

MAPLEWOOD ROCK AND GEM CLUB

2021
JANUARY



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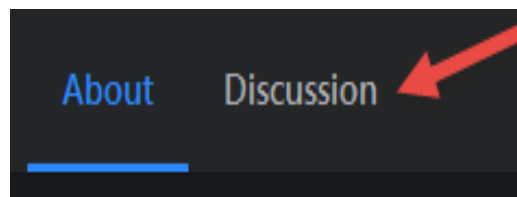
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General meeting: February 15

We hope you will join us at our February meeting which will be Monday, the 15th at 7 pm. Members will receive a Zoom link in an email. If you have never used Zoom, you might find [this video introduction](#) helpful. Do you have questions about the meeting? Contact our Board President, Sandra: ask.sandra@yahoo.com

Online auction

Watch for the online auction on our [Facebook page](#). To participate, go to our [Facebook page](#) and click on the event, "MRGC silent auction". On the event page just below the title you will see a small menu like the one here. Click Discussion. To bid on an item comment with a dollar amount.



This colorful 8-pound piece of petrified wood is one of the auction items. This stone is from Saddle Mountain in Oregon, and as you can see, the face is beautifully polished. The auction ends Feb. 15th.



Juniors Page

Here are some fun facts about amethysts. After reading each hexagon below, you might try the Juniors' Memory Challenge on the next page. Or, quiz a parent to see how much they know about amethysts.

When gas bubbles are trapped in hot lava as it cools, the air bubbles become empty pockets in the rock that forms. These become nests where quartz and other crystals can form.

Amethyst is purple quartz.

Some amethyst geodes are so big that an adult can stand inside them!

Geodes look like plain boring rocks on the outside, but when you break them open, they are often filled with crystal gemstones.

Amethyst crystals are 6-sided tubes with 6-sided pyramid hats.



Most amethysts are mined in Brazil but they can be found all over the world.

Kings, Queens, Popes, ancient Greek gods, and other elite have treasured amethysts since thousands of years ago. They were loved as precious gemstones until massive quantities were discovered in Brazil in the 1800's.

Juniors' Memory Challenge

After reading the cool factoids about amethysts on the last page, try this quiz, or test your Mom or Dad to see what they know.

1. You might find an amethyst in this color:
 - a. teal
 - b. lavender
 - c. black and white polka dotted
 - d. lime green
2. We would not have any amethysts if the earth did not have
 - a. porcupines
 - b. purple grapes
 - c. oceans
 - d. red hot lava
3. Elite (richest or most powerful) people who have treasured amethysts throughout history include
 - a. royalty
 - b. Popes
 - c. ancient Gods
 - d. all of the above
4. What happened in the 1800's that made amethysts something that regular people could own rather than just the elite?
 - a. Scads of deposits were discovered in South America, and the large number of available gems caused the price to drop.
 - b. A meteorite hit one of the largest amethyst crystals exploding it into thousands of small gemstones.
 - c. Amazon started selling amethysts with free 2-day shipping.
 - d. Kings and Queens across Europe and Asia began mailing amethysts to their people as part of a global "Amethysts for Everyone" program.
5. What shape is an amethyst crystal?
 - a. cube
 - b. tall hexagonal shape with a pyramid on top
 - c. sphere with 6-sided pyramids stuck all over it
 - d. pentagon with a domed top
6. Amethyst is a type of
 - a. pearl
 - b. jade
 - c. quartz
 - d. lava
7. Which country produces the most amethyst gemstones today?
 - a. United States
 - b. Russia
 - c. Thailand
 - d. Brazil
8. Which statement is true about geodes?
 - a. Miners find them easily because the outside sparkles.
 - b. They are fossilized dinosaur eggs.
 - c. They are sometimes filled with crystals, like amethysts.
 - d. They are named after a famous ancient poem called "Ode to Gaia".
9. The largest amethyst filled geodes are big enough to carve into a
 - a. bathtub
 - b. school bus
 - c. fruit bowl
 - d. life-size T-rex
10. Geodes are hollow rocks that often have what inside?
 - a. turnip seeds
 - b. crystals
 - c. petrified dinosaur embryos
 - d. gold dust

Answers are on [page 9](#).



Amethyst, photo by [UCL Geology Collections](#)

The purple color comes from irradiated iron in the quartz. Usually, the ratio of iron is between 10 and 100 parts per million, and it can replace silicon (be substitutional) or be interstitial within the crystal.

Natural amethyst has experienced gamma ray radiation from the nuclear decay in surrounding rocks. This radiation causes electrons to leave an iron lattice and bond with interstitial iron within a quartz lattice, creating a $^{+4}$ iron which absorbs wavelengths of light at 357 and 545 nanometers and thus produces a purple hue.



[Amethyst Sceptre](#)
by [Didier Descouens](#)
license: CC By-SA 4.0

Happy Birthday!

If you were born in February, we wish you a happy birthday! Your birthstone is amethyst which is purple quartz.

Amethysts can be any shade from light lavender or violet to deep purple. These gems can also have red or blue as a secondary hue. The color is often in layers of paler and more intense hues in the crystal. A lapidarist usually cuts the stone to make the color seem homogeneous.

Amethyst basics

Category: silicate mineral

Formula: SiO_2

Crystal system: trigonal

Crystal class: Trapezohedral

Crystal habit: 6-sided prism ending with a 6-sided pyramid

Mohs: 7.0 or lower

Cleavage: none

Fracture: conchoidal

Color: purple, violet

Diaphaneity: transparent to translucent

Luster: vitreous, glassy

Streak: white

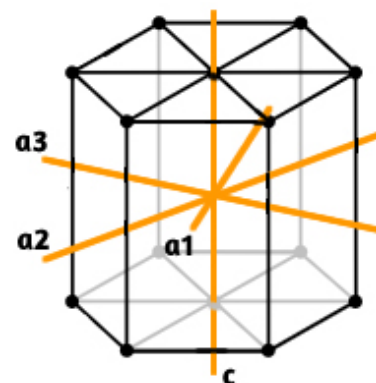
Specific gravity: 2.65

Are there 6 or 7 Crystal Systems?

In last month's newsletter we introduced the six crystal systems. Each one is distinguished by its characteristics: the number of axes, the lengths of the axes, and the angles where the axes meet. That seemed like a black-and-white way to classify the crystals.

But, it's not so simple. Some mineralogists divide the Hexagonal crystal system into two classes: Hexagonal and Trigonal which becomes the 7th crystal system.

Hexagonal crystals have four axes with three equal in length and intersecting at 60° . The longer C axis (vertical axis) intersects the other axes at 90° . The image at the right shows the three equal axes, labeled a_1 , a_2 , and a_3 .



Hexagonal lattice

By [Daniel Mayer](#)

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Trigonal crystals all comply with the definition for Hexagonal crystals, but some mineralogists pull them out into this 7th category. The crystal lattices have a 3-fold rotation axis, and the crystals are generated by stretching the cube along its diagonal axis. No axes is perpendicular to another. Scalenohedrons, dipyrramids, and rhombohedrons, and are the shapes that can be classified as trigonal.

Word of the Month

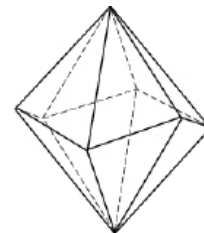
interstitial

An interstitial element is an impurity within an otherwise pure metal or crystal. This element affects the physical properties of the host. Iron can be an interstitial element in quartz, and its effect is that it transforms the crystal from colorless to purple.

Iron can also be substitutional in quartz, meaning that it actually replaces some of the silicon in the crystal. This is another way amethyst is formed from quartz.

Hexagonal Scalenohedron

This crystal class has 12 faces, each one a scalene triangle. Each side of a scalene triangle is a different length.



Hexagonal Dipyrmaid

This shape has 12 faces which are identical isosceles triangles. It looks like two regular hexagonal pyramids attached at their bases.



Trigonal Rhombohedron

This crystal class is more complex. The lattice has a 3-fold rotation axis with three unit cells sharing the axis and adjoining sides. For each unit cell all the faces are rhombi.

Amethysts in history

Amethysts have been engraved since the ancient Egyptian empire. The intaglio at the right was carved in 212 CE with a portrait of the Roman Emperor Caracalla. During the Byzantine period, it was modified to include the cross and the Greek letters, "O IIETPOC", transforming it into a depiction of St. Peter.

Ancient Egyptian beliefs

Ancient Egyptians carved amethysts into amulets, [jewelry](#), as well as intaglios. The amulets were a form of prayer that could be carried with someone to protect them from harm. Early in the Egyptian empire amethysts, beryl, and carnelian were carved into animal shapes, probably to serve as protective fetishes. In that era Egyptians thought amethysts would ward off evil and misfortune.



Emperor Caracalla in 212 CE
photo by [Marie-Lan Nguyen](#)



King Tut's amethyst scarab bracelet
by [Egypt Museum](#)

Ancient Greek beliefs

The gem's name comes to us from the Greek word, *amethystos*, which translates to "not drunken". In ancient Greek culture they believed amethysts provided a strong protection against intoxication. People would keep amethysts with them or hold them in their mouths during feasts. Many wine goblets were carved from amethyst. Not surprisingly, it was associated with their God, Bacchus, the God of wine. The association with warding off the mental haze of being drunk extended to believing amethysts bring a clear mind and quick thinking in battle and business.

Early Christianity

Until the 18th century amethyst was one of the most valuable, beautiful, and rare gems and so it became one of the five Cardinal gems. Early Christians associated amethysts with a calming effect and Christ. The purple hues represented purity of spirit, humility, and the cleansing effects of suffering. They associated this gem with Christ's wounds, and so they used amethysts to help heal people's wounds.

Bacchus Avenges an Affront

In 1576 the French poet Remy Belleau wove a story he created about the first amethyst into his poem "Les Amours et nouveaux Eschanges des Pierres precieuses" (1576). This poem about gems and their properties was inspired by medieval and Renaissance lapidary catalogs . Here is his fable.

One day Bacchus, the Greek God of wine, suffered a slight by someone, leaving Bacchus angered and determined for vengeance. Being an ancient God, he didn't feel obligated to punish the person who hurt him, but rather he vowed to take revenge on the next person he met.

A beautiful maiden, Amethyst, was walking on a path to the Temple of Diana where she intended to worship that Goddess. Sadly, her path brought her to where Bacchus lurked. Upon seeing Amethyst Bacchus unleashed his pair of guard tigers on her. Our heroine, Diana, saw the fate destined for her devotee and jumped to action. Oddly, rather than scooping Amethyst up out of harm's way, Diana turned the maiden into a pure clear stone, to save her from a painful death. Perhaps not all deities are omnipotent.

Too late from the maiden's point of view, Bacchus was overcome with remorse. He atoned for his cruelty by pouring wine over the stone staining it a deep violet. From a modern perspective, turning the crystal purple seems inadequate for atonement, but perhaps people expected less justice from their Gods in ancient cultures. From that day purple quartz has been called Amethyst.



"Mosaic of the Triumph of Bacchus" - 3rd century AD, from Ecija (Roman Astigi), Museum of Archaeology, Seville
Bacchus (in the striped robe) and Ariadne ride in a chariot pulled by his tigers and accompanied by a satyr.

Image by [Carole Raddato](#), License: Creative Commons BY-SA 2.0



Remy Belleau

Word Search Puzzle

This month we have a challenge for you. Forty-one words are hidden in the grid below, and they are difficult to find. The words can be horizontal, vertical, diagonal, as well as either backward or forward.

The list of words is on the next page. Search for them all or look until you are ready to give up. How many words can you find? The answers are on [page 10](#).

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

Words to search for

amethyst	gem	peace	tigers
amulet	glassy	pentagram	translucent
axes	goat	poem	trapezohedral
Bacchus	heal wound	purple	trigonal
blue	hexagonal	pyramid	twelve
Brazil	King Tut	quartz	violet
carve	lattice	red	vitreous
conchoidal	lavender	Remy	white
crystal	Maplewood	Sides	wine
dodecahedron	Mohs		
Egypt	not drunken		
February			

Juniors' Memory Challenge - Answers

Here are the answers to the Juniors Memory Challenge. Count the number you got right and find your Puzzler Level. If your Mom or Dad did the Word Search puzzle, you can compare your Puzzler Level with theirs.

- | | | | | |
|------|------|------|------|-------|
| 1. b | 3. d | 5. b | 7. d | 9. a |
| 2. d | 4. a | 6. c | 8. c | 10. b |

Puzzler Level

9 - 10 Rock Star!



5 - 6 Jade



7 - 8 Diamond



1 - 4 Amethyst



Gift from the Board

The due date for membership fees is coming up and the board decided to do membership a little different this year.

Since Covid 19 took pretty much all our club activities away from us, we are not going to charge current members dues for 2021.

The dues you paid for 2020 are going to be carried over.

Giving back, if you can

In lieu of membership dues and if you wish to and can, please consider making a donation in the amount of your membership fee to help our club pay bills such as building upkeep. Our club is a 501(c)(3) organization, so if you itemize deductions, you might receive a tax deduction. Ask your tax expert.

Since the silent auctions and grit sales are our only sources of income right now, donations are greatly appreciated. Checks can be sent to the club and be made out to "MRGC". The club address is

8802 196th Street SW
Edmonds, WA 98026

Bidding on items in the silent auction is a way to give back to the club with a win-win outcome. 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 or you might pay a fair price. Don't be afraid to bid up on something you like. The previous bidder, might respond in kind to your bid.

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

Until it is safe for the Board to meet again, their meetings are on Zoom. 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



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](#).



Connect with us

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

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

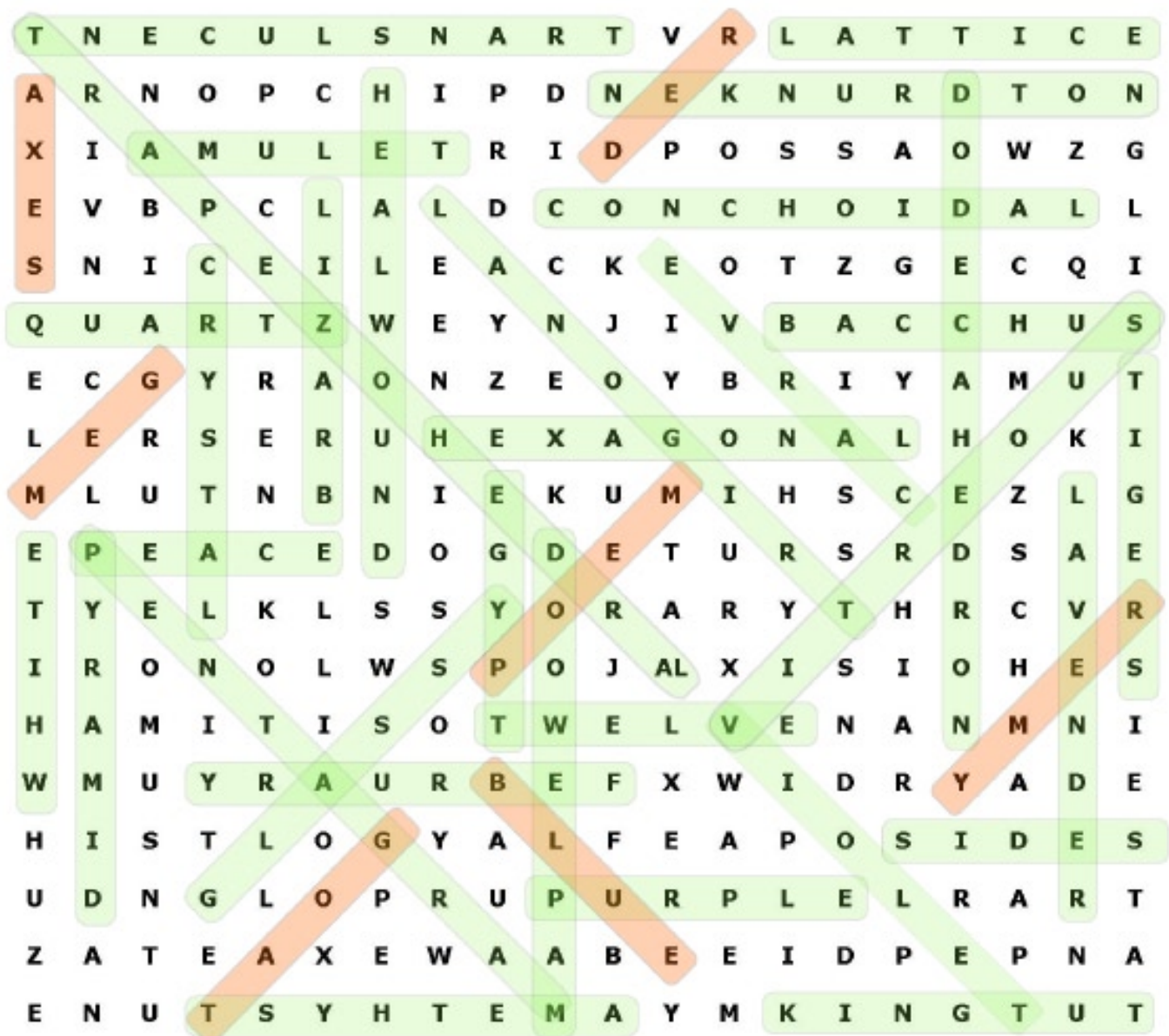
Facebook group for members: [MRGC Sales and Trades](#)

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

Word Search Puzzle Answers

In the answer key below the three- and four-letter words are shaded in orange. These might have been the hardest to find. How many of the 41 did you find? Count your score to discover your Puzzler Level.

35 - 41 Rock Star!
25 - 34 Diamond
15 - 24 Jade
up to 14 Amethyst



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 2

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.