



the CMS Tumbler

June
2019

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

Next Meeting:
June 13, 2019
7:00 p.m.

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

The Program will be a speaker
from Better Than Diamond
regarding lab grown gems.

The Show & Tell Theme is bring
your favorite faceted gems or
finds from the recent CMS field
trip to First Creek.



*This month remember
to wish a*

Happy Birthday to

Kathryn 'Caly' Jellum on June 4,

Leonard Bahr on June 7,

Merriann Fu on June 11,

Michael Watson on June 11,

Shelley Opel on June 16,

Timothy Shao on June 22,

Carolyn Mackey on June 24,

Margaret Squires on June 27,

Brenda Haworth on June 29,

Dick Morgan on June 29,

Lloyd "JR" Ruegg on June 29



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Website: www.cascademineralogicalsociety.org

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Show Facebook: www.facebook.com/cascadegemandmineralshow

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This publication is an official bulletin of the Cascade Mineralogical Society Inc. (CMS).

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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

2019 CMS Dues are \$25 per year per family

Pay online, by mail, or at our meetings.

Mailing Address: Charles Benedict, 25838 W Lk Wilderness Dr SE, Maple Valley WA 98038

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

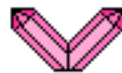
To get information to the Tumbler via the Internet send it to greenrockdraggin@yahoo.com Please put Tumbler and subject in the Subject Line. The deadline is the 20th of each month.

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/>



June



SUN	MON	TUE	WED	THUR	FRI	SAT
						1
2	3	4	5	6	7	8
9	10 Show Meeting 6:30 PM Board 7 PM 	11	12	13 General Meeting 7 PM 	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

CMS Show Committee Meeting: ...Monday, June 10.....6:30 pm to 7:00 pm
 CMS Board Meeting:.....Monday, June 10.....7:00 pm to 8:00 pm
 CMS General Meeting:.....2nd Thursday, June 13.....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

Followed Me Home

by **KAM**



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CMS Show & Board Meeting Minutes June 6, 2019



by Pete Williams, 2019 Secretary

Members Attending

President Kat Koch

Treasurer Charles Benedict

Federation Mike Blanton

Past President Bob Pattie

Director Roger Danneman

Director Rich Russell

Vice President Merriann Fu

Secretary Pete Williams

Mineral Council Jackie Pattie

Show Chair Mark Hohn

Director Roger Pullen

CMS Show Committee

Only 6 booths remain to be sold. There are 2 vendors interested in the remaining 3 contiguous booths. Mark will order the new formatted raffle tickets and is working on getting an event set up on Facebook. We will be using Eventbrite tickets again this year. We will need to begin gathering the Federation display cases, but where to store them is the issue.

Board Meeting

Meeting called to order at 7:00

The current year income vs. expenses is in the red. The May club field trip is going to First Creek on May 18. The Puyallup club is going to Old Slope in Greenwater that same day. The May program will be Roger Danneman making a presentation on field trips. In June, someone from "Better than Diamond", a manufacturer of lab grown diamonds, will be the speaker. The June show and tell may be on faceted gems.

The CMS picnic is scheduled for August 11, but still waiting for confirmation. A date for the Christmas party in December is still in work.

A work party will be scheduled at Bob's house on May 19 at 10:30 AM to fix the rock storage area that was damaged in the storms this winter.

Meeting adjourned at 7:50.

Young Richard's Almanac by Dick Morgan

The summer rock shows have started for this year and with prices, this may be the best way to get new material without driving around the country.

Nothing replaces the joy and exhilaration of finding an outstanding specimen in the field, but due to the price of fuel and the good rock areas closed to the public, digging into the pocketbook gets you good material while getting to see the rock before putting the shovel to work.

Safety Matters - Ticks, Chiggers, Mosquitoes, Oh My! by Ellery Borow, AFMS Safety Chair

Ticks, chiggers, mosquitoes, fire ants, black flies, scorpions, venomous snakes, poison ivy earthquakes, volcanoes, flash floods, and excessive heat -oh my! Pretty much anywhere a rock collector goes one will find something in the area that needs special attention. That something can be a little thing or a big thing, but still a thing which should, for safety sake, be addressed and not ignored.

We collectors check maps, monitor tire pressure, bring water, up date medical aid kits, research what mineral might be found in the area and soon. We might be well advised to also check into things which might bug us on our trips.... things such as bugs and bears and storms and snakes.

Fire ant bites are not fun. Mosquitoes and ticks are transmission vectors for more and more diseases. Weather patterns are changing. For these and other local conditions for which the well prepared collector should be aware, there are numerous sources of data. NOAA weather services, state and local health services monitor area insect populations, and even the USGS has websites which report on earthquake and volcanic activity.

A rain in the mountains and the resulting flash flood 6 miles away could isolate our vehicle, knowledge of how long a tick takes to transmit Lyme Disease, how to prepare for a venomous snake in the trail, precautions concerning fresh bear tracks in the area- all these take time to research and understand but the well prepared collector is a safer collector. It is, in this time of internet, far easier and less time consuming than yesteryear to be prepared and be safe. Truly, there is sometimes too much information out there to review it all.

When traveling, most rock collectors bring at least the basics - maps, water, food, medical kit, personal protective equipment and so on. Besides the basics, it is the wise collector who prepares for any additional hazards the area has to offer. Such additional protections might be as simple as bringing an extra strong mosquito repellent.

Please don't let little flying things bug you. Your safety matters.

CMS General Meeting Minutes June 9, 2019

by Pete Williams, 2019 Secretary

Meeting called to order at 7:10

Minutes were approved as written.

Treasurer's Report: The club is doing well even though the current year is in the red.

Tumbler Editor: Same old, same old. Mike Blanton found the cartoon in the Tumbler this month to be especially funny.

President's Report: All members need to fill out a new membership form to ensure we have all necessary contact information and to sign the indemnity clause. Everyone will get a club pen upon filling out the form. The NFMS will not be providing awards for the various club submittals, e.g. best cartoon, as there are not enough volunteers to support the reviews.

There is a couple in Sherwood, Oregon, liquidating their rock collection including equipment from June 6-17.

Webmaster/Membership Report: All but 4 booths have been sold. We are now looking for donations for the raffle or silent auction. They can come from individuals or companies. Jerry's Rock Shop, More Rocks, and Thumblers Tumbler have already made donations. Let Mark or Kat know if you get donations from companies so we don't bother any company with multiple requests.

We will be paying for advertising on Facebook and Instagram. There are flyers available for all members to hand out to friends or relative.

Field Trip Report: The club field trip is to First Creek on May 18. This will require a 1+ mile hike. On the same day the Puyallup Club will be going to Greenwater.

Federation Report: The annual show will be in Lewiston, Idaho, in October. There is a football game the same weekend so hotel reservations need to be made soon.

Mineral Council: There is one bill in Congress concerning opening up more federal lands for target shooting. There is also a Senate bill regarding permits on federal lands. There is little possibility of passage.

New Business: Jim Grace discussed a new faceting guild is being started in Seattle at the Finney Neighborhood Community Center on June 17. Meetings will be held on Monday nights. They will be affiliated with the NW Rockhounds and will be teaching faceting. There are available to provide demonstrations and show cases at local rock shows.

The annual summer picnic and auction will be on August 11 and the Lake Wilderness Arboretum. The first weekend in August we will be joining the gold prospecting club NAMA near Leavenworth for gold panning or rockhounding.

Program: A presentation was made by Roger Danneman on CMS 2019 field trips, material you can find there, tools, safety, and code of ethics.

Meeting adjourned at 8:12 followed by show and tell and the raffle.

Show and Tell:

Mike Blanton - Red rind petrified wood from Saddle Mountain

Jim Grace - Faceted Gems

Bob Pattie - Beach Rock from Thailand

Dick Morgan - Crystals, garnets, etc.

Roger Danneman - Rocks from Washington field trips

Calling for Display Case Submissions - CMS Gem and Mineral Show Sept. 2019 by Roger.Danneman

If you'd like to show off your rock collection at the CMS Gem and Mineral Show in September, reserve your display case now.

Contact Roger Danneman at Roger.Danneman@gmail.com 425-228-8781 or cell: 425-757-3506 (call or text)

Thanks.

Editor's Note

There are three more newsletters before our show in September, so if you have any articles that need to be printed before that, please get them to your editor.

Geo-Genius Test National Geographic Bee

1. The Damietta branch and the Rosetta Branch are the two main distributaries of what major river?
2. Which European country occupies most of the Jutland Peninsula?
3. Which country west of the Gulf of Bothnia has large deposits of iron ore near the city of Kirun?
4. Mount Kilimanjaro, a dormant volcano, is located near the border between Kenya and what other country?
5. Tikal, the great Mayan city abandoned in the tenth century, is located in what Central American City?

Answers on page 11

from Golden Spike News, 2/18

A Note From The President's Desk...

by Kat Koch, 2019 CMS President

Our 2019 Cascade Gem & Mineral Show is almost sold out. This is very encouraging as last year's show had 45 booths and this year's show has 65 booths. Thank you Mark for taking on Show Chair again this year. It's a huge job and you do an outstanding job!

I have had a couple of members ask me why the 1 carat sapphire was given to a Young Tumbler and not an adult at our April Rock Bingo meeting. This stone was donated to the club with the specific stipulation that it was for one of our young members.

Just a reminder that we have a day trip or weekend camping trip coming up August 3rd & 4th for gold prospecting near Leavenworth. We will be joining the North American Miner's Assoc. for this excursion. So if you are interested in gold panning or sluicing mark your calendars. We will also have a speaker at our July meeting from NAMA on the tools needed, how to pan for gold, rules for gold prospecting in WA and etc.

Each member of our Club is an integral part of making our club a success. I am always looking for ways to improve our club and to meet what you are looking in becoming a CMS Member. If you have any ideas on how to improve our meetings by adding something or deleting something, a field trip suggestion, a class, etc. I would like to hear any and all ideas you may have, big or small. You can email me at president@cascademineralogicalsociety.org

Unusual Gardens Around the World with Rock Displays by Kat Koch

Nong Nooch Tropical Botanical Garden

Location: Chonburi, Thailand

Background: Thailand's Nong Nooch Tropical Botanical Garden, sprawls over 500 acres, was originally destined to become a fruit plantation. With a year-round tropical climate, the location is versatile enough to have cactus and pineapple gardens, as well as sculpture-based displays, like the unusual Umbrella Garden.

Why It's Unique: A botanical garden is suppose to be a place of learning. It can either be focused on plants from the region or be a museum of plants from around the world. Nong Nooch achieves both, showcasing the world's largest collection of tropical palms and cycads (seed plants with a long fossil history that were formerly more abundant and more diverse than they are today) paying homage to a variety of cultural styles, including French and Roman design. Among the more interesting displays is the Butterfly Garden - a series of maroon and green plants that swirl around the gray sidewalks to create a pattern similar to that seen on butterfly wings. Nong Nooch even has its own version of Stonehenge, consisting of hundreds of rocks laced around meticulously manicured shrubbery.



Ancient City of Sigiriya

Location: Sri Lanka

Background: Dating back to about 480, this ancient city is as complex as it is imposing. From atop the massive granite slab dubbed Lion's Rock onlookers peer down over a vast system of terraced gardens, winding irrigation paths and rock sculptures. In 1982, UNESCO declared the location to be one of its World Heritage sites.

Why It's Unique: Sigiriya has three main gardens: a water garden, the terraced garden, and a boulder garden. Unlike most rock gardens, the rocks in the boulder garden cannot be repositioned with a few strokes of a rake - they're legitimate boulders. The rocks are so large that a 15-foot-tall throne is carved into one. The legacy of sites like Sigiriya provide invaluable insight into the early days of agriculture and the rudimentary tools used during its construction. This makes the site that more impressive.



Le Jardin Exotique

Location: Monaco

Background: Opened to the public in 1933, Le Jardin Exotique, or the Exotic Garden, is home to an array of cacti and other succulents. If visitors grow tired of hundred-year-old cacti and plants imported from Africa, Mexico and the Arabian Peninsula, they can wander into the nearby cave and check out some stalactites (a tapering structure hanging like an icicle from the roof of a cave), stalagmites (a mound or tapering column rising from the floor of a cave) and helictites (have a curving or angular form that looks as if they were grown in zero gravity).

Why It's Unique: The Exotic Garden may seem like a traditional botanical garden, most of the plants are embedded in the rocky coastal cliffs of Monaco. Stairways carved into the terrain allow visitors to get a better view of the plants without having to scale the cliffs, and small observation areas provide astounding views of the coastline through the flora. The sublime climate of the region allows plants to bloom year round.

Arctic-Alpine Botanic Garden

Location: Tromsø, Norway

Background: The Arctic-Alpine garden, maintained by Tromsø University Museum, is the world's most northern botanic garden. Cold weather is certainly a challenge, but the region's light patterns, which can plunge the area into long stretches of darkness, are an obstacle for both the plants and the designers. Despite the harshness of the region, the growing season runs from May through October.

Why It's Unique: It's strange because the Arctic is strange. You don't think of anything growing at all and you wonder how that's even possible. The Arctic-Alpine garden is home to species from as far as South Africa and New Zealand. The garden thrives when it is not blanketed by snow. The garden also highlights the rich geological history of the area by labeling different rock specimens and offering a tour specifically on the layers of earth exposed in the park.



There are two known dinosaurs with bat-like wings, Yi qi, and Ambopteryx longibrachium.



KAM 2019

Field Trip Reports by Roger Danneman CMS Field Trip Guide

On March 16th we went to Baker Lake and Swift Creek in the North Cascades for agate, jasper, serpentine, and jade.

On April 20th we went to Saddle Mountain for petrified wood and then the Diatom Pits for common opal.

On May 18th we went to First Creek for agate, jasper, and crystal.

For all three trips we had beautiful weather.

Visit our web site for field trip reports and photos

<https://www.cascademineralogicalsociety.org/field-trips/trip-reports/>

Also join our Facebook Group Page to see photos and comments from field trip attendees (CMS members only)

<https://www.facebook.com/groups/1168207926650075/>

The photos are from First Creek trip on May 18.



Iron Minerals By Dave Jacobson

In going through some of my minerals I found several iron minerals. This month we will take a look at a few of these iron minerals. Most people who collect minerals have one or two of them in their collections.

Hematite, Fe_2O_3 , iron oxide, is one of the more important iron ores and occurs in large sedimentary beds. It is a very common mineral and can be found in many areas of the world. Hematite is an interesting mineral to collect because of the variety shapes and forms; from flower like crystal structures called “iron roses” to reniform clusters, sometimes called “kidney ore”. Hematite is in the hexagonal crystal system. Its color is usually black or red with an earthy to metallic luster. Small tabular crystals may also be steel grey. One of the keys to identifying hematite is the red streak it leaves on a streak plate. The unglazed back side of a ceramic tile can be used as a streak plate. The hardness of crystalized hematite is 6.5 with a specific gravity of 5.3. It is also slowly soluble in hot concentrated hydrochloric acid, staining the solution an intense reddish-yellow.

Magnetite, FeFe_2O_4 , iron oxide is another important iron ore. It is a common mineral in a great variety of rocks. It is in the isometric crystal system forming in octahedrons or dodecahedrons with striated faces (striations not always see). It is opaque. Color is iron-black to gray-black Compact and massive material is iron black with bluish iridescence. Hardness is 5.5 to 6.5. Specific Gravity is 5.18. Streak is black

Magnetite takes it's name from it's natural magnetism. Massive material has higher magnetism than crystalized specimens. Naturally magnetized pieces are also called “lodestones”.

Goethite is hydrated iron oxide, $\text{FeO}(\text{OH})$. Important ore of iron which is also used in pigments. It is in the orthorhombic crystal system. It comes in prismatic and platy crystals. Goethite pseudomorphs after pyrite are found in many areas. Massive forms can be reniform, botryoidal and stalactic. The color can be yellow, brown and brownish red to black. Streak is brown, brownish yellow to orange yellow. Hardness is 5.5. Specific Gravity is 3.3 to 4.3. Goethite is named after the German author-scientist, Johann Wolfgang von Goethe (1749-1832).

Pyrite, is Iron Sulfide (FeS_2). Pyrite is a sulfide mineral in the isometric crystal system. Most pyrite has a pale brass-yellow color with a metallic luster. Parallel striations are very common on the crystal faces. These striations are one of the features that helps in the identification of pyrite. Pyrite has a brittle to conchoidal fracture with no cleavage. It has a hardness of 6 to 6.5, with a specific gravity of approximately 5. It's streak is greenish to brownish black. It is insoluble in hydrochloric acid, but powdered pyrite dissolves in nitric acid. Powdered pyrite when heated gives off a sulfur smell and leaves a small Metallic, magnetic globule. Pyrite gets its name from the Greek, pyrites lithos, which means “stone which strikes fire. Pyrite will spark when hit with a piece of iron. Pyrite is a common mineral. Specimens are found in most mineral collections. Fossils from some locations have even been pyritized.

Another iron sulfide mineral is marcasite (FeS_2). Marcasite is a polymorph of pyrite meaning it has the same chemistry but has different structure and crystal shapes. Marcasite is difficult to differentiate from pyrite when distinctive crystals are not visible. Marcasite specimens will often disintegrate in collections giving off a strong sulfur smell. I know from personal experience. It is in the orthorhombic crystal system. Crystals can be tabular, bladed or prismatic. It also comes in massive, botryoidal, stalactitic and nodular forms. Color is brassy yellow, sometimes with a greenish tint. Hardness is 6 to 6.5. Specific Gravity is 4.8. Streak is greenish black.

Siderite, FeCO_3 is an iron carbonate mineral in the hexagonal crystal system. It varies in color from pale yellow to dark brown or almost black when large amounts of manganese is present. Rhombohedral crystals with curved striated faces are typical. Material can massive, coarse, fine grained and botryoidal. Crystals can be transparent or translucent with a vitreous to pearly luster. Hardness is 3.5 to 4. Specific Gravity 3.8 to 3.9. Streak is white. It's name comes from the Greek sideros for “iron” in reference to siderites composition.

I've have touched on a few of the iron minerals. There are others I may write about in the future.

I used the following reference materials in preparing this article.

Field Guide to Rocks And Minerals by Frederick H. Pough.

Mineralogy for Amateurs by John Sinkankus.

Simon & Schusters Guide to Rocks And Minerals.

The Audubon Society Field Guide to North American Rocks and Minerals.

Amethyst Galleries Mineral Gallery on the internet

via The Quarry, 2/17; from Canaveral Moonstone, 11/16

The Hawaiian Volcano Observatory team was nominated for a 2019 Service to America Medal for their work during the 2018 eruption of Kilauea Volcano in Hawaii. They provided vital updates to protect people and property from ash, lava, and toxic fumes.

from USGS Twitter, 5/8/19

Pyroclastic density currents travel PDQ! [pretty darn quick!] At 220 mi/hr+ and temps reaching 1,500°F, they knock down, shatter, burn, bury, carry away everything in their paths. Heed advice and stay away!

from USGS Volcanoes Twitter, 5/8/19

Young Tumblers News

Dinosaur Names Ending In Saurus by Keith Alan Morgan

The last part (suffix) of most dinosaur names is Saurus, which makes it difficult to use too many common dinosaur names in word searches. This puzzle is made up of the first part (prefix) of 20 dinosaur names. Answers go up, down, forward, backward and diagonal. Kids who complete the puzzle and bring it to the next meeting will get 2 rock bucks. Have fun.

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

Allo-saurus

Campto-saurus

Mus-saurus

Spino-saurus

Ankylo-saurus

Edmonto-saurus

Pachycephalo-saurus

Stego-saurus

Apto-saurus

Herrera-saurus

Plateo-saurus

Styraco-saurus

Brachio-saurus

Kentro-saurus

Psittaco-saurus

Therizino-saurus

Camara-saurus

Lambeo-saurus

Rioja-saurus

Tyranno-saurus

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>).

June 20-23 *All Rockhounds Pow Wow - Madras, Oregon* - Meet at the Jefferson Fair Ground before 8:00 am - Agate, Jasper, Thunder Eggs, Petrified Wood - Bring digging & hard rock tools
Larry Vess vessel3755@gmail.com or (253) 473-3908

June 30 *Marysville Rock Club - Saddle Mountain Mattawa* - Meet at the W Mattawa Lepricon Market before 9:00 am - Petrified Wood, Opal (?) - Bring digging & hard rock tools
Ed Lehman wsmced@hotmail.com h# (425) 334-6282 c# (425) 760-2786

CMS June Field Trip Announcement by Roger Danneman

Next Field trip is on Saturday June 15th to Red Top for agate, jasper, and crystal plates.

Meet at 9:45 at the Mineral Springs Store (Mineral Springs Resort on Google Maps) 27510 US-97. If you pass FR 9738 (Blue Creek Rd), you've gone too far, as this is the road that the group will take towards the dig site. Mineral Springs is about a 2 hour drive from Renton/Kent, over Snoqualmie Pass. Group leaves promptly at 10:00. Dig and hard rock tools. The road is usually decent enough for cars, but it's a forest service road and I haven't been up there yet this year.

There is no hike involved, but you do need to cross a rock slide which is fairly steep. Dig site is just above the rock slide and under tree canopy which can be nice shade from the summer sun. The agate is fairly plentiful just under the surface there, and is a light bluish grey color. The jasper has nice creamy blue and brown tones, sometimes with blue veins or inclusions. Crystals can be found in the hard rock and in the rock slide.

Contact for trip is Roger Danneman CMS (roger.danneman@gmail.com 425-228-8781 Home or 425-757-3506 cell).

Safe Rockhounding

Here's the most basic fact of rockhounding: **Rockhounding is inherently risky.** We work with heavy, pointed hammers, pry bars, chisels, sledgehammers and big heavy rocks in generally secluded areas where the earth is broken. Here are some do's and don'ts to keep you safe and healthy:

1. Never enter a pit or hole alone. Unstable ceilings or walls, poisonous insects or snakes, bat guano (causes a nasty respiratory disease) can ruin your whole year.
2. Never roll boulders or toss large rocks in a pit if you can help it. It's very dangerous to anyone collecting below you.
3. Always keep an eye on any walls you may be digging in, step back and note "how it's hanging" and if there's any overhang. If so GET OUT and alert your partners and the landowner or person in charge.
4. Try not to leave lots of holes, it's dangerous to your fellow rockhounds as well as wildlife.
5. Don't try to excavate specimens that are too big to carry. A pulled muscle or heat exhaustion kills the buzz that rockhounding gives you.
6. Make sure your tools and other equipment are in good repair and are free of defects.
7. Use the right tool for the right job. You can destroy a beautiful specimen or fill your face with crystalline shrapnel by using a rock hammer where a chisel or screwdriver would suffice.
8. Make sure you feed heavily and regularly. Low blood sugar can injure or kill, no joke! Many senseless accidents could have been prevented with a PBJ. You're using lots of calories, so stop counting and EAT.
9. Drink lots of water, Gatorade or juice during the course of the day. It's easy to remember when the weather is hot, but you can become dehydrated in cooler temps also.
10. Don't drink alcohol or use drugs before or during your expedition. Save the celebrating for after the dig, when the work is done. Also illegal drugs are, well, illegal and causing the area to be shut to collectors due to violating the law is very bad form.
11. Smoky Bear says: **ONLY YOU CAN PREVENT FOREST FIRES.** If you smoke, please make sure your ash and cherry is extinguished when you're finished

via The Golden Frog, 12/15; from North Georgia Rocks, Gem, and Mineral Club website

Answers to Geo-Genius Quiz from page 5

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|---------------|--------------|-----------|
| 1. Nile River | 2. Denmark | 3. Sweden |
| 4. Tanzania | 5. Guatemala | |



Shows



May 31 - June 2: Friday, Saturday & Sunday 10 am - 5 pm
Puyallup Valley Gem & Mineral Club Annual Show
 Swiss Park
 9205 198th Avenue East
 Bonney Lake WA

June 1 & 2: Saturday 9 am - 5 pm; Sunday 10 am - 4 pm
North Idaho Mineral Club, Rock, Mineral, Gem, & Jewelry Show & NFMS mid-year meeting
 Kootenai County Fairgrounds
 Jacklin Building
 4056 North Government Way (Kathleen & Govt. Way)
 Coeur d'Alene, Idaho

June 13 - 16: Thursday, Friday & Saturday 9 am - 5 pm; Sunday 9 am - 4 pm
Prineville Rockhound Pow-Wow Assn., 74th Annual Jewelry, Gem and Mineral Show
 Cook County Fairgrounds
 1280 Main St.
 Prineville, Oregon

June 14 - 16: Friday 10 am - 5 pm; Saturday 9 am - 5 pm; Sunday 10 am - 4 pm
Lower Umpqua Gem & Lapidary Society, Annual Rock & Gem Show
 Reedsport Community Building
 451 Winchester Avenue
 Reedsport Oregon



Educational Corner by Steve Mulqueen

Andesite - Named after the Andes Range, South America, its dominant rock-type.

Aragonite - Named after Molina de Aragon, Spain, where it is found in abundance.

Benitoite - From its occurrence near Clear Creek, San Benito County, CA.

Dolomite - Named after the French geologist Dolomieu (1750 - 1801), from its major rock occurrence in what was later named the Dolomite Alps, Northern Italy.

Dunite - Studied in great detail along major trends in the Dun Mountains, New Zealand.

Franklinite - Occurs only at the Franklin Mining District, Franklin, New Jersey.

Inyoite - From deposits above the Furnace Creek Wash, Death Valley, Inyo County, CA.

Kernite - Occurs only at the Kramer Borate Deposit near Boron, Kern County, CA.

Kimberlite - Diamond host-rock named after its occurrence at Kimberley, South Africa.

Labradorite - Studied in detail at exposures on Paul's Island, Labrador, Canada.

Sussexite - Occurs only at the Franklin Mining District, Sussex County, New Jersey.

Tanzanite - First identified from deposits in Northern Tanzania.

Tonalite - Granitic rock occurring at Tonale Pass, Rhaetian Alps, Austria/Italy border.

Vesuvianite (Idocrase) - First discovered at Mount Vesuvius, Gulf of Naples, Italy.

Zairite - From deposits in the Congo (Previously named Zaire).

via The Quarry, 5/16; from Rockhound Rambling, 4/16

An Asteroid over Africa by Jim Brace-Thompson

Only three times in recorded history have scientists spotted an asteroid on a direct collision course with Earth. The third time came on June 2. NASA spotted an asteroid near the moon aimed straight for our planet! Fortunately, we got off easy. It was small, as asteroids go, and the boulder-sized rock shattered and broke up harmlessly over Africa. No dead dinosaurs this time around! But just a couple weeks earlier, an asteroid the size of the Great Pyramid in Egypt whizzed by us. Had it hit Earth, some speculate it could have devastated humanity or - at the least - wiped out a city or two. Thus, a private group calling itself the B612 Foundation in Mill Valley, California, has partnered with Denver-based York Space Systems to create and launch a fleet of small asteroid-spotting satellites to search the heavens for so-called NEOs (near-Earth objects). Still unsaid is what the plan would be once they spot one coming!

from Rockhound Rambling, 7/18