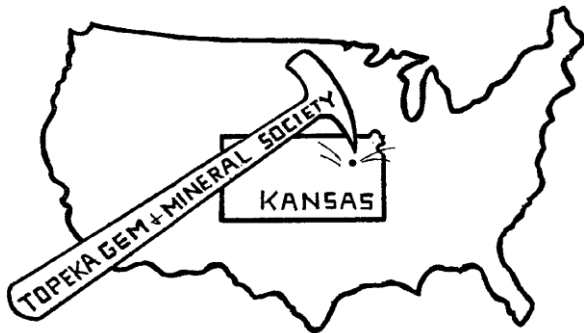


The Topeka Gem and Mineral Society, Inc.
 1934 SW 30th St. Topeka, KS 66611
 Rock2Plate@aol.com

THE GLACIAL DRIFTER



www.topekagemandmineral.org
 Facebook: Topeka Gem and Mineral Society Field Trip

The Topeka Gem & Mineral Society, Inc.
 Organized December 3, 1948

Member of Rocky Mountain Federation of
 Mineralogical Societies American Federation of
 Mineralogical Societies



The Glacial Drifter, Vol. 58, No. 03, Mar. 2015

The Purpose of the Topeka Gem & Mineral Society shall be exclusively educational and scientific: (1) to promote interest in geology and the lapidary arts; (2) to encourage the collection and display of rocks, gems, and minerals; (3) to encourage field trips and excursions of a geological, or lapidary nature; and (4) to encourage greater public interest and education in gems and minerals, cooperating with the established institutions in such matters.

Meetings: 4th Friday of each month, September to May, 7:30 pm, Stoffer Science Hall, Room 138, Washburn University.
 No meeting in December unless notified of a change. Picnic meetings are held June, July and August.

Dues: Individual, \$15.00; Couple, \$20.00; Junior (under 18 years of age), \$5.00. Dues are collected in December for the following year. Send dues to: **Millie Mowry, Treasurer, 1934 SW 30th St, Topeka, KS 66611.**

2015 OFFICERS AND CHAIRS

| | | | | | |
|----------------------------|-------------------|----------|------------------------|-----------------------------|--------------|
| President | Mike Cote | 220-3272 | Cab of the Month | Debra Frantz/Fred Zeferjohn | 862-8876 |
| 1 st Vice Pres. | Dave Dillon | 272-7804 | Field Trip Coord. | Larry Henderson | ----- |
| 2 nd Vice Pres. | Carolyn Brady | 233-8305 | Publicity | Donna Stockton | 913-645-7677 |
| Secretary | Cinda Kunkler | 286-1790 | Welcome/Registration | Jason Schulz | 379-5538 |
| Treasurer | Millie Mowry | 267-2849 | Property | M. Cote/D. Dillon | 379-5538 |
| Directors | Harold Merrifield | 286-3548 | AFMS Scholarship | Cinda Kunkler | 286-1790 |
| | Chuck Curtis | 286-1790 | Editor/Exchange Editor | Millie Mowry | 267-2849 |
| | George Reed | 836-9277 | Show Chairman | Harold Merrifield | 286-3548 |
| Historian | Deborah Scanland | 273-3034 | Show Dealer Chairman | Dave Dillon | 272-7804 |
| Federation Rep | Harold Merrifield | 286-3548 | Show Secretary | Cinda Kunkler | 286-1790 |
| Corporation Agent | Millie Mowry | 267-2849 | Jr. Rockhound Leader | Larry Henderson | ----- |
| Librarian | open | ----- | Show Case Coordinator | Francis Stockton | 913-645-7677 |
| Web Master | Jason Schulz | 379-5538 | | | |

Area Code for all numbers is (785).

EXCHANGE BULLETINS WELCOME

For exchange newsletters contact the club via mailing address listed above or email at rock2plate@aol.com .
Permission is granted to reprint articles only if proper credit is given to the author, Glacial Drifter and the date.



We still need Best Choice UPS Labels before Cinda can turn them in. Bring them in at the next meeting



Millie has informed me that we are going to have a “**Pressing Day**” on April 2th at 12:30 p.m. at her house. She has over 700 grab bags cut and ready to press and sew. First we will press as many as we can in a couple of hours to get a head start. Rumor has it we have one member that has his sewing machines all oiled and ready to start sewing! The sewing date will come later on. If you can come, bring your iron and if possible an ironing board. Contact Millie to let her know if you can come, 267-2849 or rock2plate@aol.com.

This month’s meeting will be on the 27th and the program will be presented by Alan Goodnow.

Mike and his Rock Stash!



Words from our V. P.

Spring is just around the corner and so is outdoor rock hunting!!! Our classes will start as soon as the warmer weather stays around. We will be doing casting this spring. Please remember all class folks that you need to renew your membership to our club to continue! We are having a Junior Rockhound event at the Discover Center over in Gage Park next week from March 16th to March 20th. Several of us will be there at the tables during that time to push the Junior Rockhounds and our club. The only day we are not going to be there is Thursday. Spring break is next week for the schools. Bring your kids or Grandkids to this event. Happy spring!

Dave!



The Story Of Montana Agates



It has always been a mystery how the peculiar little scenes got inside a rock as hard as agate. It is the claim of geologists that the spots were caused by infinitely minute seams or fissures in the softer parts of the rock being filled with metallic oxides when the world was young. These oxides made four different colors that form various combinations of color when blended together, or appear in single colors in each rock. The red color is oxide from iron. The black is oxide of manganese. The green is oxide of copper. The blue is oxide of nickel. This theory has been elaborated by the help of

high-powered microscopes which show the tracings of little canals so close the naked eye could not detect it; but the oxides remained, staining the rocks in wonderful designs. The fernlike and branch effects of the trees, grass and shrubbery, come from the fact that the tiny canals branched out in various subdivisions forming smaller canals for a common center. In addition to these canals, the rock became flawed through shrinkage while passing through a period of evaporation which, according to scientists, has taken more than three million years to reduce the stone to the hardness of 7 on the Mohs scale.

These canals and flaws have been perfectly healed by soft silicate formations of which the stone is a part, and the evaporation has doused the oxides to take on such forms as seen on the window after a frosty night. Technically, Montana agate is known as “dendritic” agate, and the moss spots are called “dendrites”. It is the third hardest stone in the world, and is cut only with a diamond saw. There can never be two pieces alike even though cut from the same stone.

Via CMS Tumbler, 3/15; Gem & Mineral Journal, 9/14; Rock Writings, 9/14; from Petrified Digest, 2001

Picture courtesy of <http://www.mysticmerchant.com/montanaagate/>

(Source: The Clackamette Gem March 2015)

Fluorescent rocks from NM and SE Arizona

By: Gail & Ken Hening

Fluorescence in More Detail

Fluorescence in minerals occurs when a specimen is illuminated with specific wavelengths of light. Ultraviolet light, x-rays and cathode rays are the typical types of light that trigger fluorescence. These types of light have the ability to excite susceptible electrons within the atomic structure of the mineral. These excited electrons temporarily jump up to a higher orbital within the mineral's atomic structure. When those electrons fall back down to their original orbital a small amount of energy is released in the form of light. This release of light is known as fluorescence.

The wavelength of light released from a fluorescent mineral is often distinctly different from the wavelength of the incident light. This produces a visible change in the color of the mineral. This "glow" continues as long as the mineral is illuminated with light of the proper wavelength.

How Many Minerals Fluoresce in UV Light?

Most minerals do not fluoresce. Only about 15% of minerals have this ability and every specimen of those minerals does not fluoresce. [2] Fluorescence usually occurs when specific impurities known as "activators" are present within the mineral. These activators are typically cations of metals such as: tungsten, molybdenum, lead, boron, titanium, manganese, uranium and chromium. Rare earth elements such as europium, terbium, dysprosium, and yttrium are also known to contribute to the fluorescence phenomenon. Fluorescence can also be caused by crystal structural defects or organic impurities.

Most minerals fluoresce a single color. Other minerals have multiple colors of fluorescence. Calcite has been known to fluoresce red, blue, white, pink, green and orange. Some minerals are known to exhibit multiple colors of fluorescence in a single specimen. These can be banded minerals that exhibit several stages of growth from parent solutions with changing compositions. Many minerals fluoresce one color under short-wave UV light

and another color under long-wave UV light.

Fluorite: The Original "Fluorescent Mineral"

One of the first people to observe fluorescence in minerals was George Gabriel Stokes in 1852. He noted the ability of fluorite to produce a blue glow when illuminated with invisible light "beyond the violet end of the spectrum". He called this phenomenon "fluorescence" after the mineral fluorite. The name has gained wide acceptance in mineralogy, gemology, biology, optics, commercial lighting and many other fields.

Fluorescence is one of several luminescence properties that a mineral might exhibit. Other luminescence properties include:

PHOSPHORESCENCE

In fluorescence, electrons excited by incoming photons jump up to a higher energy level and remain there for a tiny fraction of a second before falling back to the ground state and emitting fluorescent light. In phosphorescence the electrons remain in the excited state orbital for a greater amount of time before falling. Minerals with fluorescence stop glowing when the light source is turned off. Minerals with phosphorescence can glow for a brief time after the light source is turned off. Minerals that are sometimes phosphorescent include: calcite, celestine, colemanite, fluorite, sphalerite, and willemite.

THERMOLUMINESCENCE

Thermoluminescence is the ability of a mineral to emit a small amount of light upon being heated. This heating might be to temperatures as low as 50 to 200 degrees Celsius - much lower than the temperature of incandescence. Apatite, calcite, chlorophane, fluorite, lepidolite, scapolite and some feldspars are occasionally thermoluminescent.

TRIBOLUMINESCENCE

Some minerals will emit light when mechanical energy is applied to them. These minerals glow when they are struck, crushed, scratched or broken. This light is a result of bonds being broken within the mineral structure. The amount of light emitted is very small and careful observation in the dark is often required. Minerals that sometimes display triboluminescence include: amblygonite, calcite, fluorite, lepidolite, pectolite, quartz, sphalerite, and some feldspars.

Lamps for Viewing Fluorescent Minerals

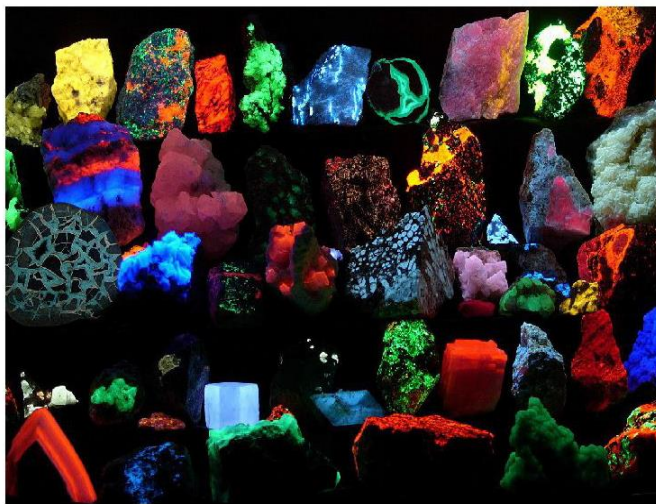
The lamps used to locate and study fluorescent minerals are very different from the ultraviolet lamps (called "black lights") sold in novelty stores. The novelty store lamps are not suitable for mineral studies for two reasons: 1) they emit long-wave ultraviolet light (most fluorescent minerals respond to short-wave ultraviolet); and, 2) they emit a significant amount of visible light which interferes with accurate observation, but is not a problem for novelty use.

The scientific-grade lamps used for mineral studies have a filter that blocks most of the visible light that will interfere with observation. These filters are very expensive and are partly responsible for the significantly higher price of scientific lamps.

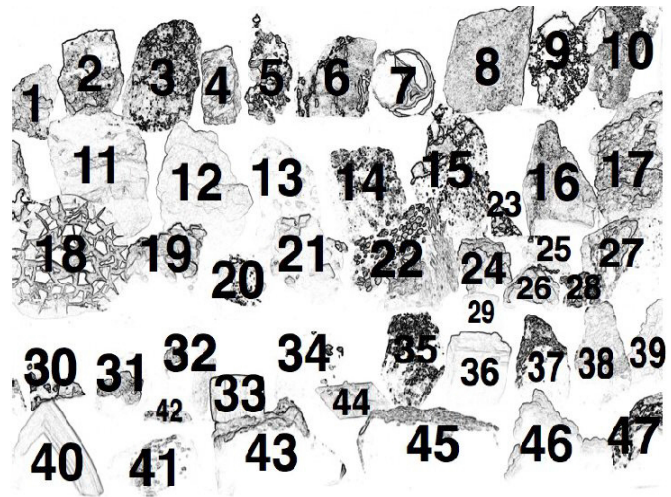
UV Lamp Safety

Read the safety instructions provided with your UV lamp prior to use.

Ultraviolet light is present in sunlight and is the type of light that causes sunburn. Avoid prolonged exposure of skin to direct UV light. Cover your skin with long sleeve clothing and gloves. Avoid shining the lamp into the eyes of a person or pet. Protect eyes with UV rated safety goggles or glasses. Looking into the lamp can cause serious eye injury. This was stressed by both Gail and Ken from personal experience!



The wonderful photograph above shows a collection of fluorescent minerals. It was created by Dr. Hannes Grobe and is part of the Wikimedia Commons collection. The photo is used here under a Creative Commons license.



1. Cerussite, Barite - Morocco; 2. Scapolite - Canada;
3. Hardystonite (blue), Calcite (red), Willemite (green) - New Jersey; 4. Dolomite - Sweden; 5. Adamite - Mexico; 6. Scheelite - unknown locality; 7. Agate - Utah; 8. Tremolite - New York; 9. Willemite - New Jersey; 10. Dolomite - Sweden; 11. Fluorite, Calcite - Switzerland; 12. Calcite - Romania; 13. Rhyolite - unknown locality; 14. Dolomite - Sweden; 15. Willemite (green), Calcite (red), Franklinite, Rhodonite - New Jersey; 16. Eucryptite - Zimbabwe; 17. Calcite - Germany; 18. Calcite in a Septarian nodule - Utah; 19. Fluorite - England; 20. Calcite - Sweden; 21. Calcite, Dolomite - Sardinia; 22. Dripstones - Turkey; 23. Scheelite - unknown locality; 24. Aragonite - Sicily; 25. Benitoite - California; 26. Quartz Geode - Germany; 27. Dolomite, Iron Ore - Sweden; 28. Unknown; 29. Synthetic Corundum; 30. Powellite - India; 31. Hyalite (opal) - Hungary; 32. Vlasovite in Eudyalite - Canada; 33. Spar Calcite - Mexico; 34. Manganocalcite? - Sweden; 35. Clinohydrate, Hardystonite, Willemite, Calcite - New Jersey; 36. Calcite - Switzerland; 37. Apatite, Diopside - United States; 38. Dolostone - Sweden; 39. Fluorite - England; 40. Manganocalcite - Peru; 41. Hemimorphite with Sphalerite in gange - Germany; 42. Unknown; 43. Unknown; 44. Unknown; 45. Dolomite - Sweden; 46. Chalcedony - unknown locality; 47. Willemite, Calcite - New Jersey.

~Editor~

(Source: DGMS Rock Chips, Mar 2015)

Bench Tips By Brad

WINDING JUMP RINGS Whenever you need a few jump rings the same size, it's easy to grab a round rod and wind as many as you need. But when you need a lot of them, some form of winder saves a lot of time. A variable speed screw gun makes quick work of winding the coils. Screw guns are quite inexpensive at discount stores and are remarkably handy for odd jobs in the shop and around the house. To wind a coil, just bend a right angle on the end of the wire about a half inch long and insert this into the screw gun chuck. Then wind slowly, keeping a tight coil. I like to rest the end of the mandrel on the edge of the table or bench pin. Finally, one note of caution. If you are winding an entire length of wire, be careful as you get near the end of the wire. If the end passes under your thumb, it can cause a nasty scratch or cut.



TOUCHING UP A BEZEL Pumice wheels are good for touching up a bezel after you've set the stone. The hardness is about 6 on the Moh's scale, less hard than quartz, so it shouldn't scratch any of your agates or jaspers. However, I'd avoid or be real careful of using pumice near the softer stones like turquoise, amber, howelite, etc. If you're unsure about the hardness of your wheels, test them on a piece of glass. Glass is about 5 ½ on the Mohs scale, softer than quartz. So if the wheel doesn't harm glass, it's safe for use on the quartzes and harder stones. My preference is the one inch diameter ones such as those shown at riogrande.com/Product/AdvantEdge-Pumice-Wheels-Medium/332722?pos=2 'Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon'



Field Trip Calendar

The first and third Tuesday night the Fossil Special Interest Group will meet at 7:00 p.m. at Baker's Dozen, 4310 SW 21st St, Topeka, KS. We will discuss fossils and other collections. Come join us with show and tell.

An up-to-date Calendar can be found on the Topeka Gem and Mineral Society Website:

<http://topekagemandmineral.org/calendar.html>

Public Facebook Page:

<http://www.facebook.com/pages/Topeka-Gem-and-Mineral-Society-Field-Trips/92795058262>

Trips dates are tentative and subject to additions and change. E-mail Larry if you have an interest in any of these trips LHenderson85@gmail.com Larry Henderson, Field Trip Chairman

- March 20-23, Arkansas Crater of Diamonds Mine
- April 7, 7:00 p.m. Fossil Special Interest Group, Show & Tell, at Baker's Dozen, 4310 SW 21st St,
- April 21, 7:00 p.m. Fossil Special Interest Group, Show & Tell, at Baker's Dozen, 4310 SW 21st St,
- April 25, The Museum at Prairiefire "Dinosaurs: Ancient Fossils, New Discoveries"

Additional Show Dates:

- April 4-5, 2015 57th Annual Lincoln Gem & Mineral Club Show, Lancaster Event Center, 84th & Havelock, Lincoln, NE. Sat. 9 a.m. to 6 p.m. Sun. 10 a.m. to 5 p.m.
www.lincolngemmineralclub.org
For additional listings of gem shows see www.rockngem.com

TOPEKA JUNIOR ROCKHOUNDS

Facebook: <http://www.facebook.com/TopekaJuniorRockhounds>
To register for the Junior Rockhounds or any of the classes, email
Shirley Schulz, Program Secretary sschulz@kdheks.gov.



Classes start at 6:30pm at the Town & Country Christian Church, 4925 SW 29th Street. The Topeka Junior Rockhound Advisors will meet at 6:30 pm. Junior Rockhounds are encouraged to attend the club meetings to receive Patches and Badges.

Upcoming Junior Rockhound's class:
"Dinosaurs" by Larry Henderson
April 2, 6:30 pm Town & Country Christian Church

May 7 class "Collecting"



Junior Rockhounds that have earned their badges.

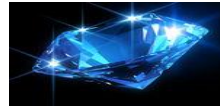




Photo by Brooks Britt on [Wikipedia](#) .



Rough Sapphires



Faceted Sapphire



Rough Montana Agate

MONTANA STATE GEMS AND AGATES

Montana designated both the sapphire and Montana Agate as the official state gemstones in 1969. Agates are found in southern and eastern Montana. Agate is polished (not cut) to make gemstones and jewelry. Agates are usually white with swirls of grey and black spots. Montana's sapphires (mostly found in western Montana) look like bright, blue glass and are cut like diamonds to make jewelry. Montana sapphires can be found in the Royal Crown Jewels of England. Sapphires, which were thrown away by miners in the gold rush days, are now the most valuable gemstones found in America. Although its genesis centered in the Yellowstone Park area of Montana and Wyoming, this volcanic activity ranged from the eastern Rocky Mountain front in south-central Wyoming to the western front of the Black Hills and north across eastern Montana and into Saskatchewan and Manitoba, Canada."

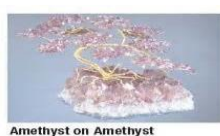


Eastern Montana was mostly a shallow inland ocean, almost a swamp with huge forests lining its shores and islands of volcanoes spewing forth lava to entomb parts of the forest in lava and ash. The bowels of Yellowstone bulged and roared and flowed mountains of lava that decimated thousands of acres of mighty redwoods and sequoias for hundreds of miles. This decimation continued for hundreds of years with layer upon layer of forests growing up and being driven down under the ponderous weight of all the megatons of lava and ash. The hot lava devoured most of the wood in its rush to cover the trees, but some of the shape and ingredients of the limbs remained trapped in the cooling lava. When the time of the volcanoes and lava was subdued and the rains came, mineral laden silica-water flowed into the cavities and pockets left by the dying trees and bubbling lava. As flow after flow slowly filled the pockets with liquefied silica, Montana Moss Agate was born."

The first gem-quality sapphires in the United States were discovered in the gravels of the Missouri River in Lewis and Clark County, Montana in 1865. The discovery is attributed to Ed Collins, a gold miner in Granite County in 1892 who was working on one of the gravel benches, or "bars," just above the Missouri River near Helena. This find was followed by a number of other discoveries in the late 1800s, including Rock Creek, and in Yogo Gulch in Judith Basin County in 1895. While most of the sapphires produced are from both Rock Creek and the Missouri River, they are of a pale color that is not particularly desirable for jewelry. Gemologists have found that with special treatment to a red hot heat, the color of these gems is permanently altered to a much more desirable shade. With the advent of successful heat-treating techniques for the Montana sapphires, this gem material has gained a much greater acceptance in the gemstone industry. This enhanced acceptance has resulted in a significant increase in the market for and value of U.S. sapphires.

Reference: Article-"Montana agate": http://www.joelovelamps.com/montana_agate.htm-and http://www.statesymbolsusa.org/gemstone_sapphire.html- article: "Dig Your Own Sapphires in Montana by [Chris Ralph](#) Aug.13,2007- [Ezinearticle.com](#) - http://www.statesymbolsusa.org/Montana/gemstone_sapphire.html- Sapphires and agate photos by Bing.com. (Source: The Ammonite March 2015)

HOW TO MAKE GEM TREES



Needed: 1 roll 24-gauge wire (silver, gold, copper, steel or color –coated-can buy at the hobby craft store on Main Street where they also sell some lapidary supplies) 2. Wire cutters. 3. Round-nose jewelry pliers. 4. Gemstone beads. 5. Measuring tape. 6. 527 craft glue, 7. Base for tree- (a good size flat-bottomed attractive rock: agate, with botrydol or crystals, nice designs, or agatized wood- long flat based mineral, or you can use a nice dish-small platter, etc. 8. Mini-clamps 9. Rubber bands 10. Something to twist the wire into loops and also twist long wires in the base- some use an old fashion drill with a hook put in instead of bit with wire fastened to a chair for 2-3 wires together. Since it's too heavy, I made my own wire twister- Cut a thick dowel large about 6" long to fit hand then-sand edges and -insert a small cup hook in the middle of one end to use to hook into each loop and twist the wire! This works great with shorter lengths of wire.

Jan is still hoping to have a class or two this spring so please keep this newsletter for reference to get needed supplies. She will make some "twisters" in case there is a need for them. Don't be afraid to try wire wrapping using wonderful step by step videos.

Go to: <https://www.youtube.com/watch?v=stlegG1daN> – OR use this Tutorial: **How to Make a Wire Fantasy Tree by Fantasy trees**-it's the most popular one- 26,520 viewers. This is a terrific website with lots of information and photos of different types of agates- It is copyrighted so I cannot use it here! (Source: The Ammonite March 2015)

Minutes of the Meeting of the Topeka Gem and Mineral Society – 2/27/15

Mike Cote' called the meeting to order.

Jason announced 22 members are present for the meeting, door prize was awarded.

(We need more door prizes – bring them to the next meeting!)

The minutes from the January meeting were printed in The Drifter. Rick Knight made a motion and Jason 2nd to accept as printed.

Millie Mowry gave the treasurers report, also reminders that dues are due. 38 members have not paid their dues. The calling committee will be making calls this week. No bills were presented. Motion was made to accept the report, by Cinda and Chuck 2nd, motion carried.

Correspondence: Millie received flyers for some shows, she also has coupons for the Kansas City show.

Committee reports: Show – Harold & Dave, the show will be at the Expo centre, Ag Hall again this year. The theme this year will be 'Let it Glow', with ultra violet specimens set up in a prominent space. We have had 7 dealers send in their money, still looking for 6 more. Chuck went to the Chamber of Commerce and Visit Topeka offices to check possible sites for us to hold the show next year.

AFMS-Cinda, still collecting Best Choice labels, nothing else to report. Publicity-Donna, getting ideas for a T-Shirt to help advertise this year's show.

Historian, Deborah, was not present.

Field Trip-Larry the Librarian is the field trip for tomorrow. They have a 3-D printer and plan to build an Ammonite. March 13, is the KC show, March 16-20 some members will have presentations at the Children's Discovery Center. Leaving for the Crater of Diamonds on March 20-23rd. Junior Rockhounds – the next meeting, Larry is teaching fossils. They have between 4-5 students every month.

Webmaster-Jason, our facebook page got 10 new likes in the last two weeks. He is hoping to get a new web page set up.

New Business – Dave asked for help in giving us ideas about programs you would like to have at the meeting. Please let Carolyn know if there is something you would be interested in having for a program.

With no further business, Jason moved the meeting be adjourned, Chuck 2nd, motion carried. Carolyn introduced our - program tonight Larry – Dinosaur Hunters of Kansas.

Fred announced the Cab of the Month Winners are:

Member Cab: Dave Dillon – Purple Victoria Stone, Member Jewelry: Dave Dillon – Garnet & Sterling Ring.
Respectfully submitted by Cinda Kunkler, Secretary