

DVESScapades

escapades: interesting, stimulating, exciting activities and adventures



Delaware Valley Earth Science Society Newsletter



September 9, 2009

Program: Our annual show and tell. All of our members who have traveled this summer (or anytime) are encouraged to bring their finds and photos, etc to share and tell us all about your adventures.

President's Message- by AnnLynne Benson, DVESS President and EFMLS Director

Usually the September president's message would begin with "Welcome Back", but, since we continued to hold meetings all summer, we aren't "coming back" – we're still here!!

For the first time in our 50-plus-year history, we have not found it necessary to take a summer break. Our meetings went on, and we acquired new members – both adult and junior. We enjoyed a great picnic, a wonderful auction, and the weather was perfect for the pool. An additional attraction was the amazing "Mel Flambe" when flames from the grill reached nearly to the roof of Gerald's house (or so it seemed); see the photo on the website.

The **CLUB CASE** has finally been installed in the meeting room closet ! After years of carting specimens in from the car, in all sorts of weather, up countless flights of stairs, Gary will now be able to keep us stocked with minerals, fossils, door prize tickets and other ephemera . Thank you Mel, for helping out.

SEPTEMBER will feature our annual Show and Tell meeting. Bring whatever you found and share it with us - no one else will be more interested in your rocks, fossils and what's its than we are!!

BADGES - You asked for it and we heard you – BADGES are back. You can order a nice blue badge with your name, the club name, and the year you joined for only \$8.00. Ann or Gary can show you what the badge looks like.

UPCOMING - Got your pencil sharpened and your calendar handy? Our banquet is coming up on Sunday, October 18 at Vitarelli's in Cherry Hill. Our field trip to Gemarama is Saturday, November 7 - we'll be car pooling and caravanning from Gary's Store to the Church Farm School in Exton, PA - the annual show of the Tuscarora Lapidary Society. This year's theme is Gems of Myth, Legend and Lore. Gem and mineral dealers, lapidary suppliers, cut and polished stone dealers, jewelers, bead dealers, and many more come from all over the country to display and offer their specialties. Club members demonstrate various lapidary and jewelry making skills and present numerous displays of their work. There are dozens of display cases, an hourly drawings for door prizes, an exhibit for the blind, a children's table, a silent auction, and a opportunity to spin the Treasure Wheel. No need to bring your lunch – there's a concession stand which provides excellent quality food at reasonable prices. The show takes place at the Church Farm School in Exton, PA on November 7 & 8, 2009 (Saturday 10am - 6pm and Sunday 10am - 5pm). For more information and a discount coupon, see their website www.Lapidary.com.

FIELD TRIP - no date has been set to go yet (do you have a suggestion??) Only available on Saturdays and Sundays. We will ride the mine train ride to the Susquehanna Mining Company. The google site is <http://www.nyswths.org/mine.htm> Gemstone Panning is a great activity for all ages. Participants **may** find up to 11 oz. of gemstones in a single bag which **may** include amethyst, rubies, rose quartz, emeralds, crystals, an arrowhead (or even a fossil). All gems are [advertised to be] of "high" quality and **may** be suitable for cutting, polishing, and mounting [**or not**]. With every mine train ticket you will receive one bag of mining ore from the Ole' Susquehanna Mine.

Fares: Children \$11.00 (under 12 yrs), Adults \$18.00 We'll go on a **Saturday** up to Phillipsburg, NJ (takes about 2 hours to get there from Gary's Store) for the 12:30 or 2:00 train. Fare includes Steam Train ride, mine history and instructions as well as one bag of mining ore "**guaranteed**" to contain 4 to 5 ounces of "Gem Stones". Whether we "strike it rich" or not, we're sure to have a good time!

MAGNIFICENT PRIZES - 1) an 8.36 ct watermelon tourmaline pendant; 2) Herkimer diamond earrings in 12 kt gold; 3) Ammonite pendant in 12 kt gold; 4) framed picture jasper; 5) pair of Oco geodes on a walnut base; 6) Mt. Ida quartz pendant in 12 kt gold; 7) double-sided "picture" pendant; 8) double-sided cabochon pendant and others - you could be the lucky winner and since the drawing supports the Eastern Foundation Fund **everyone's** a winner - EFF interest is used for special projects such as the current effort to duplicate the Rochester Mineral Symposium videos into DVD format. Tickets are \$1.00 each or 5 for \$4.00 - just make out a check to EFF for the number of tickets you're ordering and include your name and phone number (and any other contact information); send to Ellery Borow, PO Box 47, Waterville, ME 04903-0047. Drawing will take place at the EFMLS Convention, Oct. 16 - 18 in Bristol, CT.

REFRESHMENTS - let us know what kind of refreshments you'd like to see at the meeting; you can also see Ann or Gary to sign up to bring refreshments - or just surprise us if you get a last-minute inspiration.

PLEASE INVITE one person - adult or child - to come to next month's meeting.

WEBSITE OF THE MONTH - www.ZacksRocksandMinerals.com This website was created by a teenager who's really doing something with his life, and obviously enjoying it!! Where does the Sand come from??

According to Andrew Robinson in NATURE 460, 798-799 (Aug. 13, 2009) "On an island off the southwestern coast of Turkey, called Sedir Adasi, lies a stunning stretch of white sand known as Cleopatra's Beach. According to legend, Cleopatra's lover Mark Antony made the beach for her as a lavish gift by shipping barge loads of sand from Egypt to the island some 2,000 years ago. There may be a grain of truth in this story, writes Michael Welland in Sand: A Journey through Science and the Imagination. The "exotic creamy white oolith" granules occur nowhere else on the island but match those on Egyptian coastal beaches west of Alexandria. Robinson goes on to say "Strangely, dry sand behaves like a liquid, whereas damp sand is more like a solid, provided that it is not too wet." The book also discusses, and attractively illustrates, artistic uses of sand and how, beginning with Archimedes, sand grains have helped humans to conceive the Universe and the infinite.

The book contains a fascinating photograph of the 'Earthquake Rose', a pattern made by a desktop sand-tracing pendulum during a strong earthquake in Washington state in 2001. You can see a similar photograph at Google (Image) "Earthquake Rose".

EVENTS:

The banquet at Vitarelli's on October 18, 2009. Gary had previously suggested a DVD presentation on Rhodochrosite

FIELD TRIPS: Sterling Hill tour for DVESS will take place in September 2009.

PROGRAMS: DVESS General Meeting Future Dates 2009,

Sept 9th ., Our annual show and tell will take place this evening. All members who have traveled this summer (or anytime) are encouraged to bring in their finds and photos, etc. and tell us about your adventures. Bring friends!

Oct 14th , Eugene.F.Hartstein-1@USA.dupont.com Subject: Fossil Fakes and Forgeries is on for Oct 14 Please add to your newsletter that I am inviting folks to bring in any fake fossils they may have for that meeting. In past presentations of this topic I have had a number of folks bring in fakes for display and we have had a great time. One fellow brought in a spectacular looking Moroccan trilobite that was sawed in half to reveal it was epoxy stuck to a rock. :) I also have a few slides on faked minerals so if you have a few of those, bring them along. From my perspective this is a great opportunity to educate the collectors on quality material. Given by "Gene" Eugene Hartstein, DuPont CoTech Development Manager (Note our banquet is on Oct 18th)

UPCOMING EVENTS:

The **Art of the Gecko** show will be on display at the Academy from July 25-September 7, 2009.

Art of the Gecko was inspired by the Academy's newest exhibit "[Geckos-Tails to Toepads](#)." The "Geckos" exhibit features more than 75 live geckos representing 18 different species. Each species is unique in coloring, size, and shape. To celebrate the beauty and diversity of these amazing creatures, an installation of contemporary artwork was created exclusively for this show by members of Nexus/foundation for today's art, a co-operative art gallery that exhibits the work of emerging local artists.

NOW thru Sept. 20, 2009 Franklin Institute (now known as The Franklin) in the Mandell Center. Step into the realm of *Star Trek* and be part of the legacy that has captured the imagination of generations! This unprecedented exhibition features the world's most comprehensive collection of authentic *Star Trek* ships, sets, costumes and props from all five series and ten films over the last 40 years and includes over 200 authentic objects, a full-motion flight simulator AND the spaceship bridge from *Star Trek: The Next Generation*!

NOW thru Sept. 7, 2009 Reserve your tickets today for a look at this exclusive exhibit, created specifically for The Franklin about "The Father of Modern Science!". The Franklin is proud to have been selected as the only host of *Galileo, the Medici and the Age of Astronomy*, presented by Officine Panerai. Created through The Franklin's exclusive partnership with the Istituto e Museo di Storia della Scienza in Florence, the exhibit showcases Galileo's accomplishments, his relationship to the ruling Medici family, his discoveries and his overall impact on astronomy, physics and math. This is the first time one of the only two remaining Galileo telescopes has left Italy! Also exhibited are other instruments belonging to Galileo, as well as paintings, prints and manuscripts from the priceless Medici collection. Together, the collections will showcase how the union of science, art and political power gave rise to Galileo's success.

From our intrepid internet surfer - Grant Elliot, Sec. DVESS -

Subject: FOOD FOR THOUGHT Date: Wednesday, August 12, 2009 4:03 PM

Nature doesn't print birth certificates or hammer a year on its creations as if they were coins. Scientists have learned to tell the age of bones, rocks, planets, and stars by using clocks that tick away in the very atoms that form them.

And with these natural chronometers — which they can read with staggering resolution — they can understand the forces that have shaped the continents, life itself, human civilization, the galaxy. No longer can human history match the scale of natural history.

If the age of the universe, about 13 billion years, were equal to one summer day, then the past 100,000 years — which saw the rise of modern humans, the dawn of agriculture, and all of written history — would fit into the **flash of a firefly at sunset**. From National Geographic, September 2001

In 2010 It's Delaware! by Matt Charsky, Show Coordinator

I'm delighted to announce that the Delaware Mineralogical Society of Wilmington, Delaware will be the host for the 2010 Eastern Federation Convention. The show is scheduled for March 6 -7, 2010 in Stanton, a suburb of Wilmington. For those of you who don't remember, Delaware was the first state to ratify our Constitution way back in 1787.

Established in 1960 (yes, 2010 will be their 50th anniversary), the Delaware Mineralogical Society is quite active. They have approximately 85 adult members and 25 junior members. In addition to their monthly meetings, they have numerous field trips, an annual show, and they support educators and the Scouts in the arena of earth science

Clean Up Your Act – Safely, Please Ted's Safety Corner

by Ted Reith, AFMS Safety Chair from the **AFMS Newsletter -June-July, 2009 Page 3**

The lovely, sparkly, near pristine specimens many of us 'collect' at rock, gem, and mineral shows hardly ever are found in that condition in Nature. Those who collect 'in the wild' will have some cleaning chores in front of them, whether planning to sell those specimens, or add them to a personal collection.

In almost any venture, simple is better than complex, and less hazard is better than more. However, if you truly know the specimen you have and the nature of the surface contaminant, then by all means use complex cleaning methods with hazardous chemicals (if that is the needed methodology), but do so safely.

An important key to any cleaning is to know your specimen and know its contaminant. This means to know each in terms of Mohs hardness and chemical make-up. Hardness will guide one in mechanical cleaning options, while the chemistry will dictate specific cleaning materials.

Cleaning methods, from simple/safe to complex/less safe, may be outlined as follows:

advancement. Their junior division is in the process of becoming recognized by the American Federation of Mineralogical Sciences (AFMS). They also participate in the Eastern Field Trip Alliance (EFTA).



So mark your calendars and plan on joining us in northern Delaware during the first weekend in March. We'll give you more details as the show date draws closer. For you history buffs, Delaware is also known as the "Diamond State", because our third President, Thomas Jefferson, said "Delaware is a jewel among the States." **From page 6, EFMLS News -- June-July 2009**

- Soak in or clean under running water, using a bristle brush.
- Same as above, but add a cleaning agent, such as household detergent, to the water. This will help 'wet' the surface contaminant and allow it to be flushed away more readily.
- If appropriate, use a brass brush (Mohs 3.5 – 5) or steel dental pick (harder). This is where knowledge of the base mineral hardness is useful. The tool needs to be harder than the contaminant, but less hard than the base material. Of course, test on an obscure area first to confirm suitability.

One very interesting cleaning option I saw is to use Soft Scrub cleaner (ground calcium carbonate in a detergent base) and a battery powered toothbrush. To give credit, the following link provides an excellent write-up: homepage.mac.com/rasprague/PegShop/extras/brush/brush.html

Use equipment such as ultrasonic cleaners (good for more fragile specimens) or small sand blasters to remove tough scale on minerals, while following all manufacturer use and safety recommendations.

Gems & Minerals of Canada

Use this map of Canada to know where the minerals in this issue of Mini Miners Monthly are found. You can also use it as you look at the Canadian minerals you see at shows or in mineral books.

According to the United States Geological Survey (USGS) a “gem” is “any mineral or organic material (like pearl and petrified wood) used for personal adornment, display, or object of art because it possesses beauty, rarity, and durability. Of the 2,700 mineral species, only about 100 possess all these attributes.”

From this Mini Miners Monthly you will know which minerals are considered gems because the gem drawing you see here will be next to the mineral’s name.

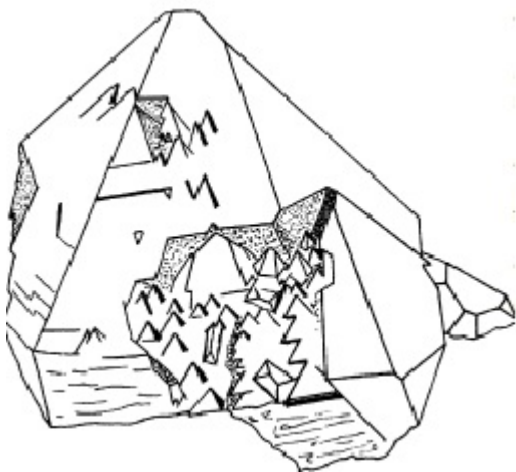


We had so much great material about gems and minerals from Canada that we ran out of space in this issue! You can find a number of activity pages on the (DVESS) website that you can download, print out and enjoy including the usual word search, a crossword puzzle and a “Mineral Trivia” page to see what you learned about minerals from Canada.

Go to http://www.diamonddanpublications.net/index_files/page0001.html and look for the link.



Amethyst



**Dark purple amethyst from
Thunder Bay, Ontario.**

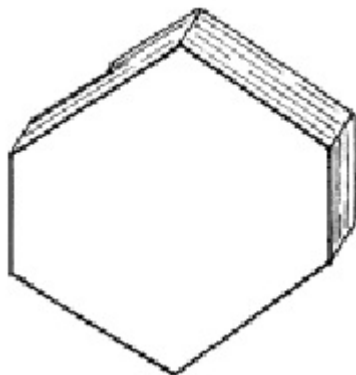
Amethyst is the purple gem variety of the mineral quartz. The ancient Egyptians used amethyst as a gemstone.

Amethyst beads have been discovered in some very old graves in England.

Amethyst is found all over the world. Clear, dark purple, gem - quality amethyst, however, is difficult to find.

When amethyst is heated it turns yellow. Yellow quartz is called citrine.

Biotite



Biotite is one variety of the mineral group called *mica*. All mica minerals break or cleave into very thin sheets.

Mineralogists call this *micaceous cleavage*. All mica minerals form six sided crystals.

Biotite contains iron and so it is also called *iron mica*. The iron makes biotite black. It is soft at only 2.5 to 3 on the hardness scale.

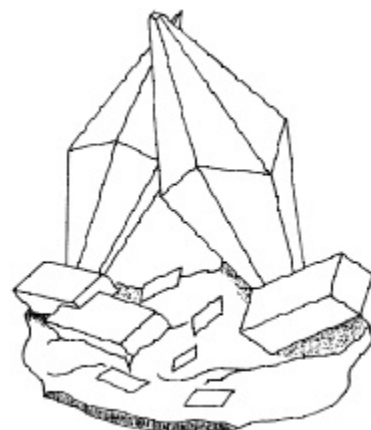


Above left: A perfect, six-sided biotite crystal.

Above: Biotite crystals from North Burgess Township, Lanark County, Ontario.

Calcite

Calcite most often forms in the sedimentary rock called limestone. Calcite crystals are common and can be very large. It is number 3 on the hardness scale. Its crystals are often very glassy. This is called vitreous or glassy luster. Different impurities can give calcite its color. It can be colorless when pure, or yellow, brown, red, white, black, green, blue, orange or golden yellow. Calcite has been cut into gemstones, but it is so soft and so easily cleaved (that is, broken) that it is never worn in jewelry.



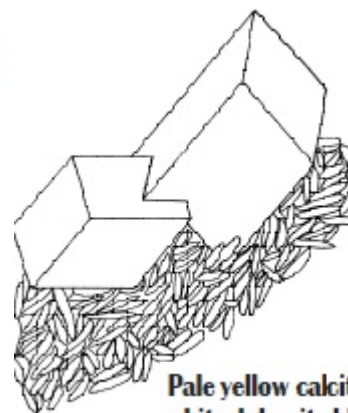
Above: Pink calcite from Hummingbird Falls, Alberta.



Left: Golden yellow calcite from Anderson Township, Ontario.



White calcite crystals with dark brown goethite spheres from the McLeod mine, Wawa, Ontario.



Pale yellow calcite crystals on small, white dolomite blades from Pine Point, Northwest Territories.

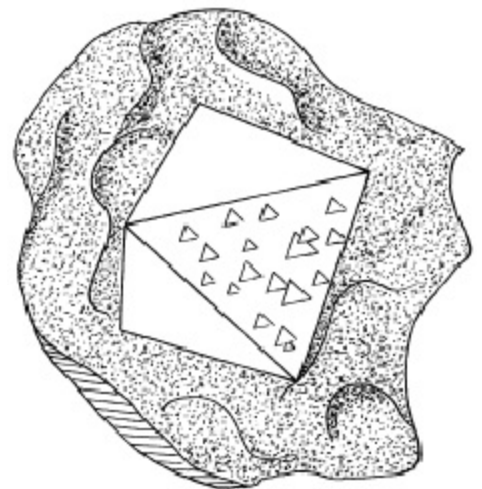
The Great Canadian Diamond Discovery

Around 1985, two geologists, Chuck E. Fipke and Dr. S. Blusson, began to search for diamonds in Canada. They used old maps and information to find a place where diamonds could be found. They looked for clues in the ground that told them they were getting close to a diamond deposit. They looked for minerals like garnet and olivine. In 1990, Mr. Fipke discovered a lake near Lac de Gras in the Northwest Territories. He studied the area and in a year they found a diamond deposit!

Diamonds are found in a special rock called a *kimberlite*. Diamonds are millions and millions of years old! Geologists have discovered that diamonds formed deep in the Earth when the continents were beginning to form. Diamonds are made of the element carbon. When you burn a piece of wood, the black soot that remains is carbon. They form at very, very high temperatures and pressures. For carbon to turn into a diamond, the temperature has to be around 2000 degrees Fahrenheit and the pressure has to be 800,000 pounds per square inch. Temperatures and pressures this high can only be found deep in the Earth.



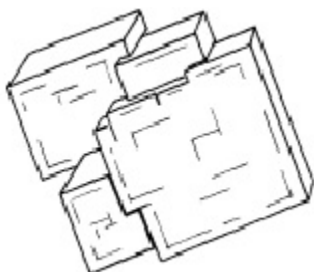
A perfect diamond crystal in kimberlite rock.



Fluorite

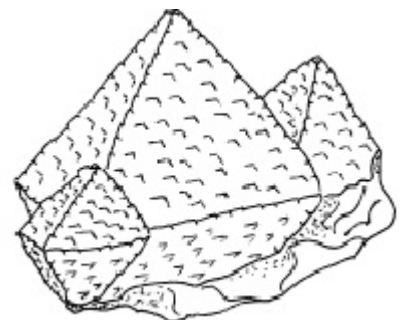
Fluorite is often found with metallic minerals. A metallic mineral is a mineral that contains a metal. For example, galena contains lead and pyrite contains iron. Fluorite can also be found with sphalerite, barite, calcite and quartz.

Fluorite is used in very special telescopes and cameras instead of glass. This is because fluorite lenses can give very clear images of objects that are very far away.



Left: Fluorite cubes from Rossport, Ontario. These crystals are yellow in the middle and dark purple around the edges.

More info on Canada's gems in Diamond Dan online and our next newsletter.



Light green fluorite octahedra from the famous Rock Candy mine, British Columbia. These large crystals are made up of hundreds of smaller crystals.

DVESS MEETING LOCATION : Centenary United Methodist Church, 151 South White Horse Pike, (route 30) in Berlin, the Education Building is located in the center of Berlin, behind the church.

DIRECTIONS:

From Atco (west-bound), after the traffic light at Taunton Ave. (Rite Aid drugstore on the left), the church is about the 3rd building on the right; turn into the first driveway. If you miss it, pass by the church and turn Right onto Broad St. (at the Berlin Diner) then turn Right into the parking lot of the Baptist Church and go straight all the way - the parking lots of both churches connect.

From Rt. 73 in Marlton: head East (South) on Rt. 73. As you enter Berlin, you will pass Wal-Mart (on the left) and a shopping center (on the right) with Shop Rite and Staples. Get into the Right "Exit Only" lane and follow the signs for Cross Keys Rd. **At the intersection of Cross Keys Rd. and the White Horse Pike (Rt. 30) turn LEFT. At the next intersection (Broad St.) continue straight past the Berlin Diner and SPEEDY MART on your left; pass by 2 or 3 white storefronts on the left then see the big white church with red front doors on your left. Pass in front of the church and turn into the driveway on the far side. Education Building is behind the church.**

From Lindenwold or Clementon on the White Horse Pike (east-bound):

As you enter Berlin business district, you will pass through the traffic light at Cross Keys Rd. (CVS Pharmacy on right corner). Follow highlighted directions above.

MEMBERSHIP INFORMATION

Regular members are entitled to participate in all DVESS activities. Sponsoring members are entitled to the same plus a specially chosen mineral specimen. Dues are renewable each year in January. Membership rates for the Society:

Regular Membership:

\$15.00 for the 1st family member + \$5.00 for each additional family member

\$10.00 for the 1st Senior (65+) member + \$5.00 for each additional family member

Sponsoring Memberships (each additional family member - \$5.00):

"Silver" \$50.00 for 1st family member - receive a Geode Specimen

"Gold" \$75.00 for 1st family member - receive a Native Gold Specimen

"Platinum" \$100 for 1st family member - receive a Premium Specimen

SOCIETY INFORMATION

The Delaware Valley Earth Science Society, Inc., (DVESS), a non-profit organization, was founded in 1956 and incorporated in the state of New Jersey in 1957.

The Society:

- * promotes interest , knowledge and the development of skills in the "earth sciences". These interests include mineralogy, paleontology, lapidary arts, archeology and local preservation.
- * supports the conservation of natural resources, advocates the availability of collecting sites and maintains close contact with those in the academic field.
- * is a member club of the Eastern Federation of Mineralogical and Lapidary Societies
(<http://www.AmFed.org/EFMLS>)

MEETINGS

The Society meets the 2nd Wednesday of each month throughout the year at Centenary United Methodist Church, 151 South White Horse Pike, (route 30) in Berlin. Junior Rockhounds meet at 7:30pm with the regular meeting beginning around 8 pm.

Anyone with info for the newsletter please share with me. You can be published! Stuff you did in school, on a trip etc., see my info below.

Editor's Notes: Editor is not responsible for authenticity of information in any articles submitted for publication. Nor are the opinions expressed in the "DVESScapades" necessarily those of the officers of the Delaware Valley Earth Science Society, Inc., and/or the editor.

To submit an article for publication in the DVESScapades contact the Newsletter Editor.
decuzzic@comcast.net, or Delaware Valley Earth Science Society Inc., DVESS, P O Box 372 Maple Shade, New Jersey 08052 or DVESS Website: <http://www.dvess.org> garyskyrock@comcast.net

Happenings Around and about

September:

- 5 – 6: 20th Annual Rockhoulder's Gem & Mineral Show sponsored by the Kennebec Rocks & Mineral Club. National Guard Armory, Augusta, ME
- 12-13: Jewelry, Gem & Mineral Show sponsored by the Northern Berkshire Mineral Club. American Legion Post #90, Rt 7, Pownal, VT
- 12 -13: 44th Annual Gem & Mineral Show sponsored by the Central Pennsylvania Rock & Mineral Club. Zembo Shrine, Third & Division St. Harrisburg, PA.
- 19-20: 40th Annual Mid-Hudson Valley Gem & Mineral Show & Sale sponsored by the Mid-Hudson Valley Gem & Mineral Society. Dutchess Co. Fairgrounds, Rt 9, Rhinebeck, NY
- 26-27: 45th Annual Gem, Mineral & Jewelry Show hosted by the Gem Cutters Guild of Baltimore. Howard Co. Fairgrounds, MD 144 nr. MD 32 & I-70; West Friendship, MD

October:

- 2 – 4: 53rd Annual Desautels Micromount Conference hosted by the Baltimore Mineral Society. MHA Conference Center, Elkridge, MD. Info & Registration: C. Weinberger, <cscrystals2@verizon.net>.
- 4 – 5: Annual Jewelry, Mineral, Fossil Show & Sale sponsored by the Wayne Co. Gem & Mineral Club. St Michaels School, Rt. 88, Newark, NY
- 17:18: 37th Annual Gem & Mineral Show and 59th Annual EFMLS Convention sponsored by the Bristol Gem & Mineral Club. Beals Community Center, Bristol, CT.
- 24-25: 37th Annual Rochester Gem, Mineral, Jewelry & Fossil Show sponsored by the Rochester Academy of Sciences Mineral Section & Rochester Lapidary Society. Monroe Co. Fair & Expo Center; Henrietta, NY

A wonderful and rare opportunity

Mr. Russ Behnke is a mineral dealer and collector from Meriden, Connecticut. He has field collected minerals since his childhood when he would go out collecting with his father. He has put together a beautiful book of his life in mineral collecting called Treasured Minerals. It has not been printed. However, you can download a free copy of this book as a PDF file from his website:

<http://www.russbehnke.com/book.html>

In his own words, "I can hope to have the book in 100,000 computers. So perhaps that is better way to go than print, and having perhaps only 1500 copies out there. Free may be the way of the future."

Download this beauty, read it and enjoy it right now! Thank you, Russ.



AFMS CODE OF ETHICS (American Federation of Mineralogical Societies)

- I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.
- I will keep informed on all laws, regulations of rules governing collecting on public lands and will observe them.
- I will to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- I will use no firearms or blasting material in collecting areas.
- I will cause no willful damage to property of any kind - fences, signs, buildings.
- I will leave all gates as found.
- I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.
- I will discard no burning material - matches, cigarettes, etc.
- I will fill all excavation holes which may be dangerous to livestock.
- I will not contaminate wells, creeks or other water supply.
- I will cause no willful damage to collecting material and will take home only what I can reasonably use.
- I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.
- I will cooperate with field trip leaders and those in designated authority in all collecting areas.
- I will report to my club or Federation officers, Bureau of Land management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- I will appreciate and protect our heritage of natural resources.
- I will observe the "Golden Rule", will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and Public "image" of rockhounds everywhere.

<i>DVESS Directory 2008</i>	President Ann Lynne Benson 856-783-0969 SeleniteQueen@gmail.com
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Seven more pages in full color in the on-line version, check your e-mail if I have it. If you are not on the e-mail list for the newsletter, please contact me at either of the e-mails listed above and I will be glad to add you to the mailing. Ed

September 2009 Puzzle

by

Ed Loveland

Puzzle maker to the DVESScapades for many great years, and well appreciated.

THANKS ED, hope for many more!!!

D	O	O	W	D	E	I	F	I	R	T	E	P	G	H	E
A	B	E	D	F	E	T	I	R	E	L	A	H	P	S	T
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THE WORDS ARE:

coral	dig	east	event	fossil	malachite
nodules	pan	petrifiedwood	pocket	polish	pseudomorph
quartz	sand	save	sapphire	scheelite	scoria
selenite	septarian	showcase	smithsonite	sodalite	sphalerite
stalactite	stalagmite	stibnite	strontianite	sylvite	tektite
travertine	trilobite	turquoise	turritella	west	

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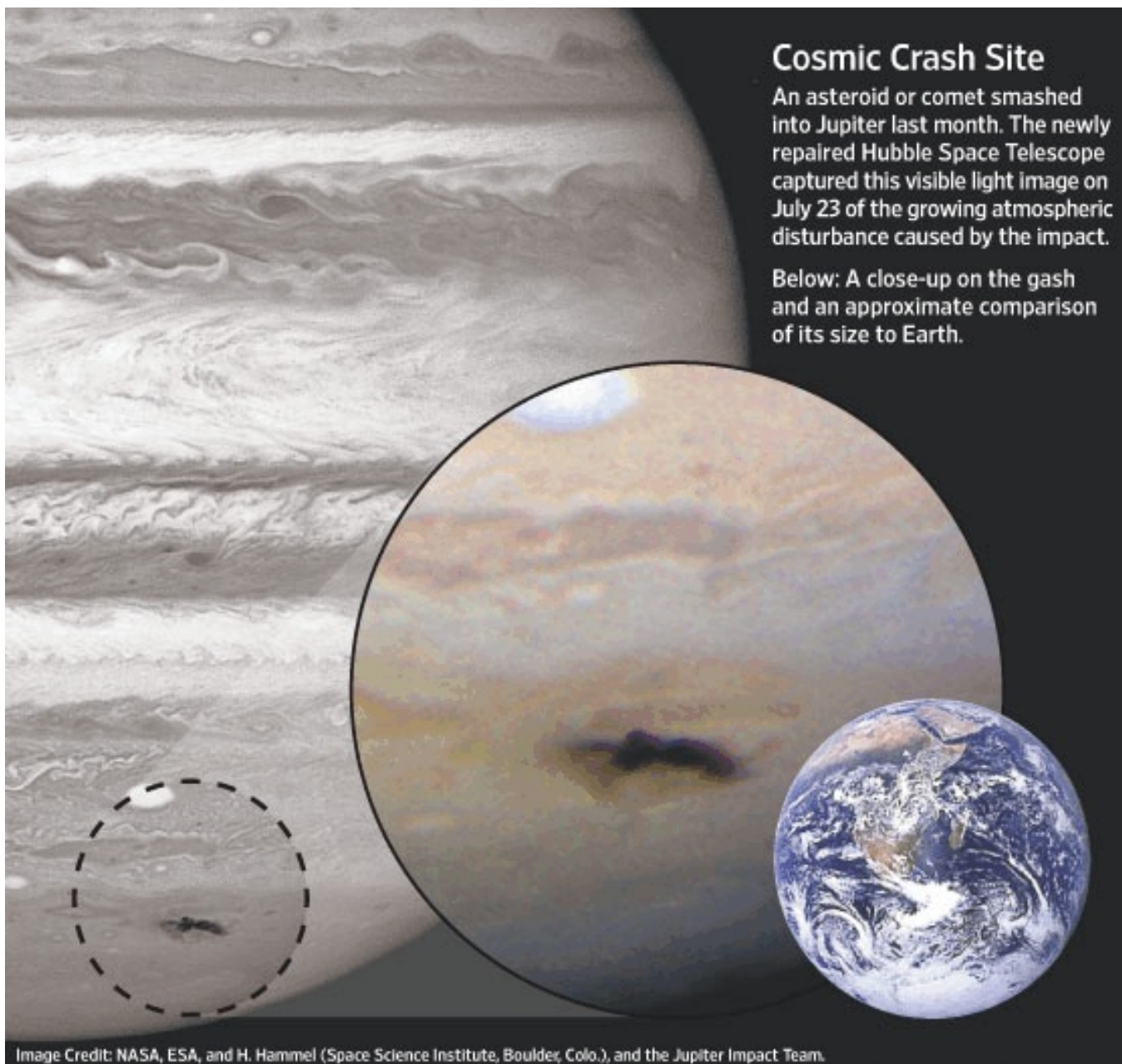
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Are you a member of the Mineral of the Month Club yet? www.mineralofthemonthclub.org

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Another gorgeous photo from our intrepid internet surfer Grant.
The message is ready to be sent with the following file or link attachments:
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A 155 million years old and still inky: The perfectly preserved squid fossil amazing scientists

The squid-like creature perished some 155million years ago. But despite the vast passage of time, experts who unearthed the fossilized remains were able to extract ink from its perfectly-preserved sac and use it to paint a picture of the ancient animal.

The odds of finding something as delicate as a squid's ink sac intact after so long are put at a billion to one.

The 150 million-year- old fossil of a squid near Christian Malford in Wiltshire has been discovered that is so well preserved that archaeologists were able to make ink from the ink sac"



An eye on history: A palaeontologist views the fossil found in inland Wiltshire. The key is the speed with which it was fossilised in rocks in Wiltshire that were under the sea during the Jurassic period.

Scientists describe it as the Medusa effect, after the monster in Greek mythology whose face was so terrible to behold that anyone gazing at her was turned to stone. Dr Phil Wilby, who led the team which found the fossil, said: 'The decomposition process

usually means only the hard parts of an animal are preserved. 'It is extremely rare to find any fossil with the soft parts preserved. We call it the Medusa effect - specimens turn to stone within a matter of days, before the soft parts can be eaten away.'



Pen and (very, very old) ink: The squid's pigment is used to draw a description of it.

The inch-long ink sac had become separated from its owner - Belemnothautis antiquus - which Dr Wilby said was 'squid-like but not the same as a modern-day squid'.

However the black ink was of exactly the same structure as that of today's version. Although solidified, some was ground up with an ammonia solution to make paint.

The ink sac was among several thousand fossils removed from the site by Dr Wilby, of the British Geological Survey. He hopes that analyzing them will reveal why so many creatures perished in the area and how some have been so well-preserved they look as if they have only just died.



Artist's impression: How the creature would have looked during the Jurassic era. The site was known about in the Victorian era

and was one of the first in the world to yield fossils of fragile muscle and stomach

tissue.

But its exact location became lost until rediscovered recently by Dr Wilby

Gang, More Tunguska theories- You Servant, Grant

<http://en.rian.ru/analysis/20090722/155587125.html>

Folks, A nice Hubble image- Check out hubble010201.tif Grant

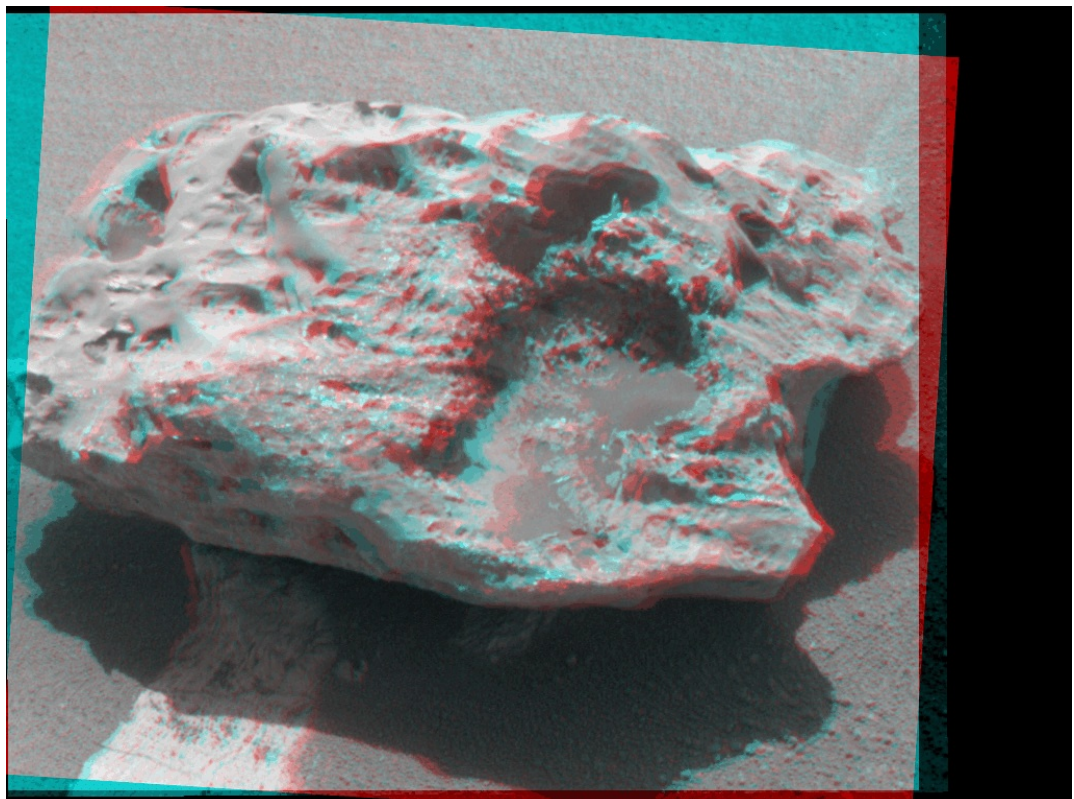
Folks, Get out your 3-D glasses - Grant

“ Composition measurements by NASA's Mars Exploration Rover Opportunity confirm that this rock on the Martian surface is an iron-nickel meteorite.

This image combines exposures from the left eye and right eye of the rover's panoramic camera to provide a three-dimensional view when seen through red-green glasses with the red lens on the left. The camera took the component images during the 1,961st Martian day, or sol, of Opportunity's mission on Mars (July 31), after approaching close enough to touch the rock with tools on the rover's robotic arm.

Researchers have informally named the rock "Block Island." With a width of about two-thirds of a meter (2 feet), it is the largest meteorite yet found on Mars. Opportunity found a smaller iron-nickel meteorite, called "Heat Shield Rock" in late 2004.

Image Credit: NASA/JPL-Caltech/Cornell University "



Gang, You may have seen this before. But, just in case you have not, I forward it to you- Grant

<http://kokogiak.com/solarsystembodieslargerthan200miles.html>

FACTS ABOUT CHOCOLATE

FACT 1

Chocolate is Good for You!

It was recently reported by The National Academy of Sciences that dark chocolate contains flavonoids, the same chemicals like those found in red wine or green tea. Flavonoids are protective antioxidants that can increase blood flow in the brain and may actually improve circulation and cut blood pressure.

One might interpret this to mean that dark chocolate is good for you. Of course, as with all things, moderation is the key. Please check with your doctor for the latest findings. For most of us, however, chocolate is the ultimate feel-good food and what nicer way is there to feel good than to eat chocolate!

FACT 2

Chocolate is derived from the seeds (or pods) of a tropical tree called cacao. The Latin name for cacao fruit is "the obroma cacao" which means "food of the gods". It is believed that Christopher Columbus witnessed cocoa beans being used as currency over 500 years ago. Spanish explorer, Hernando Cortez, established a cocoa plantation with the idea of growing money. Chocolate can be traced back to Massachusetts as early as the mid 1600's.

FACT 3

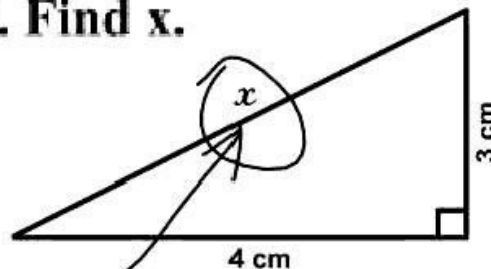
Antoinette Chocolatier never uses preservatives and only uses the freshest ingredients to make its handmade products. Because of this fact, chocolates should be consumed within 3 to 4 weeks of receipt. Room temperature is the best way to eat them and the ideal storage temperature is about 65 to 68 dry degrees.

FACT 4

Life is too short not to eat **good** chocolate!

Answer on a blonde's Geometry test

3. Find x .



Here it is

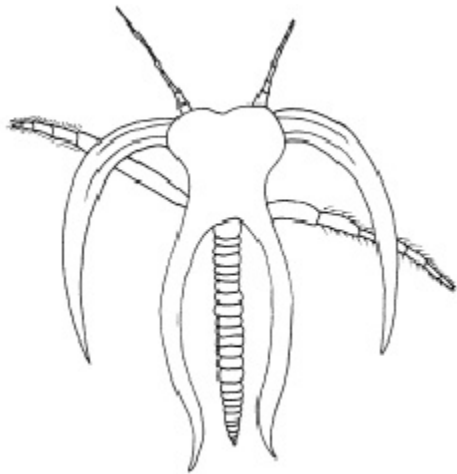
And Fossils, too! The Burgess Shale

(From Canada)

In the Yoho National Park in the Canadian Rocky Mountains of British Columbia is one of the world's greatest fossil occurrences. Most of the fossils in the world are petrified bones and shells of ancient animals. Bones and shells are called "hard parts" because they are solid and hard. However, in a rock called the Burgess Shale the fossilized remains of the soft, flesh parts of ancient creatures are found!

The Burgess Shale is about 540 million years old. It was formed in the geologic time period that geologists call The Cambrian. It was first discovered in 1909 by Charles Walcott.

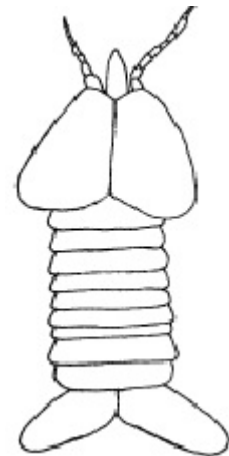
When the Burgess Shale was deposited in an ancient sea, it was near the equator. 540 million years ago, Canada was not part of North America. It was part of an ancient landmass called Laurentia that later broke apart and drifted north to its present location.



Left: *Marrella splendens*.
It is likely that this creature could swim.

Right: *Plenocaris* is thought to have been a sea creature similar in some ways to a modern lobster.

Scientists have no idea what color these creatures were when they lived. Fossils don't preserve the original color of the organism.



Gang,

There is an image and an animation on web page. Click on both for your viewing pleasure
- Grant

Planet Smash-Up Sends Vaporized Rock, Hot Lava Flying Jet Propulsion Laboratory
August 10, 2009.

PASADENA, Calif. -- NASA's Spitzer Space Telescope has found evidence of a high-speed collision between two burgeoning planets around a young star.

Astronomers say that two rocky bodies, one as least as big as our moon and the other at least as big as Mercury, slammed into each other within the last few thousand years or so -- not long ago by cosmic standards. The impact destroyed the smaller body, vaporizing huge amounts of rock and flinging massive plumes of hot lava into space. An artist's animation of the event is at http://www.nasa.gov/mission_pages/spitzer/multimedia/spitzer-20090810.html

Spitzer's infrared detectors were able to pick up the signatures of the vaporized rock, along with pieces of refrozen lava, called tektites. "This collision had to be huge and incredibly high-speed for rock to have been vaporized and melted," said Carey M. Lisse of the Johns Hopkins University Applied Physics Laboratory, Laurel, Md., lead author of a new paper describing the findings in the Aug. 20 issue of the *Astrophysical Journal*. "This is a really rare and short-lived event, critical in the formation of Earth-like planets and moons. We're lucky to have witnessed one not long after it happened."

Lisse and his colleagues say the cosmic crash is similar to the one that formed our moon more than 4 billion years ago, when a body the size of Mars rammed into Earth. "The collision that formed our moon would have been tremendous, enough to melt the surface of Earth," said co-author Geoff Bryden of NASA's Jet Propulsion Laboratory, Pasadena, Calif. "Debris from the collision most likely settled into a disk around Earth

that eventually coalesced to make the moon. This is about the same scale of impact we're seeing with Spitzer -- we don't know if a moon will form or not, but we know a large rocky body's surface was red hot, warped and melted."

Our solar system's early history is rich with similar tales of destruction. Giant impacts are thought to have stripped Mercury of its outer crust, tipped Uranus on its side and spun Venus backward, to name a few examples. Such violence is a routine aspect of planet building.

Rocky planets form and grow in size by colliding and sticking together, merging their cores and shedding some of their surfaces. Though things have settled down in our solar system today, impacts still occur, as was observed last month after a small space object crashed into Jupiter.

Lisse and his team observed a star called HD 172555, which is about 12 million years old and located about 100 light-years away in the far southern constellation Pavo, or the Peacock (for comparison, our solar system is 4.5 billion years old). The astronomers used an instrument on Spitzer, called a spectrograph, to break apart the star's light and look for fingerprints of chemicals, in what is called a spectrum. What they found was very strange. "I had never seen anything like this before," said Lisse. "The spectrum was very unusual."

After careful analysis, the researchers identified lots of amorphous silica, or essentially melted glass. Silica can be found on Earth in obsidian rocks and tektites. Obsidian is black, shiny volcanic glass. Tektites are hardened chunks of lava that are thought to form when meteorites hit Earth. Large quantities of orbiting silicon monoxide gas were also detected, created when much of the rock was vaporized. In addition, the astronomers found rocky rubble that was probably flung out from the planetary wreck.

The mass of the dust and gas observed

suggests the combined mass of the two charging bodies was more than twice that of our moon. Their speed must have been tremendous as well -- the two bodies would have to have been traveling at a velocity relative to each other of at least 10 kilometers per second (about 22,400 miles per hour) before the collision. Spitzer has witnessed the dusty aftermath of large asteroidal impacts before, but did not find evidence for the same

type of violence -- melted and vaporized rock sprayed everywhere. Instead, large amounts of dust, gravel, and boulder-sized rubble were observed, indicating the collisions might have been slower-paced. "Almost all large impacts are like stately, slow-moving Titanic-versus-the-iceberg collisions, whereas this one must have been a huge fiery blast, over in the blink of an eye and full of fury," said Lisse.

Having Fun: Junior Activities by Jim Brace-Thompson, Junior Program Chair

AFMS and the EFMLS suggest that all clubs maintain educational collections tied to school standards and scout badges—and to the AFMS/FRA Badge Program! While these can be extensive, with every rock under the sun, they don't need to be. A lot of learning can be packed into even small, modest collections if they hold just the right rocks.

I encourage you to consider at least four such collections:

1) Earth Processes, the Rock Cycle, & the Three Rock Types.

This collection would include specimens of common igneous, sedimentary, and metamorphic rocks, along with a laminated diagram showing the rock cycle in action. (You can get many colorful rock cycle diagrams by searching "rock cycle" on the web.) To illustrate the rock cycle, I include four specimens: a chunk of igneous granite, which weathers into sand, which consolidates into sedimentary sandstone, which metamorphoses into quartzite.

2) Mineral Identification.

Make a laminated chart illustrating the Mohs Scale (again, obtainable from the web), then have specimens of different hardness, i.e., talc, calcite, quartz, corundum, etc.

(Include a small quantity of 2 minerals of very different hardness, such as talc and quartz, that you can use for a hands-on activity with kids.) You should also have specimens that illustrate such properties as basic crystal shapes, color, streak, and luster.

3) Earth Resources.

This is a fun collection to create and always attracts attention. Include common products and the minerals that went into them (laundry detergent/borate minerals, fishing weights/galena, copper pipe/a copper nugget, steel nails/hematite, mercury thermometer/cinnabar, etc.). You can use a small collection for a matching game and as a springboard for kids to think of everyday items not included in the collection.

4) Fossils.

A basic collection would include examples of different forms of fossilization (carbonized impressions, molds and casts, replacement and petrification, original materials such as enamel shark teeth, etc.). These can be used to illustrate a discussion about how fossils form and what they are. This collection should also include a laminated geological time scale for a discussion of how the earth and life have changed over the eons.

These four collections will take you a long way with most standard earth science curriculum requirements and will help scouts and FRA members earn badges.