The official bulletin of the Dothan Gem & Mineral Club, Inc.

Rockhounds Herald

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

August 2016

Peridot $(Mg,Fe)_2SiO_4$ Peridot $(Mg,Fe)_2SiO_4$ Peridot $(Mg,Fe)_2SiO_4$

Words from...

The President

We auctioned off a bunch of nice stuff at our July Summer Social and all the proceeds went to the club. I want to thank everyone who brought the great food and donated the great stuff to be auctioned.

We have a few worthwhile digs coming up in neighboring Georgia. The Hogg Mine is having a machine dig on August 26 – 28. I was not sure exactly what that was so I emailed Chris. He said there will be fresh dirt throughout the entire property and that they will dig the main pit as well. The dig is $150 per person, per day. One good find will cover the fee though. If anyone is interested in going, you can send Chris an email through the contacts page on the Hogg Mine website to reserve a spot. The dig is limited to 30 people per day.

The Hogg Mine will be also be hosting a Rockhound Connection Fall Gathering on September 24 – 25. This is dig and rock swap!! Plus, they will be open for digging on September 22 – 23 and the 26th. The fee for this dig is $35 per day, per person. If you are interested in being a vendor for this event you can send Chris an email through the Hogg Mine web site to find out the cost.

With fall just around the corner, we'll soon have another opportunity to dig at Graves Mountain, too. Junior Norman will be hosting his twice-yearly "Rock Swap and Dig" at the mountain on October 7 – 9. The mountain will be open for collecting from 8 AM to 6 PM each day. As in the past, there will be an area in the parking lot for vendors to sell and trade minerals. They had some beautiful specimens at the last dig and swap. If you haven't been, this is one to add to your "must do" list.

The last of our three Summer Socials is scheduled for August 27th. The gathering time at the fellowship hall is 2:00 PM. Aside from another great potluck meal, the August social will feature an auction where the proceeds of the sale go to the owner of the items sold. If you have multiples of something in your collection—or anything else you'd like to sell—feel free to bring the items to the social. They'll find a new home, you'll open up some space AND you'll have some extra cash in your pocket…in case you want to buy something to fill that empty space.☺

One more thing, please bring along any contact information for potential speakers as our regular meetings will begin in September. Hope to see everyone on Saturday, August 28th. Thanks.

Pat

Upcoming Shows

September 2 – 5	**Henderson County Gem & Mineral Society**	**Hendersonville, NC**
September 23 – 25	**Jacksonville Gem and Mineral Society**	**Jacksonville, FL**
September 25 – 27	**Florida Faceters Frolic**	**Jacksonville, FL**

Source: http://www.amfed.org/sfms/club-shows-789.html

Guest Article by Brad Smith

LITTLE THINGS CAN BITE

Most jewelers treat motorized equipment with caution. We've all heard stories about workpieces coming loose in the drill press or about getting long hair or clothing caught in the polishing machine. It stands to reason that a machine with a motor of a half horsepower or so is going to win out over its operator. We all know that, and I'm not going to harp on it. That's not the point of this story.

I want to talk about the smaller motor powered machines we often use, the ones with little 3 inch diameter motors. For instance, these small motors are used in flexshafts and micro buffers. They're so small that many of us forget caution when using them. I'm guilty of it myself sometimes, and believe me it can get you in trouble. Here's what happened to two people I know.

One friend had a polishing bur bend in the handpiece and then whacked the thumb that was holding the workpiece so badly that it seemed the bone might be broken. The swelling was substantial, and it took several weeks to regain normal use. A small underpowered motor? I don't think so.

Another friend was using one of the small buffing machines, the kind you can stop when you apply too much pressure to the wheel. Not to worry about such an underpowered beast you say. Wrong, it literally jumped up and bit the hand that feeds it!

Buffer was set on a low table to do a quick polish, so was not mounted or clamped. A buff was installed on the right spindle, no buff on the left. Friend was wearing a tight-fitting, long-sleeved sweater. While buffing on the right wheel, the left tapered spindle caught a thread on the friend's left sleeve and started grabbing more and more threads and sleeve.

Rather than pulling the arm into the machine, the light buffer quickly lifted off the table and started climbing up the underside of the friends arm. There was no way to get a hand on the on/off switch because the unit was spinning wildly and battering my friend like a club wielded by a mad man. Only when my friend could grab the gyrating power cord and yank it from the wall did the mayhem stop.

So when you're in the shop, please think safety. Don't take even those little motors for granted.

Source: Brad's Bench Tips for June - www.BradSmithJewelry.com
Note: "Bench Tips for Jewelry Making" and "Broom Casting for Creative Jewelry" are available on Amazon

Bonus Tip

Quick Close Ups - Often when trying to get a close-up photo with your iPhone or Android, you end up with a fuzzy, out-of-focus image. Next time try using your loupe over the camera lens. It works quickly and easily.

How and Where Gems Form, Part 2 of 2

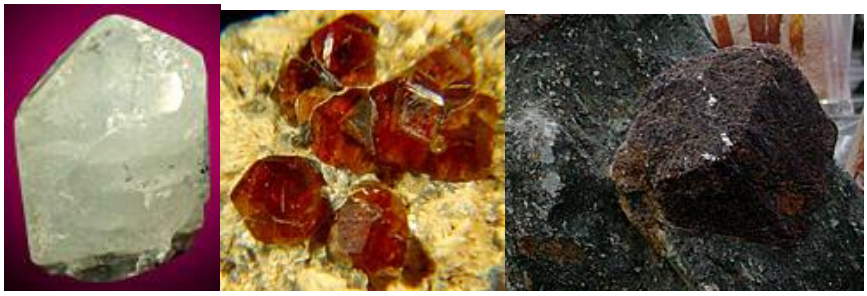
In Part 1 of "How and Where Gems Form," we learned that gems, in nature form from solutions by precipitation. In Part 2, we see that gems also form from melts by crystallization and from vapors by condensation.

Melt/Crystallization Formation

As magma cools various minerals form, depending on the temperature and pressure at a particular location and time. As each type of mineral forms it reduces the concentration of, or removes, some of the elements required for its formation. Thus, as the mix of elements present and the physical conditions change, so do the minerals which form.

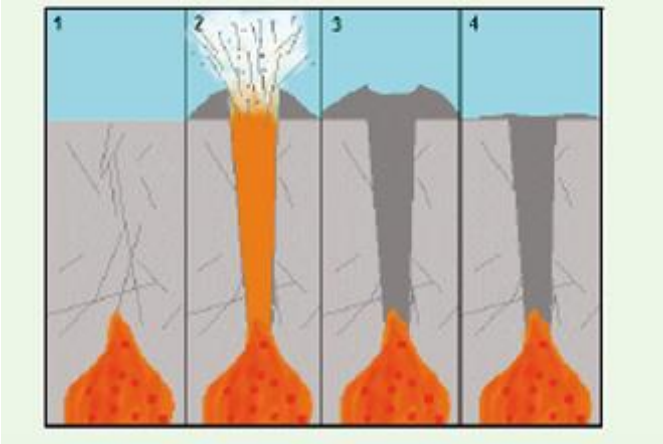
Intrusive: Gems usually form in intrusive igneous rocks where the slow rate of cooling favors larger crystals. Generally, though, we do not mine the original formation sites of these gem-containing rocks, but instead gather the weathered-out gems which have been released when these intrusive rock bodies are uplifted to the surface, or erosional processes reveal them. Corundum and topaz are examples of gems which form in intrusive rocks.

Extrusive: Extrusive igneous rocks would generally not be expected to hold large crystals. Occasionally, though, some large crystals will form deep underground, but before crystallization of other minerals is complete and a typically large grained intrusive rock is produced, the magma suddenly finds its way to the surface. Under these new conditions, the rest of the magma (carrying the large crystals from below) quickly solidifies to become fine grained rock. In such extrusive igneous rocks we find larger gem crystals *in a matrix of finer grained rock*. (See mantle gems, below). Corundum, moonstone, garnet and zircon are examples of gems that can be formed and brought to, or near, the surface in this way.



[Topaz crystal from China, Spessartite garnet crystals in microcline matrix from China: Images courtesy of Treasure Mounting Mining, a huge, non-gem quality garnet crystal in host rock: Image courtesy of Las Vegas Jewelry and Mineral]

Gems formed in the mantle: Peridot crystals form in magma from the upper mantle (20 to 55 miles deep), and are brought to the surface by tectonic or volcanic activity where we find them in extrusive igneous rocks. Diamonds were formed many millions of years ago, deeper in the mantle (around 100 - 150 miles below the surface), at extreme temperatures and pressures. These diamond forming magmas would later erupt (still holding the diamonds) to form rocks called kimberlites and lamproites.



[Diagram courtesy of The International Gem Society and Don Clark, www.gemsociety.org]

The scenario goes something like this: 1) magma, containing diamond crystals, suddenly and explosively finds a path to the surface. 2) As the lava (orange) rises, some of it cools and solidifies underground forming a carrot shaped formation of kimberlite rock in which the diamond crystals are "frozen". 3) & 4) The volcanic cone has eroded away leaving diamonds at the surface, and underground in the kimberlite (or lamproite) "pipe" (gray).

[Diamond crystal in kimberlite rock from Russia: Image courtesy of www.irocks.com, peridot crystals in basalt from Arizona: Image courtesy of www.mtlilygems.com]

Pegmatites: As magma, which contains dissolved minerals in water under pressure, begins to rise through cracks and cool down, crystallization begins. The magmatic water, along with the dissolved minerals which require lower temperatures for their crystallization, becomes more and more concentrated. In the end phases of crystallization of the magma, the water is expelled as vapor, and the highly concentrated magma remnants crystallize near the surface in a distinctive geologic formation known as a *pegmatite*. The magmas from which pegmatites form often contain high concentrations of rarer elements like beryllium and boron. Gems commonly

found in pegmatites are emerald, topaz, tourmaline, rose quartz, chrysoberyl and spodumene, and they can be very large.

[World class aquamarine crystals from N. Pakistan pegmatite: Image courtesy of www.irocks.com, pink tourmaline rough from a pegmatite formation in the Stewart Mine in California, emerald crystals: Image courtesy of Las Vegas Jewelry and Mineral, rose quartz from a Brazilian pegmatite mine: Image courtesy of www.irocks.com]

***Check the Web: One of the most famous pegmatite mines in the US is the Stewart Tourmaline Mine in Pala, California. This famous deposit, most noted for its bubble gum pink tourmaline, consists primarily of pegmatite formations of a type called dikes. Visit this link to take a virtual tour of the mine:*
http://www.mmmgems.com/stewart/minetr2.htm

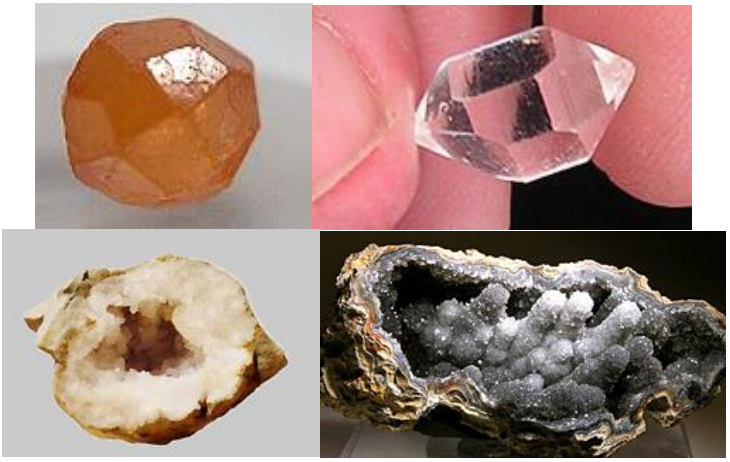
Vapor/Condensation Formation

It might be a little difficult to imagine vapors condensing to form crystals, as it seems somewhat foreign to every day experience. And it's true that at normal atmospheric pressures and common ambient temperatures, this doesn't happen very often. But there's one good example that we can all look to: frost which forms on our windowpanes or car windshields. Frost is, in fact, precisely a situation of a vapor (water vapor) condensing to a solid crystal (ice). The next time you get a chance, use your loupe to examine that frost: beautiful! Given the extreme environments created by some geological events, such as an eruption of magma, conditions can be ideal for such condensation processes, and they are relatively common events.

Vugs: When magma (a fluid with dissolved liquids and gases) is suddenly released from the pressures containing it (as when it erupts or spreads into surface fissures), gases are freed and liquids quickly vaporize to gas, which creates gas-filled bubbles and pockets in the lava called "vugs". (We experience a similar phenomenon every time we open a carbonated beverage).

Gems cans crystallize from these vapors which are trapped and concentrated inside the openings. Often they form singly, without attachment to the surrounding surface. When we see a *doubly terminated crystal*, or one that is perfectly formed with no attachment point (called a "floater"), often it has formed in just such a gas pocket. One of the most famous deposits of these doubly terminated crystals is the rock crystal quartzes formed in Herkimer, NY, and known as "Herkimer Diamonds".

Other pockets which do not produce crystals from gases, may *later* be invaded by surface water, or hydrothermal fluids, and become filled or lined with small or large crystals forming geodes or other similar formations.



[Spessartite garnet "floater" crystal from Namibia, doubly terminated rock crystal quartz ("Herkimer Diamond") from New York, igneous vug lined with hydrothermally derived quartz crystals, vug from Germany, containing stalagtites covered with tiny quartz crystals: Image courtesy of www.irocks.com]

Crystal growth from solutions or vapors can also exploit fortuitous openings as seen below. This ancient clam's death, and subsequent fossilization, created a space in the surrounding rock which later became home to the beautifully formed calcite crystals in this prize specimen.

[Fossil clam shell with calcite crystals, from Okeechobee County, Florida]

Source: http://www.bwsmigel.info/lesson10/de.gem.formation.html
Reprinted with permission from Dr. Barbara Smigel

Club Social – July 2016

Photos by Pat & Bruce

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Treasures on the auction block…

Kid's Corner

Rock Websites to Get You Ready for School

www.minerals.si.edu
Going here takes you to the Smithsonian Museum of Natural History's Department of Mineral Sciences. And if you're looking for pictures of beautiful minerals this is the place. After all the Hope Diamond and the Star of Asia Sapphire aren't the kind of rocks you pick up in your backyard.

www.minsocam.org
This is the website for the Mineralogical Society of America. It includes a separate site for kids, and tons of info on just about everything having to deal with mineralogy, petrology, and crystallography. The site also includes a collectors corner for identification, a crystal structure database, and ask a mineralogist.

www.webmineral.com
If you ever wanted to know just about everything about any one mineral then this is where you should go. At last count, this site has a database of 4,442 individual mineral species descriptions that include links for more info as well as a comprehensive image library. Minerals are sorted by their crystal system, structure, physical and optical properties, and more. They even going as far as to list them on how radioactive they are.

gemstone.org
The International Colored Gemstone Association's website is very pretty site to visit. With lots of info on anything gemstones including birthstones, stories, and tips. If you ever wanted to know anything about colored gemstones than this is the site for you.

www.geology.com
This is a site that has a lot of info. From geology maps for all 50 states to satellite images they have it all. You could spend hours looking through all the stuff on this site; that is, if your head doesn't explode from all the information first!

www.rocks-rock.com
This is a nice informational website for those just starting their exploration into the world of rocks, and you seasoned geologists may just learn a thing or two as well.

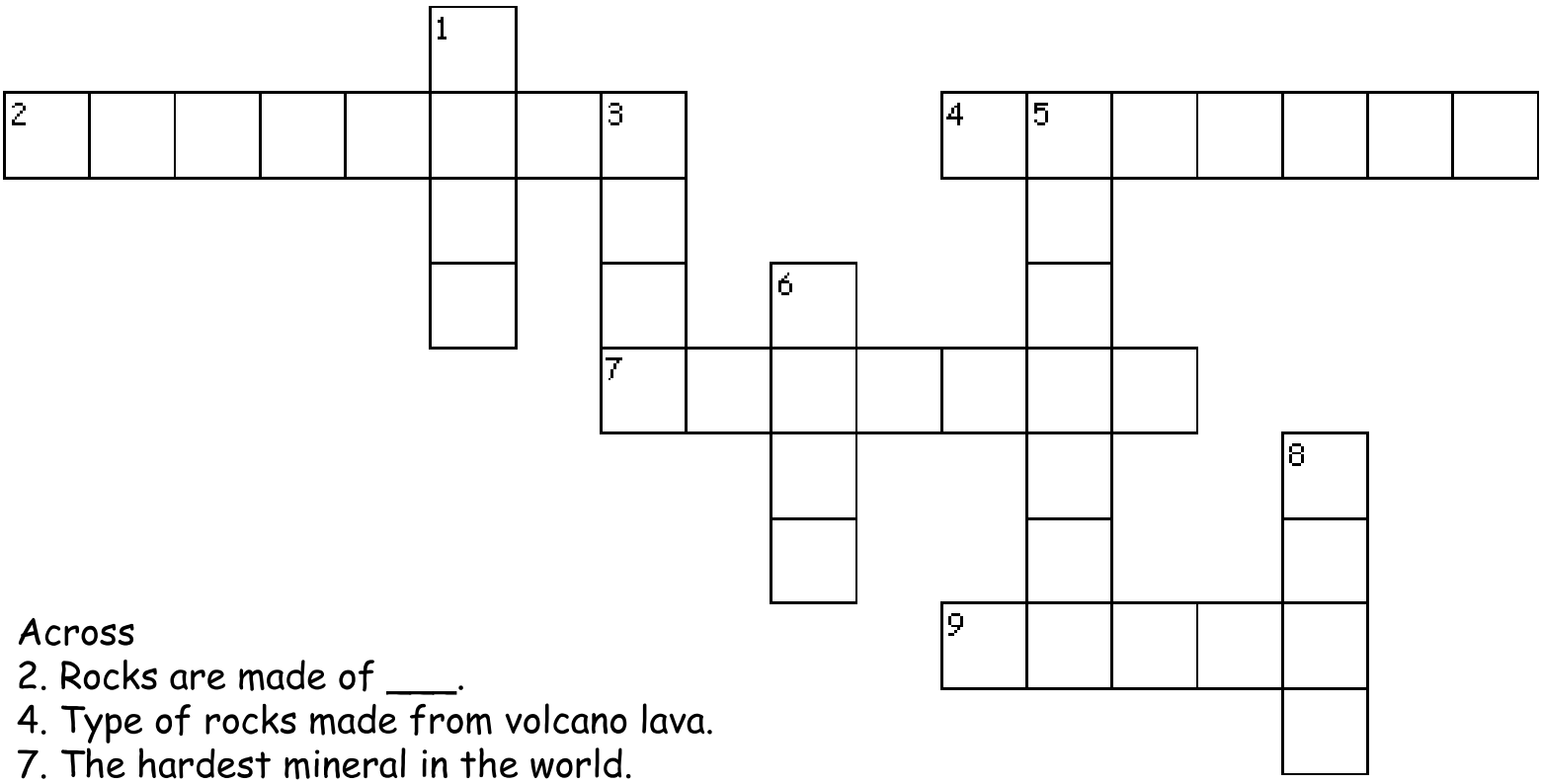
www.mcrocks.com
This site includes a picture tour of 13 counties in western North Carolina, and a nice message board with people who truly enjoy rocks.

www.fabreminerals.com
Looking for beautiful and rare specimens? Here's the place to find them. All of the minerals have nice pictures with descriptions and place of origin.

PO Box 342, Huger, South Carolina 29450
843-216-8189
843-216-8352
rockinfo@minimegeology.com
www.minimegeology.com

Mini Me Geology is a division of Giverny, Inc.

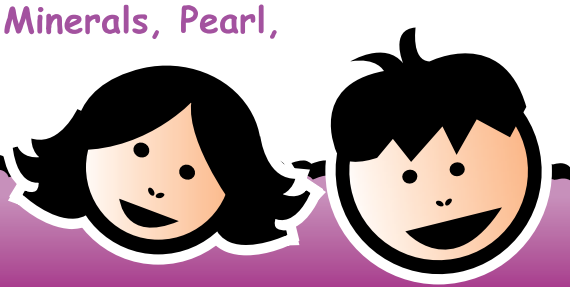
CROSSWORD #2 ROCKS & MINERALS



Across
2. Rocks are made of ___.
4. Type of rocks made from volcano lava.
7. The hardest mineral in the world.
9. June birthstone.

Down
1. Melted rock that comes out of a volcano during and eruption.
3. Small quartz grains found on the beach.
5. Igneous rock often used for counter tops.
6. Large open areas in limestone rock worn away by rain water.
8. The halite mineral is also known as ___.

Choose From: Igneous, Diamond, Quartz, Cave, Lava, Minerals, Pearl, Granite, Sand, Salt



Who What Where When Why How

August Birthdays

AUG 2 Christian Holderith
AUG 11 Wanda Moore
AUG 14 Arnie Lambert
AUG 23 Barbara Meredith
AUG 29 Samantha Merrill

Random Rock Facts

Although most of the diamonds you see on a day-to-day basis are called "white" and appear so, a little study and comparison will verify that a truly colorless diamond is a thing of great rarity, and the vast majority of diamond gems are actually tinted with small, but noticeable amounts of yellow or brown.

There is sort of a "U" shaped value curve for diamonds, whereby the highest values accrue to only the whitest, and then, again, to the most vividly colored specimens, with value bottoming out in the central ranges where there is just a bit, to a moderate amount of color.

Source: http://www.bwsmigel.info/Lesson4/DE.Optical.Properties.html
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Meeting Information

Time: 2:00 PM
Date: Fourth Sunday of each month (except June, July and August)
Place: Fellowship Hall – Tabernacle United Methodist Church
4205 S. Brannon Stand Road
Dothan, AL

Website: www.wiregrassrockhounds.com

Objectives

To stimulate interest in lapidary, earth science and, when necessary, other related fields.

To sponsor an educational program within the membership to increase the knowledge of its members in the properties, identifications and evaluations of rocks, minerals, fossils and other related subjects.

To cooperate and aid in the solution of its members' problems encountered in the Club's objectives.

To cooperate with other mineralogical and geological clubs and societies.

To arrange and conduct field trips to facilitate the collection of minerals.

To provide opportunity for exchange and exhibition of specimens and materials.

To conduct its affairs without profit and to refrain from using its assets for pecuniary benefit of any individual or group.

Classified Ads

Looking for an item to round out your rock collection?

Got a specimen, tool or handicraft for sale or trade?

Submit the pertinent details to me by the 10th of each month and your inclinations will be made known to the membership in the next bulletin.

N. J. Blackwell
28 Lakeview Trail, Apt. C
Daleville, AL 36322
Phone: 334-503-0308
Email: Tsavorite7@aol.com

Annual Dues

Single $15
Family $20

Officers

President – Pat LeDuc
334-806-5626

Vice President – Garry Shirah
334-671-4192

Secretary – Bruce Fizzell
334-577-4353

Treasurer – Diane Rodenhizer
334-447-3610

Bulletin Editor – Joan Blackwell
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Webmaster – Pat LeDuc
334-806-5626

Membership Chair – Diane Rodenhizer
334-447-3610

Show Chair – Jeff DeRoche
334-673-3554

Field Trips Chair – Garry Shirah
334-671-4192

Hospitality Chair – Vacant

Club Hostess – Vacant

Club Liaison – Garry Shirah
334-671-4192

Refreshments

AUG 27 – Social

ROCKHOUNDS HERALD
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28 Lakeview Trail, Apt. C
Daleville, AL 36322

www.wiregrassrockhounds.com

DOTHAN GEM & MINERAL CLUB, INC.

Where you might hear...

In the world of diamond grading, the letters mean:

D, E, F – gems in this range appear colorless even in larger sizes, only a highly trained diamond grader can tell the differences between them.

G, H, I – these grades describe gems that look colorless to most viewers in smaller sizes and if mounted.

J, K, L – small and mounted stones of these grades look near colorless, but larger and unset gems begin to have noticeable color.

M - Z – gems in this range are worth much less than higher color grades and range from some color noticeable to distinctly light yellow (or brown).

Z + – beyond Z is the range of the "fancy" diamonds whose value is based on their hue tone and saturation, as in colored stones. In general, browns are least valuable with yellow, orange, and green worth considerably more. The pinnacle of value for naturally colored diamonds is occupied by purple, blue, pink, and at the very tip-top, red.

Source: http://www.bwsmigel.info/Lesson4/DE.Optical.Properties.html
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