm to 8:00 pm
 CMS General Meeting:.....2nd Thursday.....7:00 pm to 9:00 pm

Lapidary Class Hours:.....By appointment, call to set a time & day for your lesson (425) 226-3154
 Lapidary Shop Hours:.....Most Tuesdays..... 2:00 pm to 5:00 p, call ahead (425) 226-3154
 Lapidary Shop Hours:.....3rd Saturday..... by appointment only (call a few days ahead to set time)

More Field Trip info can be found on Page 11
 More Show info can be found on Page 12

Cave Wall News

by KAM



CMS Board Meeting Minutes August 6, 2018



by Pete Williams, 2018 Secretary

Members Attending

President Kat Koch

Secretary Pete Williams

Mineral Council Jackie Pattie

Show Chair Mark Hohn

Show Committee: Angie Bayer, Brian Bayer, Charles Benedict

Meeting called to order at 7:28

Treasurer Rich Russell

Federation Mike Blanton

Past President Bob Pattie

Director Roger Danneman

Storage agreements are in work for club materials stored at Mark and Bob’s houses. There will be no September field trip due to having the show that month. The September general meeting will be focused on discussions about the show. A motion was made and approved to donate \$50 to the Lake Wilderness Arboretum for allowing the club to use their facilities for the August picnic.

Meeting adjourned at 7:41

CMS Show Meeting Minutes August 6, 2018

by Pete Williams, 2018 Secretary

Meeting called to order at 6:04

The floor plan for the show is nearing completion. Kat and Charles will meet with Green River to finalize. Mineral Council maps will be for sale with the location TBD. Club memberships will be sold at the raffle table.

Mark will continue to do promotions on FB. Flyers will be placed at local libraries and events will be posted in local newspapers. More rocks are needed for the silent auction. Donations for the raffle were received from Jerry’s and Thumblers Tumbler.

The next Show Committee meeting will be on August 24 at a location to be announced in Covington.

A Note from the President’s Desk...

by Kat Koch, 2018 CMS President

We are well in the downhill slide to our show. Can’t believe it’s getting so close.

We can get into our venue for setup at 10 am on Friday, September 21st. Vendors will come in around 1 pm. Vendor setup time is 1 pm to 7:30 pm.

So please mark your calendars and plan to help out on Saturday and Sunday. We are far short of the volunteers needed to cover the 2 entrance tables, raffle sales, door prize, kids activities, spinning wheel, security and the silent auction. We will need all hands on deck!

Our Young Tumblers group is active and growing. We presently have 6 members: Alex Danneman, Isaiah Fu, Aiden Cerenzie, Cora Unger, Cooper Crawford and Caitlin Crawford. We will be handing out “Rockhound Badges” and a couple of other goodies to the kids at our September meeting. So please plan on having your kids attend our September meeting. I will do the handouts at the beginning of the meeting so if the kids need to go home early they can.

I do hope everyone can stay around though to hear all about our show. Mark will be giving an overview of the show. We will also have a display case for the kids to have a last look at what they have to work with for their display.

I am excited and looking forward to our show after all the unending work this past year! Thank you Mark for taking this project on!!!!

Young Richard’s Almanac by Dick Morgan

Young Richard articles are not to be taken as gospel, but are actually here to make you want to think and learn about the facts presented here and are sometimes intended to be light-hearted. Take only as directed.

In the pursuit of your hobby of lapidary amid the fun of creating works of beauty you find you want to learn more about it. Hence the interest in geology and the ability to notice that rocks tell a story. As you cut them, you notice some rocks have a void inside and if you cut them right you can see where the water brought silicon dioxide into the stone. The different colors of the agates show that there was upheavals on the earth that changed the balance of the minerals which created the bands of color. Consequentially that pretty rock gives us insight into the changing conditions of the earth and its effect on rock formation and giving us the rocks we love to work on.

Rock Hardness - The “Mohs” Test by Duane Flackus

Devised by Friedrich Mohs, a hardness test is a useful tool in identifying rocks.

The hardness ranges from the softest mineral (talc) at number 1, to the hardest known mineral (diamond) as number 10 on the Mohs scale. If you can scratch a rock with a knife blade, it has a hardness of 5.5 or less. Common glass scales at number 6. Quartz, jasper, agate are all at 7.

from The Clackamette Gem, 7/18

CMS Picnic August 5, 2018

by Pete Williams, 2018 Secretary

The picnic in August was a big success. Over 30 people attended. An auction with 40 lots was held. As usual, winning bidders received some great bargains. The weather was perfect and everyone had a good time.



Pictures by Roger Danneman

2018 Cascade Gem and Mineral Show September Newsletter Update by Mark Hohn

Our next show committee meeting will be before the board meeting on September 10th 2018 at Wendy's at 505 E Smith, Kent, WA 6:30 PM. We will meet prior to the monthly board meeting. If you are interested in helping organize and plan the show please attend. Show committee meeting starts at 6:30 with the board meeting after, you are welcome to attend one or both meetings. As we get closer to the show we will probably move to meeting twice a month. We are heavily engaged in promoting the show. We have flyers and show posters available. If you would like some let me know and I will make sure you get some. It's time to invite your friends and family to the show. Please take the time to share our event on Facebook and Instagram. Every little bit helps get the word out about the show.

Our Vendor lineup is set. The following Vendors have partnered with us for the show. Committed Vendors for our show:

<i>Maple Tree Lapidary</i>	<i>The Worlds Fossils and Minerals</i>	<i>R&T Crystals</i>	<i>Addis-sea Gemsparkley</i>
<i>Grand Products Co., Ltd.</i>	<i>Tipps Gems</i>	<i>Rare Earth Studios</i>	<i>Candi's Jewelry and Gifts</i>
<i>The Chiming Rock</i>	<i>Gem Nest</i>	<i>Turquoise Jim</i>	<i>Stone Styles</i>
<i>Mineral Endeavors</i>	<i>Cascade Scepters</i>	<i>Peace of the Earth Jewelry</i>	<i>Enisa's Jewelry</i>
<i>Crystallography</i>	<i>US Bead Warehouse</i>		

We have 5 demonstrators committed to the show. They are:

Char Johnson - Wire Wrapping, Gem Identification

Dennis Bernoudy - Jewelry Making Bead Making

Pete Brush - Faceting

Lyle Vogelpol Making Cabochons

Craig Oda - Flint Knapping

Donations Needed

We are looking for items to be used as door prizes. If you have any items you would be willing to donate as a door prize. Let Kat know as soon as possible. We are still looking for donations for the silent auction and raffle prizes. If you have items and would like to donate that would be appreciated.

Sponsors needed

We would still like to identify some sponsors for the items below. If you or you know of someone willing to sponsor one of these items let Kat or I know.

Kids area

We will have a rock painting area, bead making area and a coloring area. We need to purchase supplies and materials for our kid's craft area. Sponsor our kids Activity area \$200.00

Signage

We need to have some signs made for the show. We need directional signs inside the venue and at our club booth, silent auction area, raffle prize area. Sponsor our signage \$500.00

Printing

We want to have a nice floor map with all our vendors and sponsors listed to give to our guests. We also have raffle tickets

and other items we need printed. Sponsor our Printing costs \$800.00

Raffle Prizes

We will be holding an hourly door prize raffle and a separate raffle as a fund raiser for our club. We are also planning a donation to Green River College to a deserving geology student. We want to help support our community.

If you can help sponsor all or part of our needs, we would appreciate it. We will acknowledge all our sponsors and publish your Name or Company on our floor map brochure and include your contact information in our video presentation during the show. Becoming a sponsor is a great way to support Cascade Mineralogical Society. We are committed to help our community and foster the growth of our next generation or rock hounds (and Customers).

We still need volunteers. Below is a list of volunteers that have agreed to assist and I really appreciate their support. I have also listed several areas we still could use some help in organizing and pulling the show together.

SHOW CHAIRMAN Co-Chairs: Mark Hohn & Kat Koch

SHOW COMMITTEE SECRETARY/TREASURER Pete Williams

FACILITIES & SHOW SET-UP AND DISMANTLE MANAGER Charles Benedict

FACILITIES Manager Mark Hohn

VENDOR MANAGER Kat Koch

DISPLAY CASES & VISUAL MANAGER Roger Danneman

DEMONSTRATOR MANAGER Rich Russell

SILENT AUCTION & CLUB SALES MANAGER Mike Blanton

YOUTH AREA COMMITTEE MANAGER Roger Pullen / June Murff

WEBSITE/PROMOTIONS MANAGER Mark Hohn

DOOR PRIZE AND SCHOLARSHIP RAFFLE MANAGER Need Help

PARKING & SIGNAGE MANAGER Need Help

COMMUNITY OUT-REACH MANAGER Mark Hohn

ROCK WRANGLER Angie Bayer

KIDS SPINNING WHEEL Brian Bayer

We cannot have too many volunteers! If you want to assist in any area above reach out to myself, Kat or the person listed above for the area you're interested in. We will have signup sheets at our September meeting. Some of these positions would be working the entrance table to welcome guests and hand out door prize tickets to track attendance, helping with the silent auction, selling raffle tickets and signing up new members.

The current Show page can be found at: <https://www.cascademineralogicalsociety.org/cascade-gem-mineral-show/>

The Show page is updated as vendors register so you can see the location of vendors in the facility. Vendors are announced on the show Facebook page <https://www.facebook.com/cascadegemandmineralshow/> The Facebook page is a good place to keep updated with news and vendor announcements prior to the show. Please like so you can stay informed.

If you have any questions feel free to contact Kat or I, our contact information is below.

Details:

Date of show: September 22-23, 2018

Setup will be on Friday September 21, 2018.

Venue: Green River College Student Union Building.

Mark Hohn CMS Show Chair 253-332-3736 showchair@cascademineralogicalsociety.org

Kat Koch CMS Co-Chair President cascademineralogicalsociety.org

Cartoonist News by KAM

My webcomic, The KAMics, which includes cartoons that first ran in The Tumbler, has been nominated for Best Humor Comic for the 2018 Drunk Duck Awards. (Drunk Duck, aka The Duck Webcomics, is the name of the webcomic hosting site.) The KAMics can be found online at http://www.theduckwebcomics.com/The_KAMics



Seeing Dinos in Colorful 3-D by Jim Brace-Thompson

Montana paleontologist Jack Horner, who has served as a consultant for the Jurassic Park movies, has teamed with entertainment company Base Hologram to develop unique three-dimensional effects that they hope will entertain folks in multiple traveling exhibits by spring 2019. Recent discoveries of keratin (a substance that gives birds bright colors) in dinosaur skulls have led Horner to believe dinos were "vividly colored, very much like birds." So watch for the arrival of a red-feathered T. rex and a blue Triceratops with red fringes coming soon to an educationally oriented entertainment venue near you!

from Rockhound Rambling, 7/18

Salmon Creek Trip by Roger Danneman

Excellent trip to Salmon Creek on August 11th. We had 17 people in 6 vehicles. A couple of short rain showers, but mostly a nice day. Water level was low, so we could access much of the gravel bed and everyone turned up some nice agates. A lot of red jasper too. And a few pieces of petrified wood.

After meeting at the Shell Station I-5 exit 63 (Hwy 505), we drove about 8 miles through Toledo and on to Salmon Creek. Stopped at the bridge just to note that this was a potential site and a location mentioned in Gem Trails of Washington for Carnelian. But we drove on toward the end of the road and parked near a gated spur trail. Walked in on a jeep trail about a 1/2 mile to the creek to a nice gravel exposure.



Montana Agate

Is the name given to the beautiful chalcedony found in the alluvial gavel of the Yellowstone River and its tributaries. It is From the Pleistocene age (10,000 - 1,600,000) Found not in-site, but in these gravel deposits. Scattered over a huge area encompassing thousands of square miles. The beauty of this is that they cannot be claimed, mined and dug out by a few enterprises.

But will be available, in smaller numbers, to the public and collectors for many years to come. This agate could perhaps be called Yellowstone Agate. It's genesis was centered in the Yellowstone Park area.

The actual tremendous volcanic activity that produced the conditions necessary for the formation of agate, spanned hundreds of miles and millions of years. Although it's genius centered in the Yellowstone Park area of Montana and Wyoming, this volcanic

activity ranged from the eastern Rocky Mountain front in south-central Wyoming to the western front of the Black Hills and north across eastern Montana and into Saskatchewan and Manitoba Canada.

Eastern Montana was mostly a shallow inland ocean, almost a swamp with huge forests lining it's shores and islands of volcanoes. These volcanoes put forth mountains of lava. Lava that decimated thousands of acres of mighty redwoods and sequoias for hundreds of miles around.

Agates in general come in many different forms and are formed in at least five different ways. The main conditions necessary for agate formation, are the presence of silica from devitrified volcanic ash, water from rainfall or ground sources, and manganese, iron and other mineral oxides that form the bands and inclusions.

After hundreds of years and layer upon layer of forests growing up and then being devastated by lava and ash. The rains came and mineral laden silica-water flowed into the cavities and pockets left by the dying trees and bubbling lava. These ingredients and shapes trapped in the cooling lava became Montana Agate .

In Montana Agate the red is iron oxide and the black is manganese oxide. High-power microscopes show tracings of little canals which once admitted water containing one or more of these metals in solution. The water dried out, the canals closed so tightly that the naked eye could not see them. The fern-like effects of trees, shrubs and mountains come from the fact that these tiny canals branched out forming smaller canals from a common center.

Finding Montana Agate:

Although this type of agate ranges throughout three states. A small area in Montana seems to have the best of this agate. Found in gravel deposits in the middle and lower Yellowstone valleys. Agates are found in both the present stream bed and in gravel terraces. 10 to 15 miles either side of the Yellowstone drainage.

They are nodules of gray, translucent chalcedony, which when cut and polished are seen to contain small manganese dendrites of pleasing appearance. Moss agates are popular recreation for amateur collectors and lapidaries, and are sold and traded in considerable numbers as semiprecious gem stones for use in jewelry and decoration.

Their hardness requires a diamond-beaded blade for successful cutting. Agates have increased in true and aesthetic value. They are becoming more scarce. But spring rains and run-off conditions. Turn up new agates in the gravel beds and hillsides around Forsyth most every year.

via West Seattle Petroglyphs, 9/17; via The Clackamette Gem 8/17; from Hellgate Breezes 2/16

The History Of Cabochon Making by Odessa Durante, WSRC Junior Member

Recently, I received a cabochon cutting lesson with Lyle. I really enjoyed making my cabochon and setting my cab into a jewelry mounting. This lesson piqued my interest of the history of cabochon cutting, and I thought I would share it in the Petroglyphs!

If we rewind the clock to Prehistoric Times, we would see men making tools from stone and using one stone to chip away at the other. By 3000 BC, man developed so many lapidary skills that they began to create cylinders from serpentine. Beads, scarabs, amulets, seals, and even bowls were cut from stone.

When the 1400's hit, lapidarists struck "gold" when grinding wheels were invented. Grinding wheels allowed cabs to be cut. Cabbing certain stones brought out their optical special effects. If you take a cat's eye or a star garnet and facet it, it will destroy the asterism (the star effect) and chatoyancy (the cat's eye effect.) However, if you cab them, those special effects are brought to life with the help of the polish wheel.

I am so appreciative that Lyle taught me how to make cabochons! It is something I enjoy doing with my dad. I am looking forward to operating the machinery all on my own!

from West Seattle Petroglyphs, 3/16

A Basic Wire Wrap Project for Kids & Adults Alike! by Jim Brace-Thompson

Kids love arts and crafts and making pretty things. Thus, one of the more popular units within our AFMS/FRA Badge Program is Lapidary Arts. I've heard that some clubs have actually banned kids from their workshop facilities, concerned about safety issues or damage to expensive machines like Genies or Pixies. However, as noted in our Badge Manual, there are many basic lapidary arts that don't require any machinery at all. Suggested projects along this line include rock painting, making "rock critters," crafting light-catchers with tumble-polished agates, sand art, beading, crafting wind chimes, or polishing soft stones by hand with wet-or-dry sandpaper. If you're hesitant to have kids use rock saws and grinding units, check out these ideas and more in the Badge Manual at http://amfed.org/fra/fra_badge.htm.

Dennis Gertenbach and Jacque Mahan of the Flatiron Minerals Society (Colorado) recently contacted me about a project that proved especially popular successful for them. Their Junior Geologists had just concluded a basic wire wrap project that attracted more kids (33 in all!) than have attended any of their past lessons and activities. Using just two small pieces of wire and a tumble-polished stone, each child crafted a beautiful pendant. One of the leaders, Craig Hazelton, led the meeting and even produced a how-to YouTube video that is clear, direct, and easy to follow: <https://youtu.be/pqOzlsFyXvI>

I encourage junior leaders of all AFMS-affiliated societies to check it out, then give it a try with your club's kids. It looks like any easy project for kids to do while, as always, having fun!

from AFMS Newsletter, 5/18

Young Tumblers' News

Rocks and Minerals in Our Daily Life

Match the item we use with the correct rock or mineral. Each word below is only used once. Bring the complete sheet to the meeting and earn \$2 Rock Buck.

Toothpaste _____

In Food _____

Pennies _____

Glass _____

Baby Powder _____

Use it to Write on the Sidewalk _____

Wedding Ring Stone _____

Counter Tops _____

Soda Cans _____

Jet Engines _____

Sandpaper _____

Pottery & Dishes _____

Granite Quartz Talc Salt Diamond Chalk Aluminum Titanium Garnets Clay Fluorite Copper

How Do We Classify Rocks? by Kat Koch, Cascade Mineralogical Society

There are 3 main types of rocks depending upon how they were formed in the different layers of the earth. They are: Sedimentary, Igneous and Metamorphic.

Type of Rock: Sedimentary

How is it formed? Sedimentary rock is weathered into many pieces of rock and soil which then settles into layers. The layers are squeezed together until they harden into rock.

Where is it formed? Found in locations where oceans, lakes, or other bodies of water exist or once existed.

Other Facts: Is layered, soft, and often contains fossils.

Examples: Limestone, chalk, coal, sandstone, shale, sand, silt, clay.

Type Of Rock: Igneous

How is it formed? Igneous rock is formed when melted rock cools and hardens.

Where is it formed? Created by lava from volcanoes or magma that cools inside the Earth.

Other Facts: Can be shiny or glossy or even float on water.

Examples: Basalt, granite, pumice, quartz, obsidian.

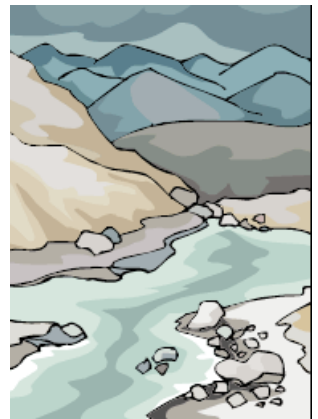
Type of Rock: Metamorphic

How is it formed? Metamorphic rock forms when igneous, sedimentary, or other metamorphic rock is changed by heat and pressure.

Where is it formed? This type of rock is buried deep within the Earth where it is created from the heat and pressure found there.

Other Facts: Often contains crystals, and may have bands or layers. Generally strong rocks. They are made of different minerals and have a wide range of color and luster. They often show signs of stretching or squeezing, giving them a striped appearance.

Examples: Marble, slate, gneiss, schist, quartzite.



Young Tumblers' News

Native American Rock Legends by Kat Koch

Apache Tears: In the 1870's about 75 Apaches fought bravely with the US Cavalry on a mountain top. (Overlooking what is now Superior, Arizona). Facing defeat, the outnumbered Apache warriors rode their horses off the mountain to their deaths rather than be captured and/or killed.

The distraught women of the tribe cried dark tears of grief, which fell to the earth. It is believed that their tears formed into reality as these unusual stones, so people will always remember what happened.

Thunder eggs: It is believed the rocks to be the eggs of the "thunderbirds" which occupied Mount Hood and Mount Jefferson (Oregon).

During thunder storms the Thunder Spirits on the mountains hurled the "eggs" at each other.

Clay Babies, Mud Babies or Concretions: When Native Americans inhabited Fox Island (Washington) a Indian maiden used to play in the sand and molded the clay into various forms. As the girl starts to grow older and more beautiful, she was encountered by many Native American Indian men near and far. None of these men suited her until she met a mysterious, young brave man who appeared when she was walking on the beach.

Eventually this man won her heart, but he told her that if she wanted to be with him she must live under the surface of the water with him because he is the son of the old man of the sea. She agrees to go with him, but after a while she starts to grow kelp on her face. Her parents tell her she should not come on land anymore because she is so different than they are now.

The young maiden becomes home sick and every day she goes to her old playground on the beach and creates clay babies of odd shapes and sizes that are seen today.

Turquoise: Some southwest tribes believe that ancient people were so happy to see rain after a long drought that they danced and rejoiced. Their joyful tears mixed with the rain and seeped into the earth to become turquoise.

Silicon Dioxide Word Find by Keith Alan Morgan

The topic this time is gems made out of silicon dioxide, SiO₂, to use it's chemical designation. Silicon dioxide is one of the most common minerals on Earth and many things in nature are formed from it.

The puzzle is more difficult this time as the words will be found reading left to right, right to left, reading up, reading down and diagonal.

Have fun and find those words.

Agate
Amethyst
Citrine
Jaspagate
Jasper
Obsidian
Onyx
Opal
Quartz
Sard

D	Q	U	A	R	E	P	S	A	J
R	J	L	R	T	J	K	A	M	X
A	G	A	T	E	S	W	R	O	Z
P	O	B	S	I	D	I	A	N	C
Z	O	J	Y	P	R	F	B	Y	I
U	Y	H	H	L	A	P	O	X	T
C	V	B	T	N	S	G	E	G	R
W	J	X	E	G	Y	C	A	T	I
Y	V	C	M	S	M	F	H	T	N
K	Q	U	A	R	T	Z	N	V	E

Diatoms, microscopic single-celled plants that live in fresh or sea water, have extremely intricate shells made of silica. When large numbers of these shells are deposited, diatomite is formed. When diatomite is cleaned and packed to form a filter, the intricate geometry of the shells will remove impurities as small as 0.1 micron from the water without the use of chemicals. Diatomite can also be used as a non-chemical insecticide, the sharp silica shells cut and shred the insects.

Field Trips

The club or clubs sponsoring the field trips are shown in italics. When known I have listed a phone number and contact person for each sponsoring club below the listed trips. If you are not a member of the sponsoring club, you should phone and ask permission to go on their field trip.

Information from the Washington State Mineral Council webpage (<http://www.mineralcouncil.org>).

September 8 & 9

All Rockhounds Pow Wow - Red Top - Teanaway - Meet at Teanaway at Middle Fork Camp 8:00 am -
Geodes, Agate, Jasper & Jade - Bring digging & hard rock tools
Larry Vess vessel3755@gmail.com or (253)473-3908

September 15

Northwest Opal Association - Little Naches - Meet at the Enumclaw Ranger Station at 9:00 am -
Thundereggs, Washington lily pad & fossil - Bring digging & lite hard rock tools
Tony Johnson (253) 863-9238

Why Do We Display? by George Williams

For The Pleasure It Brings

1. It's satisfying to see our collection attractively set up in a display - we can rightly be very proud of what we show.
2. There is much joy and reward in sharing our collection with others who have similar interests.
3. It's exciting to be an important part of a group project.
4. After working diligently at our hobby we deserve a little praise and we can get this only by sharing.
5. Displaying in a show sets up opportunities to meet other people who have found pleasure in the same interests as you.
6. Sometimes we get a little stale at what we do. Preparing for a show brings new inspiration and rejuvenates your interests.

Because It's Education Experience

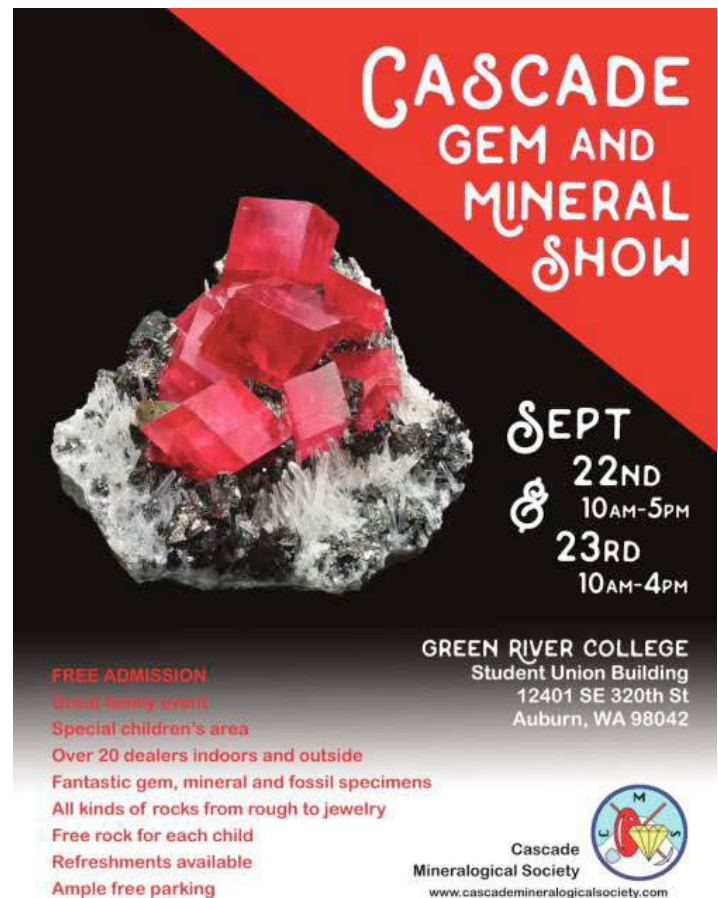
1. Arranging a display makes you more critical of your material and challenges you to improve your quality.
2. Planning a display around a theme requires some study and you end up with a greater knowledge of your collection.
3. After fussing over your own display you will look more critically at other exhibits allowing you to profit from others' techniques.

The Fun Of Non-Competitive Display

1. Here you have free reign to follow to follow through any idea you have for an exhibit without any concern for fitting it into the limitations of rules.
2. Try standing beside your exhibit for a time. Be ready to greet strangers as they show an interest in what you have done. You'll exchange some good information and meet some great people.

Share Your Hobby/Show Your Collection

via West Seattle Petroglyphs, 3/13; from Tualatin Valley Gem Club, 3/76




**CASCADE
GEM AND
MINERAL
SHOW**

**SEPT
22ND
&
23RD**
10AM-5PM
10AM-4PM

GREEN RIVER COLLEGE
Student Union Building
12401 SE 320th St
Auburn, WA 98042

FREE ADMISSION
 Good family event
 Special children's area
 Over 20 dealers indoors and outside
 Fantastic gem, mineral and fossil specimens
 All kinds of rocks from rough to jewelry
 Free rock for each child
 Refreshments available
 Ample free parking

Cascade
Mineralogical Society
www.cascademineralsociety.com



Ice Dunes of Pluto by Jim Brace-Thompson

Analyses of 2015 New Horizons spacecraft data are revealing Earthlike characteristics on Pluto, if a wee bit on the cold side. Even with just a wisp of an atmosphere and surface temperatures averaging 385 degrees below zero, Plutonians still enjoy summers at the beach, spreading their blankets on "ice dunes." Said dunes are believed to be made of grains of methane ice. Says Matt Telfer of the University of Plymouth in the UK, "We see mountains, glaciers and ice moving. Even despite the thin atmosphere, we see evidence of that atmosphere shaping the surface of that world just as it does on our own planet." from Rockhound Rambling, 7/18



Shows

September 8 & 9: Saturday & Sunday 10 am - 5 pm
Marcus Whitman Gem and Mineral Society,
49th Annual Gem and Mineral Show
 Walla Walla County Fairgrounds
 Community Center Building
 363 Orchard St., Walla Walla WA

September 22 & 23: Saturday 10 am - 5 pm; Sunday 10 am - 4 pm
Cascade Mineralogical Society, Annual Show
 Green River College
 12401 SE 320th St
 Auburn, WA



Internet Addresses



Earthquakes For Kids
<https://earthquake.usgs.gov/learn/kids/>

Geologic Time Bookmark
<https://pubs.usgs.gov/gip/141/gip141.pdf>

The Grand Canyon Of Mars
<https://astrogeology.usgs.gov/geology/mars-valles-marineris>

Where Can I Find Information About Mineral Commodities?
https://www.usgs.gov/faqs/where-can-i-find-information-about-mineral-commodities?qt-news_science_products=0#qt-news_science_products

USGS Earth Explorer
<https://earthexplorer.usgs.gov>

Schoolyard Geology
<https://education.usgs.gov/lessons/schoolyard/>

Of the 193,000 metric tons of gold discovered to date, 62% is found in just four countries on earth. All the gold discovered thus far would fit in a cube 22 meters on a side.

Of the 1,740,000 metric tons of silver discovered to date, 55% is found in just four countries on earth. All the silver discovered thus far would fit in a cube 55 meters on a side.

Of the 1.52 billion metric tons of copper discovered to date, 56% is found in just four countries on earth. All the copper discovered thus far would fit in a cube 550 meters on a side.