

DVESScapades
escapades: interesting, stimulating, exciting activities and adventures



**Delaware Valley Earth Science
 Society Newsletter**



Delaware Valley Earth Science Society, Inc. (DVESS)
 P.O. Box 372 Maple Shade, N.J. 08052
 DVESS Website : <http://www.dvess.org>

**Meeting: September 14, 2011
 Program: "Show and Tell"**

President's Message: This is my last president's message, because I sold my house and will be moving to California the first week in September, before our September meeting. It has been a pleasure serving as your president for these past 8 months, and hopefully I rekindled interest in field trips. The board knew it was a possibility that I wouldn't serve out my entire term, so Ann Benson, our Vice President, will be taking over now. She's been our president before, and will do a fine job.

Remember that the September meeting is always our "Show and Tell" meeting. Of course we're always up for the casual show and tell at the regular meetings, but in September it comprises the whole program. If you went someplace over the summer, please talk it up for the rest of us and show us what you got.

--Terry Wilson, President

MINUTES:

DVESS General Meeting on August 10, 2011
 By Grant Elliott, Recording Secretary

Meeting was held at Centenary UM Church in Berlin, NJ.

Attendance: Terry Wilson- President/Web Mistress, Gary Weinstein- Treasurer/Program Chair, AnnLynne Benson- 1st VP/Special Events Coordinator, Grant Elliott- Recording Secretary, Carol DeCuzzi- Newsletter Editor/Membership, and Mil LeCompte- Jr Rockhound Coordinator. Others present included Peter DeCuzzi, Stu Cleveland,, Gerald Feigin, Mark Leifert, amongst others.

Terry gaveled the meeting to order at 8:00pm.

Program: We were treated to the world of the very small by Gary as he presented a hands-on

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micromounting workshop. It helps to have the fingers of a bomb maker when affixing your tiny specimen to its mount in the presentation box. It helps to have good loupe or microscope to appreciate the finished product in its lilliputian world. It was a very satisfying hands-on experience.

Future Programs:

September- Show and Tell

October- Lou Detofsky on "Geology of the Caribbean"

November- Don Miller (Fossil elephants)

December- Xmas party.

Terry made her announcement that she is moving to California in early September and that Ann will guide the organization through December. Terry will be sorely missed!

Reviewed proposed Indian Echo Caverns/Hershey, Pa. trip.

New member Robert Benson was welcomed.

Exec on 8/17/2011 at Gary's house.

Meeting concluded at approximately 9:30pm. Some members then repasted at the Pallas Diner.

For your further travel pleasure, consider the following fun places to go...

September:

10 – 12: 48th Annual Gem, Mineral & Fossil Show sponsored by the Northern Berkshire Mineral Club. American Legion Post #90, Rte 7; Pownal, VT.

17 – 18: 42th Annual Mid-Hudson Show – The Fossils of New York sponsored by the Mid Hudson Valley Gem & Mineral Society. Dutchess Co. Fairgrounds, Rt. 9, Rhinebeck, NY

17-18: 44th Annual Gem & Mineral Show sponsored by the Central Pennsylvania Rock & Mineral Club. Zembo Shrine, 2801 N 3rd St; Harrisburg, PA.

24-25: 47th Annual Atlantic Coast Gem, Mineral & Jewelry Show hosted by the Gem Cutters Guild of Baltimore, Howard County Fairgrounds, I-70 at MD Rt 32; West Friendship, MD

Sept 30 – Oct 2: Desautels Micromount Symposium hosted by the Baltimore Mineral Society. MHA Conference Center, Elkridge MD.

October:

15-16: 38th Annual Gem, Mineral, Fossil & Jewelry Show & Sale sponsored by the Kanawha Rock & Gem Club. So. Charleston Community Center, So. Charleston, WV.

22 – 23: 42th Annual Rochester Gem, Mineral, Jewelry & Fossil Show sponsored by the Rochester Academy of Science Mineral Section and Rochester Lapidary Society. Monroe Co. Fair & Expo Center, Henrietta, NY.

29: Annual "Ultraviolation" Fluorescent Mineral Show sponsored by the Rock & Mineral Club of Lower Bucks County. First United Methodist Church, 840 Trenton Road, Fairless Hills, PA.

November:

5 - 6: 7th Annual Rock & Gem Show sponsored by the Penobscot Mineral & Lapidary Club. Brewer Auditorium, Brewer, ME.

19-20: 45th Annual Gem, Mineral, Jewelry, Bead & Fossil Show sponsored by the Gem &

Mineral Society of the Palm Beaches. So. Florida Fairgrounds Expo Center East; West Palm Beach, FL.

25-27: 32nd Annual Roanoke Valley Mineral & Gem Show sponsored by the Roanoke Valley Mineral & Gem Society. Salem Civic Center, 1001 Roanoke Blvd; Salem, VA.

Did a reptile swimmer show mother love?

A single large baby suggests that plesiosaurs cared for their young. By Zoë Corbyn

Plesiosaurs gave birth to live young, and may have lived in groups. S. Abramowicz/NHM A fossil of a plesiosaur, an extinct marine reptile, has revealed that not only did these animals give birth to live young, they may also have cared for their offspring in a manner similar to today's whales and dolphins.

The 78-million-year-old fossil, of a four-flipped giant belonging to the species *Polycotylus latippinus*, had lain unexamined in a museum basement for nearly 25 years.

Other extinct marine reptiles, such as ichthyosaurs, mosasaurs and choristoderans, were known to give birth to live young, a strategy called viviparity. This is the first evidence that plesiosaurs did the same, rather than hatching their offspring from eggs on land.

"We have known about plesiosaurs for almost 200 years, but despite an excellent fossil record we have never found a pregnant plesiosaur before," says palaeontologist Robin O'Keefe at Marshall University in Huntington, West Virginia, who analysed the fossil with Luis Chiappe at the Natural History Museum of Los Angeles County in Los Angeles, California.

Unlike other ancient marine reptiles, which gave birth to many small babies, the *Polycotylus* fossil



shows just one big fetus, 150 cm long, inside a mother 470 cm long. The fetus, which has 20 vertebrae, shoulders, hips and paddle bones visible, is thought to be about two-thirds grown. The finding is published today in *Science*¹.

Modern animal mothers that have a few, large offspring, such as humans, elephants, and whales and dolphins, invest a lot in parental care. "If you are going to put all your egg in one basket by having a single large baby, it makes a lot of sense that you would want to take care of that

baby," says O'Keefe.

Plesiosaurs probably did the same, he speculates, and may have lived in groups for protection, making their social lives more similar to those of modern marine mammals than to other extinct marine reptiles. The alternative, that the baby would have been born ready to take care of itself, doesn't make sense, he says, because the fetus's unfused bones suggest that it would not have been physically independent at birth.

A few living reptiles, such as some skinks, also give live birth to a small number of large young. They too exhibit mammal-like social behaviour, notes O'Keefe.

On display the specimen is "spectacular", says Michael Everhart, an expert in prehistoric marine reptiles at the Sternberg Museum of Natural History in Hays, Kansas. "It has answered a question we have had for years," he says.

But Everhart also believes it is premature to

conclude that plesiosaurs' social and reproductive lives were dramatically different to those of other extinct marine reptiles. "I would like see a half dozen more specimens first," he says.

A private fossil hunter found the plesiosaur in Kansas in 1987. It was donated to the Natural History Museum of Los Angeles County, where it lay unprepared. "There has always been

scuttlebutt about the pregnant plesiosaur fossil in the basement," says O'Keefe. Last year, it was decided that the fossil should be displayed and the necessary funding for its preparation and display was obtained. The plesiosaur has just gone on view in the museum's new dinosaur hall.

References: O'Keefe, F. R. & Chiappe, L. M. *Science* 333, 870-873 (2011)

For the home-schooler among us or those of us just interested in science info for the greater good and interesting things to do.

Today we're going to talk about the reason why airplanes fly - *AIR PRESSURE*. Now, when I first started teaching many years ago, I wanted kids to get a real sense of how incredibly uplifting pressure differences can be, so we made kites together. Six FOOT kites. Never made 'em before this class (and haven't made 'em since - read on to find out why).

As soon as the kids held these huge kites aloft, the wind picked up speed and the kids soared about 5 feet off the ground.

The best part of it was the conversation we overheard at the end of the day between the (understandably) incredibly excited kids and

their parents who picked them up from class: "Mom... MOMMM! I flew today!" Kid tears across the lawn to meet mom with the news.

"That's nice, dear," replies mom, patting her child absently on the head, gathering backpacks and coats for the ride home.

"No - I mean, I really flew today! We did airplanes and stuff, and I made this kite, and we all flew!"

"Wonderful, honey... do you have your hat? It's time to go home." She walks away.

Kid looks back at us with a confused look. I give him a wink, and as he turns to race after mom (who's already retreating toward the car), I look at my assistant with a "Whew!" and a sigh.

So - how can YOU experiment with air pressure? Let's check it out.

Science Experiment: Magic Water Glass Trick
Fill a glass two-thirds with water. Cover the mouth with an index card and invert (holding the card in place) over a sink. Remove your hand from the card. Voila!

Air pressure is pushing on all sides of both the glass and the card (this is called "atmospheric pressure"). Recall that higher pressure *pushes*, and when you have a difference in pressure, things move. This pressure difference causes storms, winds, and that card to stay in place.

Where's the pressure difference in this trick? At the opening of the glass. The water weighs

a pound (at best), and the air pressure is exerting 14.7 pounds per square inch (psi) on the bottom of the card. Guess who wins? Now it's your turn - go have fun! I hope you're having fun. See you in the next issue!

Warmly,

Aurora

P.S. In the next issue, you can look forward to a few changes in this "Science Activities & Experiments" newsletter series. I'll tell you more about it next time, but I just wanted to give you a quick heads up. Free Online Tele-Class

Every month we hold a Free Online Tele-Class for Supercharged Science subscribers. This is a real, live interactive video class with Aurora herself. Let your kids experience the magic of Aurora's science first hand. And of course, questions are welcome!

To find out when the next one is, for more details visit:

<http://www.superchargedscience.com/freeteleclass.htm> How to Share Supercharged Science

If you found the information from Supercharged Science useful and insightful, I please pass along the good fortune now by forwarding this email to someone you know who may benefit. Science Tools for Home school Families

If you feel awkward because your child asks science questions you can't answer, and you're not even sure where to look for those answers, know that you are not alone! Many parents today feel their child has outstripped their science knowledge, yet they still want to support their child in a meaningful and lasting way.

There are many science experiments you can do today with your child that are not difficult to do nor do they require expensive equipment. You can start right away with things in your house with a little help and guidance from Supercharged Science. [Click this link](#) to find out more. How To Subscribe

If this email was forwarded to you by a friend, and you would like to get our free science experiment activity book, along with the current monthly newsletter, Rocket Scientist and weekly science experiments emailed to you (all for free), simply visit:

<http://www.superchargedscience.com/freestuff.htm> Contact Info

Our mission is to support science education among kids in a way that is engaging, fun and highly effective. We provide a variety of complete K-12 science programs, educational kits and live hands-on workshops for home school kids, scouts and teachers. Our programs and kits cover everything from robots and rocketry to chemistry and lasers. For more information on how we can get your kids and students excited about science, please visit us at www.SuperchargedScience.com.

The Philadelphia Academy of Natural Sciences is turning 200!

We're kicking off our bicentennial celebration in 2012 with a countdown of 200 stories that provide a glimpse into the Academy's rich history and amazing discoveries of yesterday and today. Meet some of our quirkier personalities, and find out the secret stories behind some of our most well-known exhibits, scientific breakthroughs, and more.

Now through March 20, 2012, you are invited to read a new story each day at ansp.org/200/stories. We will also be posting them daily on [Facebook](#) and [Twitter](#). Enjoy!

Academy Beginnings

For example, did you know that: On January

25, 1812, six gentlemen gathered on the second floor of an apothecary shop on the northeast corner of Market and Second streets in Philadelphia. The group, which included two doctors, a dentist, an apothecary, a manufacturing chemist, and a distiller, was committed to creating a society for the cultivation of the natural sciences.

On March 21, the group discussed and agreed upon a constitutional act which established the Academy of Natural Sciences. The men decided that their friend Thomas Say, a gifted naturalist, should be recognized as one of the society's founders. Say's work was critical to the success and growth of the Academy during its first years.

Today the Academy leads the world in biodiversity and environmental research from our permanent home on historic Logan Square. Stop in to see incredible dinosaur bones, get

up close with live animals, and marvel at our amazing exhibits! (From the 1st story on the web site above.)

Information for jewelry making

CLEANING STEEL SHOT

Steel shot in a vibratory or rotary tumbler works great to burnish up your finished silver pieces. Surfaces are shined and hardened by the shot impinging on it. Carbon steel shot can get rusty and even stainless steel can develop a blackish coating that's hard to remove. My solution of choice to clean the shot is Classic Coke. Just pour an ounce or two over the shot and let the tumbler run for an hour or so. A bad case might require a second cleaning. I'm no chemist, but I've heard that it's the phosphoric acid in Coke that does the trick.

While you're waiting for the shot to clean up, just settle back and enjoy the rest of the Coke.

DEBURRING A HOLE

When you drill a hole, there's usually a burr produced on the underside of the metal. Typically you would then file or sand this smooth, but doing so will put scratches on your piece that will take time to polish off. A quick way to remove the burr is to grab a drill that's about three times as large as your hole. Simply twist it in the hole to cut off the burr. I usually do this by hand but if you have many holes to do, put the drill into a holder like a pin vice.

Acknowledgment to be included with each publication: More Bench Tips by Brad Smith are at groups.yahoo.com/group/BenchTips/ or [facebook.com/BenchTips](https://www.facebook.com/BenchTips)

[“Jurassic Mother” Is Our Earliest-Known Mammal Ancestor](#) [At the LHC, the “God Particle” is Running Out of Places to Hide](#)

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80beats | Former Sun-like Star Is Now a Diamond Planet. An international team of astronomers has found an exotic planet possibly made of diamond. Researchers believe the unusual planet was once a sun-like star, transformed into its current state by its hungry stellar companion.

What's the News: An international team of astronomers has [found an exotic planet possibly made of diamond](#), located about 4,000 light-years away from Earth. The researchers believe that the unusual planet

was once a sun-like star, transformed into its current state by its hungry stellar companion, a [millisecond pulsar](#).

How the Heck:

When a massive star dies in a [supernova](#), it sometimes collapses into a [pulsar](#), a highly compacted stellar corpse that emits periodic beams of electromagnetic radiation from its poles. If a pulsar is part of a [binary system](#), it can feed on its nearby stellar friend and speed up its spin to hundreds of rotations per second, effectively becoming a millisecond pulsar.

(About 30% of millisecond pulsars found are solitary — astronomers don't know how they formed.)

Astronomers detected the pulsar, known as

PSR J1719-1438, during a large survey using the CSIRO Parkes Observatory near Sydney, Australia. When they studied the pulsar's radio beams, they noticed slight variations in the signals, likely caused by the gravitational tug of an orbiting body. By analyzing this signal modulation, they were able to determine that the second object has a little more mass than Jupiter and [revolves around the pulsar every two hours and ten minutes at a distance of about 600,000 kilometers](#) (at its closest, Mercury is about 46 million km from the Sun).

But at this distance, a planet the size of Jupiter would be ripped apart by the intense gravity of J1719-1438. The researchers calculated that [the planet could be no larger than 60,000 km in diameter](#), less than half the size of Jupiter, giving it a density about 18 times that of water (via [National Geographic](#)).

With the planet's density and distance from the pulsar, the [astronomers reasoned that the object was once a star itself](#) — J1719-1438 siphoned matter from the surface of the star, stripping it of its outer layers of hydrogen and helium. This left a [white dwarf](#)—the core of a dead sun-sized star—that is made up of mostly carbon (with a bit of oxygen) and has only 0.1 percent of its original mass. Under the high pressure of the planet's own gravity, the carbon

would crush into a crystalline form — that is, diamond. The team is unable to specify what percentage of the planet would be diamond, but they believe it's pretty high, [according to TIME](#).

What's the Context:

PSR J1719-1438 is one of only two millisecond pulsars found to have orbiting planets. The other, [PSR B1257+12](#), has three planets, none of which are thought to be made of diamond. Last year, there were reports of another "diamond planet." This body, called [WASP-12b](#), was the first planet found to have [more carbon than oxygen in its atmosphere](#), leading astronomers to believe that its surface is rich in diamonds.

With better technology and techniques, astronomers have been finding extra-solar planets at an accelerated rate over the last few years. Some of the exoplanets are about as strange as the diamond planet, like the [planet that reflects practically no incident light](#).

Reference: M. Bailes et al. **Transformation of a Star into a Planet in a Millisecond Pulsar Binary**. *Science*, 2011; DOI: [10.1126/science.1208890](#)
Image courtesy of [Swinburne Astronomy Productions](#)

Not Exactly Rocket Science | Bacteria--Resisting Antibiotics Since 30,000 BC

The rise of drug-resistant bacteria is one of the most important threats facing modern medicine. But these tricks aren't new ...

Cosmic Variance | Time Is Out of Joint

Sean Carroll's talk about the nature of time is designed to irk everyone--including fellow physicists.

Bad Astronomy | Star Eaten by a Black Hole: Still Blasting Away

In late March of 2011, an extraordinary event occurred: a black hole in a distant galaxy tore apart and ate a whole star. Now, there's more info ...

Not Exactly Rocket Science | The Genetic Sergeants That Keep Stem Cells Stemmy

Stem cells must constantly repress genetic programmes that threaten to send them down specific routes, and rob them of their limitless potential.

Take Precautions Against Tick Bites:

If hiking in the woods is one of your favorite activities, be sure to dress properly to help prevent a tick bite.

- Wear light-colored clothing, long pants and a long-sleeved shirt if it's not too hot, as well as socks and closed shoes instead of sandals.
- Keep your clothes tucked in from head to toe.
- Always check yourself and your pets for tickets after hiking or other outdoor activities.

Ticks can also live in overgrown yards, so keep your lawns mowed and hedges trimmed. If you garden, you should also check yourself for ticks.

Spray and Stay Away: Mosquitoes aren't just annoying - they may carry the West Nile Virus. Use insect repellent for mosquitoes and tickets; reapply often, especially if you sweat a lot. Try to avoid being outdoors at dawn and dusk when mosquitoes are most active. Make sure you drain areas around your home that have free standing water where mosquitoes can breed.

Know When to Seek Medical Help: Mosquito, tick and other summer bug bites from spiders as well as bee stings are rarely dangerous or poisonous, but they can be uncomfortable. If you have mosquito bites, were bit by a tick or stung by a bee, don't hesitate to call or see your health care professional if you notice anything unusual or don't feel well. Headaches, fever, dizziness and nausea can all be signs of a more serious problem.

This information was provided as a courtesy of Adventure Aquarium's official healthcare partner & sponsor of Touch-a-Shark, Horizon Blue Cross Blue Shield of New Jersey. For more health and wellness information or to learn how Horizon Blue Cross Blue Shield of New Jersey is *Making Healthcare Work*, visit www.HorizonBlue.com

This space left blank waiting for your contribution.

DVESS MEETING LOCATION :

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 (next page).

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.

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 2011</i>	President terry@terryfic.com	Terry Wilson or terry@dveess.org
1 st Vice President 856-783-0969	Ann Lynne Benson SeleniteQueen@gmail.com	2 nd Vice President
Jr. Rockhound Coordinator 856-783-0969	Mel LeCompte works-in-faith@comcast.net	Recording Secretary 856-728-1731
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Membership Form

Start w/ first family member (designated as head of family) Juniors must have an adult head of family with the Junior as the additional family member for insurance purposes.

First Name: _____

Last Name: _____

Address: _____

City: _____

State: _____

ZIP+4 _____

Phone: _____

Email: _____

Cell Phone: _____

Profession, School or Major Work

Okay to let other members of the Club see your email and other orange-starred information (on website)?

Okay to share _____

Do NOT share _____

Newsletter Delivery ONLY via e-mail

additional family members to be registered w/ above member

Type of membership 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
Dues are collected on a calendar year Jan to Dec, no pro-rata rates
additional members on another paper if needed

First Name: _____

Last Name (only if different from above)

First Name: _____

Last Name (only if different from above)

First Name: _____

Last Name (only if different from above)

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

Interests: Minerals ___ Fossils ___ Lapidary ___ Collecting ___ Museum Trips ___
Trotter ___ Sterling Hill ___ other, please list _____

How did you learn of DVESS? _____

Comments _____

What NON-DVESS interests or hobbies do you have? Would you be willing to share with our members?

What would you like the club to do or provide for you? _____

Delaware Valley Earth Science Society, Inc. (DVESS)
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RETURN SERVICE REQUESTED

