

# ROCK TALK

Volume 13, Issue 5  
May - June

## 2018 - 2019 Officers & Directors

**President:**

Mike Hollonbeck

**Vice President:**

Les Presmyk

**Recording Secretary:**

Linda Ross

**Treasurer:**

Ellen Alexander

**Membership Secretary:**

Diane Braswell

**Director:**

Mark Candee

**Director:**

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Bill Shelton

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Mark Marikos

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Heitzmann

**EXPLORE  
DISCOVER  
SHARE**

## TUCSON GEM & MINERAL SOCIETY

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# PRESIDENT'S PAGE

**EXPLORE DISCOVER SHARE**



As the season comes close to the end, I would like to pause for a moment and reflect on the things I have done and learned as the President. First thing I feel is the most important, are the relationships and new friends I have made in the Club. I work on my mineral business every day and never get tired of coming and seeing everyone and talking about minerals, some more at the general meetings. For me personally, I look forward to every single meeting so I can see all the friendly faces. Second are the duties that go with being President. Wow! Who knew what and how involved with the community TGMS is. To the general membership, again, I want to say serving you has been a great honor. So many of you have encouraged me and been supportive as I figured out what a President does. I thank all of you who voted me in as

President, and feel I have served our Club to the best of my abilities. It is simply amazing what a non-profit organization can do with a staff of two and some volunteers. I had the honor and pleasure to be a part of this, and would like to thank my Board members for their help as well. I have a deep passion for TGMS and will continue to serve/volunteer in any area I can. Last but not least, I want to thank Pat and Rose for all the guidance and help they gave me. It has truly been a pleasure working with the two of them and seeing all the effort and love they have for our Club and Show.

Hopefully you will all have a chance to make it to the April Rock Swap and Potluck. It will be an outstanding opportunity for great fellowship. We'll have a great time trading, selling, and enjoying some amazing food which, altogether will make for a wonderful Saturday afternoon. If you have not been to one of these events I encourage you to come, they are so much fun. Summertime potlucks will be coming up so keep your eye on the schedule and mark your calendars to enjoy these great events. In advance, I would like to thank all of you that will be hosting the potlucks and for opening your homes to us.

To all of our members who travel and return to summer homes, I hope and pray for safe travels and your return once the "HOT MISERABLE" summer ends. Those of us who will stay and enjoy Tucson's summer, keep watching for summertime events, field trips, potlucks, and volunteering opportunities. We have already scheduled two different "Children's Museum" visits and have several other fun activities during this time so don't miss out. And if anyone knows of anything that the Club would enjoy, please contact us so we can post it on the TGMS website.

Again, even though this fiscal year is almost over, we are still working and focusing on next year's 2020 Show, so please think about an area that you can volunteer and be a part of the biggest and best gem and mineral show in the world. I look forward to seeing all of you at the General Meeting in May, and if you have any comments or suggestions please find me and we can discuss them.

Mike Hollonbeck  
President

A handwritten signature in black ink, appearing to be 'MH' inside a circle.



## TGMS General Meeting - March 4, 2019

The General Meeting of the Tucson Gem and Mineral Society was called to order by President Michael Hollonbeck at 7:00 p.m. Visitors and new members were recognized and welcomed to the meeting.

### **ANNOUNCEMENTS:**

A big thank you to Pat McClain and Rose Marques, as well as all Show volunteers for hosting a successful Show. See the March/April 2019 Rock Talk issue for a list of those who volunteered. A big thank you was also extended to Pat McClain and the Show Committee Chairs for organizing and scheduling volunteers.

Volunteers are needed for community outreach projects at six different schools. These visits only take one – two hours to complete. Contact the Club office to volunteer.

The Club has Bill Shelton's book for sale, "The 100 – A Practical Guide to Mineral Collecting in Today's World" for \$15.00 each. Proceeds go to the TGMS Library Fund.

An invitation was extended to Club members for a Spring Potluck. Contact the TGMS office staff or Linda Ross for additional information.

The Flagg Mineral Foundation is sponsoring a Minerals of Arizona Symposium in Chandler on April 5-7, 2019.

The Prescott Gem and Mineral Show will be held at the Prescott Valley Event Center on August 2-4, 2019.

**PROGRAM:** David Joyce presented "Collecting Minerals on the Bay of Fundy, Nova Scotia, Canada - A cool, beautiful, prolific place to collect minerals." Mr. Joyce took the members on an interesting journey, guided by a map and photos of world-class specimens and beautiful scenery from each collecting locale. He explained that collectors of all levels have been finding zeolite minerals, amethyst, agates and native copper on the Bay of Fundy's shores for generations. The 50-foot tides, frost and wave actions are constantly eroding and changing the Bay's shoreline cliffs. His overview included the Bay's geology, mineralogy, and history as well as the various fresh seafoods from the Bay. David Joyce, a mining engineer and musician, has been a mineral collector for 53 years. He currently owns a mail order/internet specimen business and resides part time in Arizona. He also donated several CDs for the door prize drawing.

**BREAK:** Thanks to Elaine and Bob Royer for providing refreshments. A volunteer is needed for the September meeting. Pat McClain or Rose Marques will provide details and a budget to work with.

### **OLD BUSINESS:**

Approval of minutes for General Meetings for January and February 2019 as published in Rock Talk: **MOTION:** to approve the minutes. Seconded and approved.

Meteorite Collecting Trip: Details will be provided at the April meeting.

Field Trips: Kerry Towe announced two field trips, one on March 23<sup>rd</sup> to the Red Cloud Mine, the second on April 13, 2019 to California Gulch to collect quartz crystals. Kerry is working to arrange future fluorescent mineral collecting trips, as "Fluorescent Minerals" will be the theme for the TGMS Show in 2020. Members will receive more information in future meetings and on the TGMS website as trips are planned.

Educational Class: Bill Shelton will lead a class on March 13<sup>th</sup> at the Club building.

### **NEW BUSINESS:**

2019 TGMS Show Update: Pat McClain reported an overall increase in attendance. The change that we had to make for moving dealers in the Arena to the Ballroom worked out.

Tucson Festival of Books: Mark Marikos reported that the Club handed out pens, coloring books and books. Contact with booth visitors resulted in three new visitors to the General Meeting.

**CALL TO THE AUDIENCE:** No comments were brought forward.

**DRAWINGS FOR DOOR PRIZES:** Bob Royer, as meeting host, made the first selection. Winners were John Ebner, Cathie Logan, Doris Simmons, Bruce Kaufman, Denis Menard, Roy Parsons, and Janette Simister.

The meeting was adjourned at 9:10 p.m.

Respectfully submitted,

Linda Ross,  
Recording Secretary

## TGMS General Meeting - April 1, 2019

The General Meeting of the Tucson Gem and Mineral Society was called to order by President Michael Hollonbeck at 7:04 p.m. Visitors and new members were recognized and welcomed to the meeting.

### **ANNOUNCEMENTS:**

Brad and Linda Ross were thanked for hosting a potluck for Club members to show appreciation for the great job Pat McClain and Rose Marques did for the 2019 TGMS Show.

There is a Rock Swap and potluck on April 27<sup>th</sup>, 2:00 PM at the Clubhouse.

Bill Shelton's book, "The 100 – A Practical Guide to Mineral Collecting in Today's World", is for sale for \$15.00. Proceeds benefit the TGMS Library Fund. The "100" book won the First Place Award for "2019 Special Publications" from the American Federation of Mineralogical Societies.

**PROGRAM:** Les Presmyk introduced the guest speaker, Dr. Karen Wenrich. She has worked for the USGS, the International Atomic Energy Agency (IAEA) and consulted in the mining industry. While working for the IAEA, she and her colleagues earned the 2005 Nobel Peace Prize for their efforts to prevent the use of nuclear energy for military purposes.

Dr. Wenrich presented "Mining at the Sweet Home Mine, Alma, Colorado". She led the members through a history of this silver mine that operated for over 120 years. The mine closed for silver mining in 1966, the same year the Alma Queen specimen was discovered. The mine eventually became popular with specimen collectors. In 1991, Sweet Home Rhodo, Inc. reopened the mine, with a focus on cherry-pink, gemmy rhodochrosite. In 1992 "museum grade" rhodochrosite along with fluorite, tetrahedrite, sphalerite, and hübnerite were mined until the mine closed in 2004. Dr. Wenrich presented beautiful photos as well as lab photos of specimens from the mine.

**BREAK:** Thanks to Victoria Fila for providing refreshments. A volunteer is needed for the September meeting. The Club provides the volunteer a budget to work with.

### **OLD BUSINESS:**

Field trips: Kerry Towe has organized a field trip to California Gulch near Arivaca on April 13<sup>th</sup>. Ed Madson is leading a trip to collect meteorites near Kingman on April 13, 2019.

Micromount Meeting: April 8<sup>th</sup> at the Club building.

Educational Class: April 10<sup>th</sup>, 7:00 PM "Luster and the Mineral Diopside" led by Bill Shelton.

### **NEW BUSINESS:**

Summer Potlucks: Doug Reif has volunteered to host the June potluck. Volunteers are needed for July and August.

Robins K-8 School Community Outreach Program: April 26<sup>th</sup>. Several other schools have requested presentations. The same materials and presentations will be used for all schools. Members were encouraged to volunteer.

Children's Museum Community Outreach Program: Volunteers are needed June 17<sup>th</sup> and July 29<sup>th</sup>.

2019 Minerals of Arizona 27<sup>th</sup> Annual Symposium: Being held in Chandler April 5<sup>th</sup> – 7<sup>th</sup>.

**DRAWING FOR DOOR PRIZES:** Victoria Fila as meeting host, made the first selection. Winners were John Brogger, Ann Brogger, Kim Filips, Art Friedman, Lawrence Gilbert, Bruce Kaufman, Larry Maney, Wolfgang Mueller, Herb Ross, and Mary Jane Weaver.

**CALL TO THE AUDIENCE:** No comments.

The meeting was adjourned at 8:28 p.m.  
Respectfully submitted,

Linda Ross,  
Recording Secretary

**THE TGMS NOMINATING COMMITTEE HAS SUBMITTED THE FOLLOWING NAMES FOR  
2019 - 2020 TGMS OFFICERS & DIRECTORS;  
VOTING TO BE DONE AT THE MAY 6, 2019 GENERAL MEETING:**

**List of candidates for TGMS Officers:**

**Candidates for TGMS Directors**

President:	Les Presmyk	Marilyn Reynolds
Vice President	Michael Hollonbeck	Bill Shelton
Treasurer:	Ellen Alexander	Mark Candee
Recording Secty.:	Linda Ross	
Membership Secty.:	Diane Braswell	

**VOTING PROCEDURE FOR THE ELECTION OF THE 2019/2020 TGMS OFFICERS & DIRECTORS**

In order to pick up a ballot to vote for the election of 2019/2020 TGMS Officers & Directors, you will need to check your name off the current list of "Active Members." Once that is done you will be handed your ballot for the evening's voting.

Per the minutes of the TGMS Board meeting on March 8, 2019. A recommendation for a change to the TGMS By-laws was made to Section XI - Election of Officers, sub section b.

**From: *B. No officer may hold any one office for more than two consecutive years, except the Treasurer, Membership Secretary and Recording Secretary, each of whom may hold office indefinitely unless sooner defeated for reelection.***

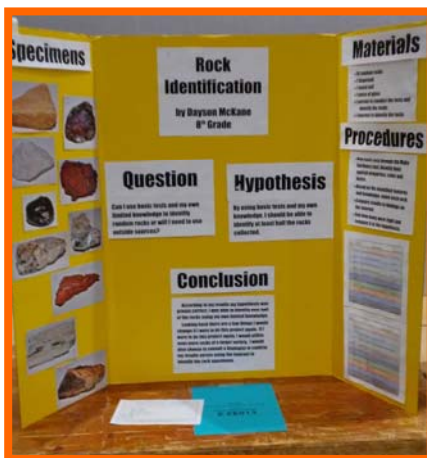
**To: *B. No officer may hold any one office for more than four consecutive years, except the Treasurer, Membership Secretary and Recording Secretary, each of whom may hold office indefinitely unless sooner defeated for reelection.***

Per the current TGMS By-laws: **SECTION XIII - AMENDMENTS** - Amendments or changes to the By-laws must be proposed in writing and published to the membership to be voted on in the upcoming Regular Meeting. The proposal, as published, must be voted yea or nay. If passed by a majority vote of the members present at the Regular Meeting, its passage will be noted in the Minutes of that meeting and published to all members that the change has been made.

## MARCH ALSO MEANS SARSEF ..... Anna Domitrovic

March Madness means college basketball at its finest. But it also means the finest entries in the Southern Arizona Research, Science & Engineering Foundation, SARSEF for those of us who have been involved for as long as I have been involved. But I haven't been involved as long as TGMS. The first SARSEF was in 1955. And TGMS got in on the ground floor as the first to sponsor an award.

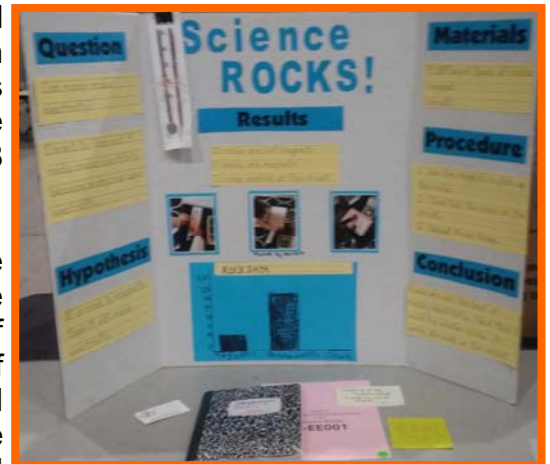
The judges for the 64<sup>th</sup> fair included Jeanette and Bob Barnes, Tim McClain, Janet Reue and Elaine and Bob Royer. We looked to recognize three elementary school projects and one middle school. For the last few years, middle school students have been invited to the floor starting at 1030 for a meet-and-greet with all judges. So we considered the middle school projects first. We were torn between two projects, but the team let me be the tie breaker. I interviewed both students and based my decision on how they engaged in conversation and how they responded to my queries.



An 8<sup>th</sup> grader, Dayson, and his project “Rock Identification”, got the nod. Dayson had been collecting rocks and minerals from an early age. He chose ten of his favorites but wasn't sure of what they all were. So he used the physical properties he saw in each and Mohs' Hardness Scale to prove or refute

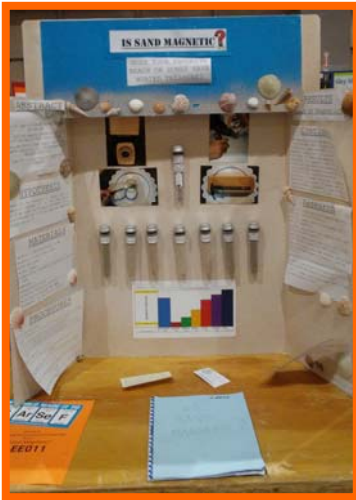
his initial identifications. Dayson goes to Anthem K-8 School in Florence.

Kindergarten students got two out of the three elementary school awards. “Science Rocks” was the title of Julianna Martin's project. Julianna wondered if rocks could “make electricity or be good conductors of electricity. She tested 42 rocks and one penny and concluded that rocks were not the best conductors of electricity but the penny worked just fine. Julianna is a student at Immaculate Conception Elementary School.



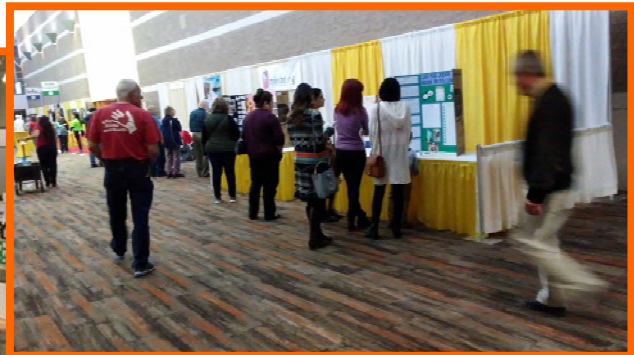
Andria Miscusi is a kindergartener at Sam Hughes Elementary School and asked the question “What Light Makes Crystals Sparkle The Most?” She used a variety of colored filters and light bulbs, as well as sunlight and ultra-violet light, indoors in artificial light and a dark closet and outdoors. She decided that the color yellow resulted in the most sparkle”.

**MARCH ALSO MEANS SARSEF ..... Anna Domitrovic - CONTINUED**

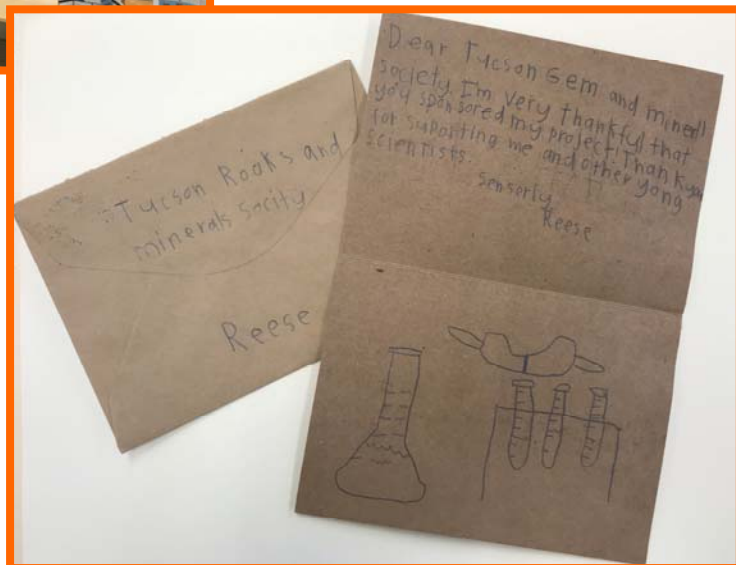


A 4<sup>th</sup> grader at Cottonwood Elementary School received the third elementary school award. “Is Sand Magnetic?” was the title of Khloe Joyce’s project. Not only did she collect and test sand from near Yuma and in the Catalinas, she also collected sands from five localities in the Caribbean – Aruba, Cartegena, Cozumel, Curacao and Jamaica. She was able to separate out any magnetic minerals in the sands to prove that the sands she collected were magnetic. She noted in her conclusion that the project could have been better if she tested sands from more localities and used a stronger magnet.

All four students have been invited to bring their projects to the 2020 Tucson Gem & Mineral Show®. Next year’s show theme is World Class Minerals. Maybe the signage for these projects at next year’s show can be “World Class Science Fair Projects”! If you want to get involved



The picture to the right is a “thank you” note that TGMS received from one our SARSEF winners.



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## TGMS Board Meeting - September 26, 2018

**Board Members Present:** Ellen Alexander, Diane Braswell, Mark Candee, Michael Hollonbeck, Mark Marikos, Les Presmyk, Marilyn Reynolds, Linda Ross and Bill Shelton.

**Executive Manager:** Pat McClain

**Parliamentarian:** Alrene Hibben (absent)

**Audience:** Tim McClain and Richard Nassi

**Call to Order:** The Board Meeting was called to order by President Michael Hollonbeck at 5:06 p.m. in the TGMS meeting room.

**Call for Orders of the Day:** No changes were made to the agenda.

**Minutes Approval: MOTION:** To accept the July 10, 2018 Board Meeting Minutes as written. Seconded and approved.

**President's Remarks:** Family Fun Day is on October 13, 2018 at the Club House. President will not be able to attend the October 1<sup>st</sup> meeting, a Board member will preside over the meeting.

**Treasurer's Report:** The TGMS Holdings Accounts Summary was reviewed for available funds for parking lot improvements. There is \$39,818.38 available for major maintenance and upgrades.

### Old Business:

#### TGMS Facility – Building Information:

The Board determined that replacing the asphalt is not within the maintenance budget. Board recommended re-requesting bids from Bates Paving and Sealing as well as Ace Asphalt for specific repair work to be completed.

Roof Savers will inspect the roof on September 27<sup>th</sup> for needed repairs.

Sprinkler system is due for inspection.

#### Community Outreach Programs – Updates:

Volunteers and materials (newspapers and paper towel rolls) are needed to build a “cave” for Family Fun Day. Project needs to be completed several days before October 13<sup>th</sup>.

Children's Museum staff have indicated that TGMS will be invited to participate in their next “Make It a Monday” summer event.

Volunteers and materials (fist sized specimens) are needed for the TGMS booth at Science City at the University of Arizona campus on March 2-3, 2019. The theme will be “Minerals and How They are Used in Everyday Life”.

TGMS will continue to support teachers and students with free school visits.

## TGMS Board Meeting - September 26, 2018 - CONTINUED

Board Member will continue to work with the Boy Scout Council on a Boy Scout Badge.

Other Old Business, website updates: Membership applications and dues will soon be accepted online. A convenience fee will be added to online dues payments. (Checks will still be accepted via mail or in person.) Pictures will be updated, and short videos will soon be added. Full length videos are now ready for outreach programs and media feeds. Feedback on the website has been favorable for information, quality and organization.

### New Business:

Update on the Allan Norville Gem and Mineral Museum (ANGMM): Pima County, the City of Tucson and the University of Arizona are moving forward with plans for the Museum. "Rise of the Rock Hound" cases will document the history of rock hound clubs in Arizona. Donations of minerals and antiques will be accepted.

Request for TGMS to organize and oversee a "docent" program for the ANGMM:

The Board declined the opportunity to organize and oversee a docent program, due to liability concerns and difficulty in recruiting volunteers for Club events. The Board will support the Museum by announcing the need for docents at the upcoming regular meeting. Board suggested that there be a kiosk for brochures in the TGMS area in the Museum.

Request for research funding for the U of A Mineralogy Department: Board was presented with a request to support a grant for research and characterizations on new or unknown minerals and the mineralogy of Arizona. Research would be conducted at the Department of Geosciences at the University of Arizona. It was requested that a holding account be established. The original request was for \$5,000. Discussion ensued as to whether it would be \$500, \$1,000, or even if we should have that type of account for them at all. Mr. Michael Scott, a collector, will match funds that TGMS donates. If TGMS sponsors the research, they will be cited when published. TGMS has, in the past, supported the purchase of minerals for the University of Arizona. Currently, the budget doesn't have an allowance for providing a grant. The discussion was tabled.

**Call to the Audience:** No response from audience.

**Adjournment: Motion:** To adjourn. Seconded and approved at 8:25 p.m.

Respectfully submitted by

Linda Ross,  
Recording Secretary



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## The UN Proclaims 2019 the International Year of the Periodic Table of Chemical Elements

On 20 December 2017, during its 74th Plenary Meeting, the United Nations (UN) General Assembly 72nd Session has proclaimed 2019 as the International Year of the Periodic Table of Chemical Elements (IYPT 2019). In proclaiming an International Year focusing on the Periodic Table of Chemical Elements and its applications, the United Nations has recognized the importance of raising global awareness of how chemistry promotes sustainable development and provides solutions to global challenges in energy, education, agriculture and health. Indeed, the resolution was adopted as part of a more general Agenda item on Science and technology for development. This International Year will bring together many different stakeholders including UNESCO, scientific societies and unions, educational and research institutions, technology platforms, non-profit organizations and private sector partners to promote and celebrate the significance of the Periodic Table of Elements and its applications to society during 2019.

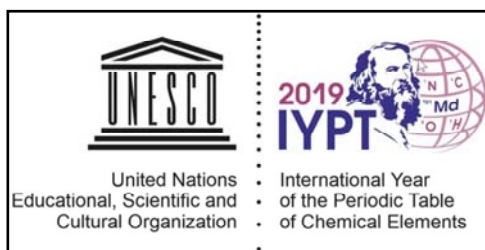
The development of the Periodic Table of the Elements is one of the most significant achievements in science and a unifying scientific concept, with broad implications in Astronomy, Chemistry, Physics, Biology and other natural sciences. The International Year of the Periodic Table of Chemical Elements in 2019 will coincide with the 150th anniversary of the discovery of the Periodic System by Dmitry Mendeleev in 1869. It is a unique tool enabling scientists to predict the appearance and properties of matter on Earth and in the Universe. Many chemical elements are crucial to enhance the value and performance of products necessary for humankind, our planet, and industrial endeavors. The four most recent elements (113, 115, 117 and 118) were fully added into the Periodic Table, with the approval of their names and symbols, on 28 November 2016.

The International Year of the Periodic Table of the Chemical Elements will coincide with the Centenary of IUPAC (IUPAC100). The events of IUPAC100 and of IYPT will enhance the understanding and appreciation of the Periodic Table and chemistry in general among the public. The 100th Anniversary of IUPAC will be on the UNESCO Calendar of Anniversaries on 28th July 2019.

“As the global organization that provides objective scientific expertise and develops the essential tools for the application and communication of chemical knowledge for the benefit of humankind, the International Union of Pure and Applied Chemistry is pleased and honored to make this announcement concerning the International Year of the Periodic Table of Chemical Elements” said IUPAC President, Professor Natalia Tarasova.

Chemical elements play a vital role in our daily lives and are crucial for humankind and our planet, and for industry. The International Year of the Periodic Table of Chemical Elements will give an opportunity to show how they are central to linking cultural, economic and political aspects of the global society through a common language, whilst also celebrating the genesis and development of the periodic table over the last 150 years. It is critical that the brightest young minds continue to be attracted to chemistry and physics in order to ensure the next generation of scientists, engineers, and innovators in this field. Particular areas where the Periodic Table and its understanding have had a revolutionary impact are in nuclear medicine, the study of chemical elements and compounds in space and the prediction of novel materials.

The IYPT is endorsed by a number of international Scientific Unions and the International Council for Science (ICSU). The IYPT will be administered by an International Steering Committee in collaboration with the UNESCO International Basic Sciences Programme and an International Secretariat, to start operating in early 2018. In addition to IUPAC, IYPT is supported by the International Union of Pure and Applied Physics (IUPAP), the European Chemical Sciences (EuCheMS), the International Astronomical Union (IAU) and the International Union of History and Philosophy of Science and Technology (IUHPST).



**Periodic Table of the Elements**

H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
Fr	Ra	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Mh	Fl	Mc	Lv	Ts	Og	
		La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
		Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	

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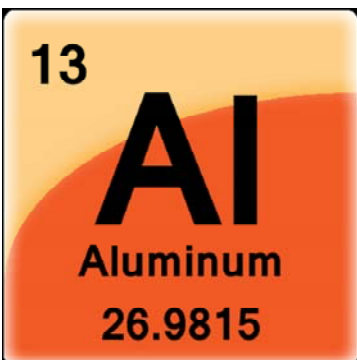
"It's Elemental" is a series of columns by Bill Shelton written this in year in recognition of the United Nations' International Year of the Periodic Table of Chemical Elements.

## Three Elements

We all know **oxygen, silicon, and aluminum** are common elements in the Earth's crust. They are also the three most common but in terms of the number of minerals that contain them, we find a somewhat different accounting. Oxygen is the most numerous in the number of species, silicon is third and aluminum is seventh. They all have more than 1,000 known species which is also the case for five other elements. (Those other elements are hydrogen, calcium, iron, sulfur and sodium.)



These elements can occur in an uncombined state. Oxygen is present as an important component of our atmosphere (about 21%). We cannot consider it as a mineral however, because it is a gas; minerals are defined as solids. Silicon has a presence in the Earth's crust as a native element just as we find in the list of Back, 2018. One unusual place where we see this is in fulgarites that form when lightning strikes the earth's surface. Aluminum, perhaps surprising us, occurs in two elemental forms – one we call aluminum while the other is called steinhardtite. (Dr. Paul Steinhardt lectured to the NYMC in January 2014 about quasicrystals.) I would readily consider the native elements for silicon and aluminum as greatly restricted in occurrence; specimens are mainly very small and probably of little interest to many mineral collectors.



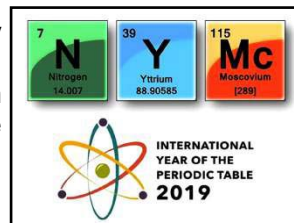
The combined occurrences for these three elements are very well known. Oxygen and silicon alone produce quartz, opal and a host of varieties like agate and jasper. The essential materials for all of these species are the same. Their widespread presence, and interest to collectors, makes them important to us. Far less interest is noted for tridymite and coesite who also share identical chemistry. If one or two other elements are included, there are many more possible species.

Oxygen and aluminum produce the species corundum which includes the varieties ruby and sapphire. It is very important as a gem material and will be likely to be present in a huge number of mineral and/or gem collections. Diaspore comes close but requires hydrogen with the other elements listed here. Adding another element or two greatly expands the number of possible species as we see with diaspore.

For all three together, we find the mineral kyanite. This is very popular amongst collectors especially as bright blue crystalline examples. The occasional gem usage appears to be quite limited but the very best faceted stones are quite appealing. Sillimanite and andalusite belong here but seem to be less common in some collections. All three species can be used to suggest the degree of metamorphism in rocks.



If we add one or two more elements, we have the bulk of the rock-forming minerals. Feldspars, micas, pyroxenes, amphiboles and so forth are composed mainly of oxygen, silicon, aluminum and one or two more elements. We see, therefore, that despite the very common presence of these elements in mineral species, there are really very few examples made up of only these three elements. Perhaps this is not what you would have guessed. When you look at lists for say, aluminum species, you find the various combinations noted in nature exceeds 1,000.



Mineral quiz found in a folder marked - TGMS Program Info., 1948,1949, 1950. Enjoy!

**MINERAL - ITES!**

An example: What ITE is a sort of bog? **MARSHITE**

- 1. What ITE is a European language? \_\_\_\_\_
- 2. What ITE is a maker of flour? \_\_\_\_\_
- 3. What ITE is an early man? \_\_\_\_\_
- 4. What ITE is a husky woman? \_\_\_\_\_
- 5. What ITE is a sort of stream? \_\_\_\_\_
- 6. What ITE is a statesman of Revolutionary times? \_\_\_\_\_
- 7. What ITE is a vocalist? \_\_\_\_\_
- 8. What ITE is a water-loving animal? \_\_\_\_\_
- 9. What ITE is a sound of approval, like "ole?" \_\_\_\_\_
- 10. What ITE is an alloy? \_\_\_\_\_
- 11. What ITE is a maker of bread? \_\_\_\_\_
- 12. What ITE is found in a saloon? \_\_\_\_\_
- 13. What ITE is a sort of horn? \_\_\_\_\_
- 14. What ITE is a musical instrument? \_\_\_\_\_
- 15. What ITE is a sea God? \_\_\_\_\_
- 16. What ITE is a scream or moan? \_\_\_\_\_
- 17. What ITE is a renter? \_\_\_\_\_
- 18. What ITE is a famous foreign poet? \_\_\_\_\_
- 19. What ITE is a northern peninsula? \_\_\_\_\_
- 20. What ITE is a powerful attractor? \_\_\_\_\_

**ANSWERS LISTED BELOW:**

- 1. Germanite, 2. Millerite, 3. Adamite, 4. Amazonite, 5. Brookite,
- 6. Franklinitite, 7. Tenorite, 8. Beaverite, 9. Bravovite, 10. Bronzite,
- 11. Bakerite, 12. Barite, 13. Antlerite, 14. Cornetite, 15. Neptunite,
- 16. Howlite, 17. Tennantite, 18. Goethite, 19. Labradorite, 20. Magnetite

**FROM:**

**T.G.M.S.  
3727 E. BLACKLIDGE DRIVE  
TUCSON, ARIZONA 85716**



**TO:**

**Tucson Gem and Mineral  
Society, Inc.**

**3727 E. Blacklidge Drive  
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**PURPOSE:** To encourage interest and study in geology, mineralogy, lapidary, and allied earth sciences.

**Meetings:** Usually the first Monday of the month, starting at 7:00 p.m., except September (second Monday because of the Labor Day holiday), June-August (potlucks). The TGMS facility address is: 3727 East Blacklidge Drive, Tucson, Arizona 85716

**The Tucson Gem and Mineral Show ®:**

The second full weekend in February, starting with Thursday.

**Affiliations:** American Federation of Mineralogical Societies, Inc. (AFMS), Rocky Mountain Federation of Mineralogical Societies (RMFMS), Visit Tucson, Tucson Metropolitan Chamber of Commerce (TMCC), Greater Oro Valley Chamber of Commerce

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