

MAPLEWOOD ROCK AND GEM CLUB

2021
SEPTEMBER



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General meeting: September 20

Our meeting might be on Zoom or it might be at the clubhouse. Please watch your email for more information.

Banner photo

The photo at the top of this page shows a piece of raw blue corundum which we call sapphire. All colors of corundum are called sapphire, except red. Red corundum is called ruby.

This photo was taken by [James St. John](#), geologist, and is published here under the Creative Commons license [CC BY 2.0](#). If you want to see images of minerals and rocks, you might enjoy other images by James St. John. He usually adds geological notes in the description of the specimen.

Wise words

"A gem cannot be polished without friction, nor a person perfected without trials."

~ Lucius Annaeus Seneca

"As in geology, so in social institutions, we may discover the causes of all past changes in the present invariable order of society."

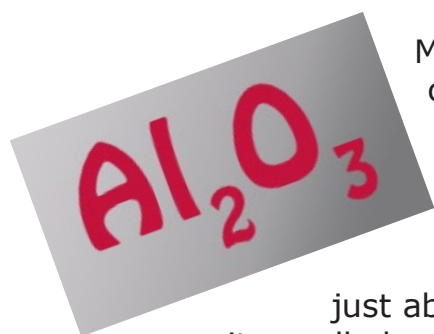
~ Henry David Thoreau

Juniors' Page - Chemistry of Corundum

Corundum is a mineral made up of mostly Oxygen and Aluminum. We think of oxygen as being a gas because it's something we breathe. But, if you could put some air under a powerful microscope, you would find oxygen is just another element, like gold or neon.

When three oxygen atoms bond with two aluminum atoms, they form a molecule of corundum. The chemical formula is Al_2O_3 .

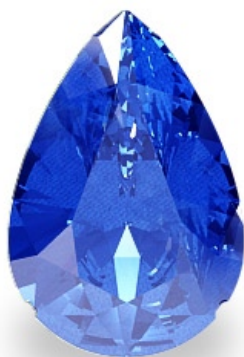
**Rubies are red.
Sapphires are blue.
Corundum they are.
Yes, both! It's true!**



Many of these molecules tend to come together to form crystals, and then when the crystals get large enough we can see them without a microscope. Pure corundum is colorless and transparent like the glass in a window.

But, it's rarely pure. Like just about everything else in nature it usually has other stuff that gets in.

With corundum these extra bits get between the molecules making up the crystal. This stuff in the cracks are called impurities, because by being there, the corundum is no longer pure. The impurities also give the gemstone a color.



When corundum is red we call it ruby. When blue, we call it sapphire.

Actually, we call it a sapphire if it is any color but red. The blue ones are the most popular and common, and all the other colors of corundum (except red, of course) are called *fancy sapphires*. *Parti sapphires* are stones where the color blends from one color to another across the gem. Fancy and parti sapphires can be yellow, pink, orange, green, brown, purple, or violet.

Teardrop shaped blue sapphire
by LesFacettes, License: [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)



Rough yellow sapphire from the Spokane Sapphire Mine near Helena, Montana

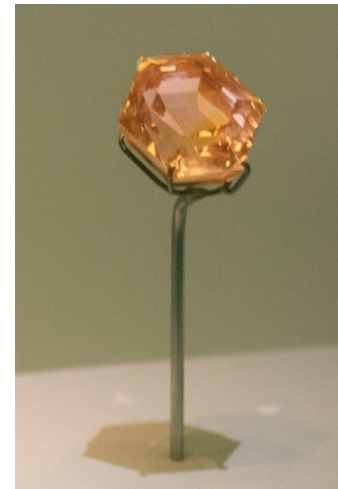
Juniors' Puzzle – Find the Sapphire

Below are pieces of corundum in a rainbow of colors. Can you match the word labels on the left to the pictures on the right? Hint: a label might go with more than one picture.

ruby



Gem from Sri Lanka
by [James St. John](#)
License: [CC BY 2.0](#)



by Thomas Quine
License: [CC BY 2.0](#)

yellow sapphire



fancy sapphire



parti sapphire

by [James St. John](#)
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most popular
sapphire color



Engagement ring
by [Lorraine Hughes](#)
License: [CC BY 2.0](#)



by [Rob Lavinsky, iRocks.com](#)
License: [CC BY-SA 3.0](#)

[Answers are on page 7.](#)

Field trips

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

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

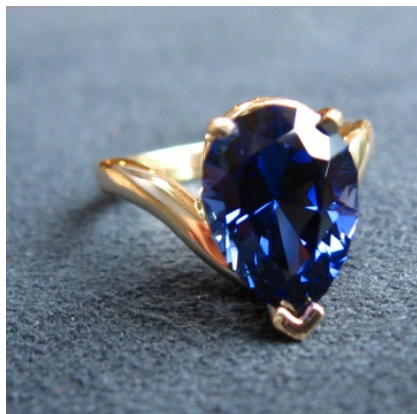
Meet: Take I-5 exit #240 and go toward Blanchard Hill. Meet at the Shell Gas Station by the exit.
Looking for: Dalmation stone

Derivation of "corundum"

In the Tamil-Dravidian language the word for rubies and sapphires is *kurundam*. This language is an official language of Sri Lanka, Singapore, and the Indian state of Tamil Nadu. Tamil is one of the oldest surviving classical languages in the world.



September Birthdays



Happy birthday to everyone born in September. The September birthstone is sapphire, a gorgeous sparkling blue gemstone. At 9 on the Mohs scale, it is the third hardest gem with only diamond (10) and moissanite (9.5) being harder. So, next time you go out digging for rock and mineral specimens, you

can wear your sapphire ring without worrying about it chipping or getting scratched. Or, perhaps it would be better to leave it at home. The gold setting is not nearly as hard, and you wouldn't want your sapphire to fall out.

What are sapphires good for?

Most people treasure sapphires for rings, necklaces, and other jewelry and ornaments. However, industrialists look at the sparkling blue gemstones and see a highly durable material that is excellent for special windows, wristwatch crystals, thin insulating wafers for tiny electronics, abrasive tools, and even blue LED lights.

Fancy and parti sapphires

Sapphires that are any color but blue are called *fancy sapphires*. These gems can be yellow, purple, pink, orange, or green.

When a sapphire's colors blend from one color to another, it is called a *parti sapphire*.



Pink sapphire ring
by [Charles J. Sharp](#)
License: [CC BY 2.5](#)

Sapphire basics

Category: oxide mineral

Formula: Al_2O_3
aluminum oxide,
sometimes with trace
elements such as iron,
titanium, chromium,
vanadium, and
magnesium

Crystal system: trigonal

Crystal class: hexagonal
scalenohedral

Color: usually blue but
can vary

Twinning: growth twins
and polysynthetic glide
twins

Cleavage: poor

Fracture: conchoidal
splintery

Mohs: 9.0

Luster: vitreous

Streak: colorless

Diaphaneity: transparent
to nearly opaque

Refractive index:
 $n_\omega=1.768-1.772$
 $n_\epsilon=1.760-1.763$

Pleochroism: strong

melting point: 2,030 to
2,050° C

Dalmation stone gets its spots from Arf...

Sometimes Dalmation stone is called Dalmation jasper, but that is a misnomer. This rock is not a jasper, but rather perthite, an intergrowth of two feldspars.



Dalmation stone by [Sue Corbisez](#)
License: [CC BY 3.0](#)



Perthite is characterized by a sodium-rich alkali feldspar forming irregular dots throughout the host feldspar, which is usually a potassium-rich alkali feldspar. In the photo of the Dalmation stone you can see the beige dots of feldspar throughout the white host feldspar.

But the feature that makes this stone remarkable is that it has inclusions of black arfvedsonite giving it the speckled appearance of a Dalmation dog.

Put on your boots!

Did you know that rockhounds most often find gem quality corundum in streams. Because they are very dense (and therefore heavier than other rocks), rubies and sapphires stay close to where they emerged from the earth. Rain and flowing water cannot easily propel them downstream.

Arfvedsonite is a rare mineral. It is usually greenish black to bluish grey.

Arfvedsonite is found in nepheline syenite intrusions and in pegmatites and granites.

The Golden Horn batholith in Okanogan County, Washington is one of the places that arfvedsonite is found.



Arfvedsonite
by [Rob Lavinsky, iRocks.com](#)
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Juniors' Puzzle Answers



Gem from
by Jam
License:

Most popular
sapphire color



Fancy

by Thomas Quine
License: [CC BY 2.0](#)



by James S
License: [CC](#)

Fancy



Parti



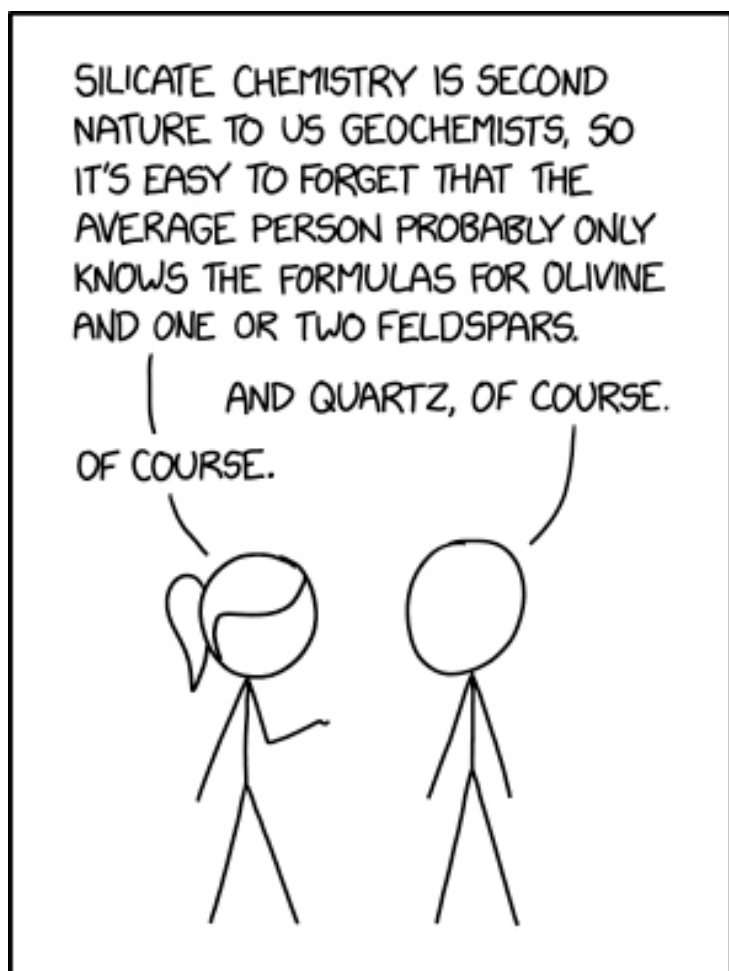
Engagement
by Lorrain
License:

Yellow



Ruby

by Rocks.com
License: [CC BY 3.0](#)



EVEN WHEN THEY'RE TRYING TO COMPENSATE FOR IT, EXPERTS IN ANYTHING WILDLY OVERESTIMATE THE AVERAGE PERSON'S FAMILIARITY WITH THEIR FIELD.

XKCD Comic by [Randall Munroe](#)

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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 9

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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.