

MINI MINERS MONTHLY

Vol. 3 No. 5

May 2009



Hey, Mini Miners. We try to have a theme for Mini Miners Monthly that keeps all the articles and activities connected to each other. This month the theme is really not a theme. It's "a little bit of this and a little bit of that." We have discovered all sorts of wonderful resources for you and will share them in this issue. There is a free program for making mineral labels for your collection. We have also discovered a website that is a resource for young collectors, amateur mineralogists and even mineral professionals. There is

even an online system for keeping a Catalog of your mineral collection (and you can even upload pictures of your specimens to the catalog). Remember, the more you know about minerals, the better you will be at collecting minerals.

In this issue, you will also find some fun activities that focus on the mineral *gypsum*. Get ready to make a little bit of a mess and have some mineral fun!

So what do you want to be when you grow up? Have you ever considered being a mineralogist? A geologist? A mineral dealer? A mining engineer? A geology professor? A metallurgist? The possibilities are limitless. What? You say you are a girl and girls don't do these things?! Get that idea out of your head right now. Next month you will meet some of the most important women in the fields of minerals and mining. We are thrilled to be able to introduce you to Arloa Woolford and an organization called "Women in Mining," the well-known mineral collector from Dallas, Texas, Gail Spann, and many others.

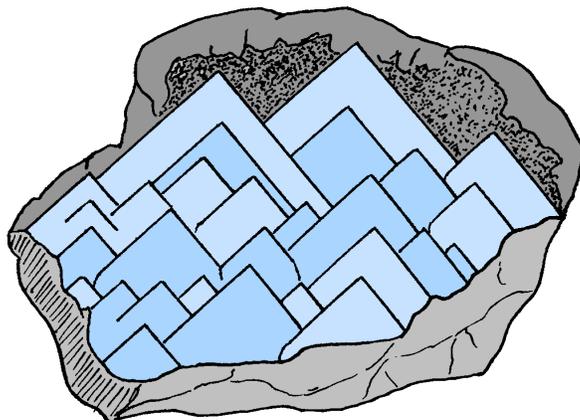
What Mineral Am I?

I was discovered in 1791. I am found in sedimentary rocks. I can be colorless or white, but the specimens that are most popular are light blue.

In fact, my name means *celestial* or *heavenly* because I am light blue like the summer sky. My chemical formula is SrSO_4 , which means I am a sulfate mineral (strontium sulfate). My crystals are glassy and can be perfectly clear. I am fairly soft, only 3 to 3.5 on the hardness scale. My name is _____.



←The official Mini Miners Patch!
More information inside.



Mineral of the Month

Okenite



Chemical Formula: $\text{CaSi}_2\text{O}_5 \cdot 2\text{H}_2\text{O}$

Crystal System: Triclinic

Hardness: 4.5 - 5

Specific Gravity: 2.5

Luster: Glassy (Vitreous)

Color: White - You will see brightly colored specimens for sale on the internet and sometimes in mineral stores. Warning: they are not natural. They are dyed (yellow, blue, green).

Streak: White

Uses: Of interest to collectors.

Interesting Facts: Okenite "balls" are very interesting. They look like cotton balls. Adults and children seem to have an urge to touch okenite specimens to see how soft they are. The problem is that they are very, very, very easy to damage. A light touch will leave a dent where a finger touched the specimen. It is best to put your okenite specimen(s) in a place where people will not be able to touch them. Place them under a glass cover or in a cabinet where they are protected.

Name: Okenite was named after the German naturalist, Lorenz Ocken who lived from 1779 to 1851. It was first discovered in 1828.

Above Left: A number of okenite "balls" around a single white gyrolite ball. From near Bombay, India

Left: Lorenz Ocken

Photo Source: <http://www.fernuni-hagen.de/EUROL/Projekt/biografien/oken.htm>



Are you a member of the *Mineral of the Month Club* yet?

www.mineralofthemonthclub.org



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ZEOLITE WORD SEARCH

Okenite is usually found associated with a group of minerals called “The Zeolite Minerals.” Some mineral collectors specialize in collecting zeolites and the minerals associated with them. Search the word search puzzle for the names of zeolite minerals that specimen collectors like to add to their collections.

Zeolites (typically collected by specimen collectors):

Analcime, Chabazite, Heulandite, Harmotome, Phillipsite, Mesolite, Natrolite, Scolecite, Stilbite, Stellerite, Thomsonite.

Minerals associated with zeolites (but which are not zeolite minerals):

Prehnite, Apophyllite, Okenite, Gyrolite

E	T	I	L	O	S	E	M	W	E	S	L	E	Y	S
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Label Maker

Every specimen in your collection must have a label. You could create labels, one by one, using basic word-processing software (for example, Microsoft Word™ or Microsoft Publisher™). HOWEVER, there is a new program you can use to create personalized, professional-looking labels for your own collection. This program will even let you put your own picture (of a favorite specimen or even of yourself!) on the label.

You will not be able to download the program to your own computer. You will have to be online to use it. You will also use a feature on your computer called "Notepad."

Go to the Mineral Movies website, www.MineralMovies.com. Click the link at the top of the page "Label Maker." There are detailed instructions for you to make your own labels and to use your own picture. You won't be able to use a different picture for each label (unless you want to create and then print one label at a time which would be a lot of extra work). But you can use a picture that is uniquely yours.

The first thing you have to do is get all your information together. Prepare a list of all your mineral specimens, the catalog number for each, and where the specimen was found. Follow the directions in the box on the Label Maker page. In the Notepad program, you will type your information in the following format:

catalog number : description : locality : collection_name :

For example, say your first specimen (specimen #1) is a Quartz crystal from Arkansas. You would type the following in Notepad:

1:Quartz:Arkansas:Your Name Collection

Hit "enter" and type the information for the next specimen. Repeat this process until you have entered the information for your entire collection, OR do as much as you like and come back later to do the rest.

Save the file you have created in Notepad.

Copy the entire file (ctrl. A and then ctrl. C) into the box on the Label Maker page (to paste it in the box, hit ctrl. V). Now all you have to do is click the type of label you want, either the large or small (thumbnail) label style.

Do you want to use your own picture? Follow the directions on the bottom of the Label Maker page. We admit, there are a lot of instructions and you will actually be doing a little programming to make this work for you. If you need an adult to help, ask for help!! But it works and it is worth it.



Many thanks to Mr. Jeff Fast of the mineral company, Mineral Movies. He created this label making program for use in his business and has chosen to make it available for all of us - at no charge! Jeff, we appreciate your generosity.

Jeff travels the world to acquire fine mineral specimens. He invites you to visit his website often to see his new discoveries.

One of the nice features of his website is that when a specimen appears on the screen, it will rotate so that you can see the specimen from all angles. In addition, you will find photos and stories from Jeff's mineral adventures around the world.



mindat.org

Your one-stop source for all the mineral information and mineral photos you will ever need.

The statement at the top of the mindat home page says it all: *Mindat.org is the largest mineral database and mineralogical reference website on the internet. This site contains worldwide data on minerals, mineral collecting, mineral localities and other mineralogical information. . . This site is growing every day, with new mineral information, localities and photographs added by members - whether you are interested in mineral collecting, a student or a professional mineralogist why not join so you can keep the site updated with information on areas you are familiar with.*

Mindat is the invention of Mr. Jolyon Ralph. What began as a complete source for mineral information has grown into a community of collectors, all of whom can contribute to the information kept on mindat.org.

When you visit mindat, **SIGN UP!** On the banner at the top of the page is a link for you to "Register." Once you are registered, you will be able to contribute to the database, join in for mineral discussions, and much more.

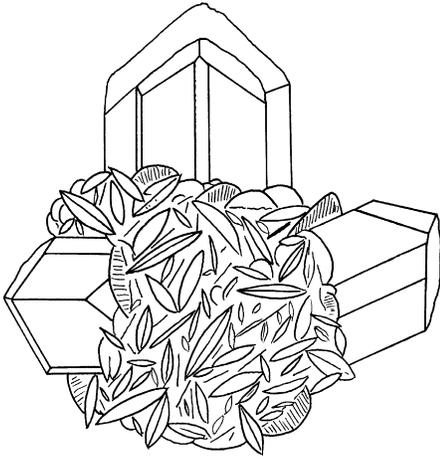
What does mindat have for a Mini Miner?

1. INFORMATION!!! You can search for information on minerals by name, based on their chemical formulas, where they are found, by physical properties, and even by association. For example, if you found a specimen with calcite and fluorite and dolomite, you might be able to identify the little red crystal as sphalerite because sphalerite is commonly found with these other minerals.
2. News about minerals, mineral gatherings, mineral shows, and more. These reports always have a lot of information and great pictures.
3. FREE mineral books. A large number of important and historic mineral books are available for FREE as PDF files that you can download to your computer. The "Free Mineral Books!" link is near the top of the page.
4. Chat rooms where you can talk with other mineral collectors. (Always join chat rooms with your parent's help and guidance.)
5. The largest directory of mineral dealers you will find anywhere.
6. Scientific publications about the newest minerals discovered and described.
7. On the left side of the home page are a number of links. In the list is "Mineral Quiz." Take the quiz and discover how much you know (or think you know) about minerals.
8. The largest photo collection of minerals from all over the world. Professional and amateur collectors and photographers upload their pictures so that mineral collectors all over the world can have access to these great mineral photos.
9. Information on crystal systems and classes.
10. On the message board you will find topics such as "Lost and Stolen Specimens," "Mineral Shows," information on "Collecting Minerals," "Mineral Cleaning," "Mineral Photography," and much, much more.

Well, you get the idea. There is a LOT of mineral information for you . . . right at your fingertips.

Right: Mr. Jolyon Ralph, founder and creator of mindat.org.





Gypsum

Gypsum is a very useful mineral. It is very soft. It can be colorless or very colorful. It is all around you, and you may not even know it! In this activity, you will learn about the mineral called *gypsum* and its uses.

Physical Properties

Hardness _____ **Specific Gravity** _____
Cleavage _____ **Fracture** _____
Luster _____ **Crystal System** _____

Name _____

The name *gypsum* came from the Greek word *gypsos* which means *plaster*. You will find out why later on in this issue!

Gypsum Fun Facts

Complete the facts in the left column with those in the right.

Gypsum is used in . . .

Gypsum has _____ in it.

Clear gypsum is called . . .

Gypsum crystals can be . . .

When gypsum is heated, it turns to . . .

_____ is created when water is added to gypsum powder.

. . . selenite.

. . . making walls (wall board).

. . . VERY large.

. . . water.

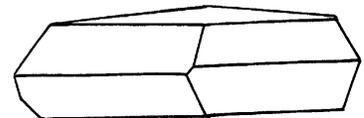
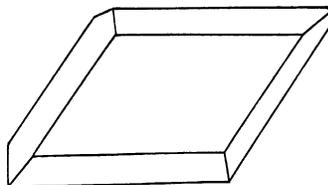
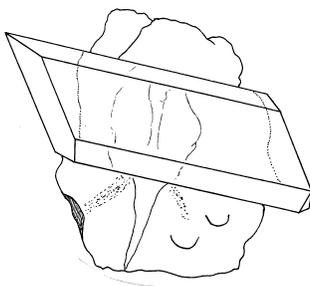
. . . Plaster of Paris

. . . powder.

Gypsum is found as a mineral and as a rock. Rock gypsum is a _____ rock where it formed in _____.

Gypsum crystals can be colorless, or any of the following colors:

**Gypsum is mined in 19 states in the United States.
It is mined in more than 90 countries.**



Plaster of Paris

The chemical formula for gypsum is:



Gypsum has calcium (Ca), sulfur (S), and oxygen (O) in it. It also has two water molecules (H₂O).

So, if you heat gypsum, the water molecules are forced out of the gypsum and the calcium, sulfur and oxygen is left behind. It can now be crushed into a very fine powder. You can add water to this powder to make plaster.

You will need the following materials to do these activities:

Plastic candy molds, Plaster of Paris powder, water, measuring cups, spoon, clay, shells.

Go to your kitchen or a department store and find plastic molds that are usually used for making chocolate candy. Choose the shapes you like (animals, flowers, insects, etc.) Put your candy mold aside and proceed with the following:

Step 1: Take 1/3 cup of Plaster of Paris.

Step 2: Pour in water and stir. Add just a little bit of water at a time. Keep adding water until the powder has turned to thick plaster. You want it to be thick, but it also has to be soupy enough to be able to pour it into the molds. Don't add so much water that it becomes really wet and runny. If you add too much water and it gets really runny, just add a little more Plaster of Paris powder. This will thicken it up a bit.

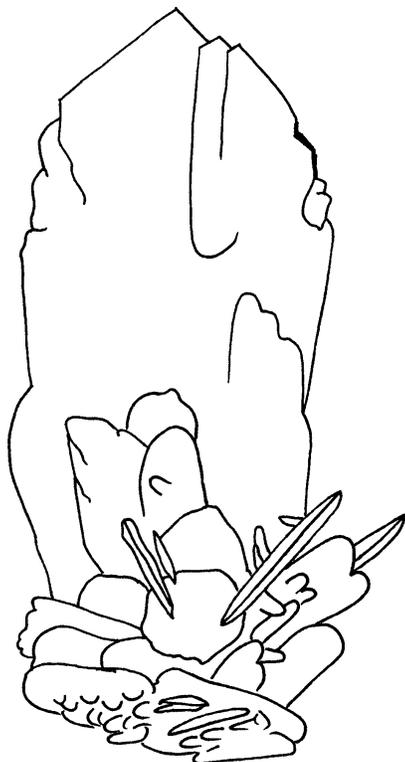
Step 3: Pour the wet plaster into the candy mold until the mold is full.

Step 4: Every ten minutes, come back and check your plaster by touching it very carefully. Each time you come back you will see that it is a little harder than the time before. You will also notice the temperature of the plaster is changing.

What do you feel when you touch the plaster as it is drying?

Why does this happen? Scientists call this an "exothermic reaction." An exothermic reaction is one in which heat is created when two materials are mixed together and they react with each other. An exothermic reaction in which large amounts of heat are created instantly is called an explosion!

Turn the page and try another activity with Plaster of Paris: **Make Your Own Fossils!**



Making Fossils with Gypsum Plaster

In this activity you will need more Plaster of Paris powder, water, a spoon to stir, modeling clay and some hard items like sea shells or little plastic action figures, vegetable spray.

Repeat steps 1 and 2 from the previous page. When your plaster is ready, place it aside for a couple minutes and do the following.

Step 3: Fill the bottom of a small paper cup with modeling clay. There should be 1 to 2 inches of clay in the bottom of the cup.

Step 4: Take one of your items, like a sea shell or a small plastic figurine, and push it into the clay so that it leaves a mark in the form of the object.

Step 5: Carefully remove your hard object. You now have an indentation in the shape of your item. Give a light spray of vegetable spray into the cup. This will make it easier for you to separate the plaster from the clay in Step 9.

Step 6: Pour plaster into the paper cup. You only need to add enough to fill the indentation and cover the top of the clay.

Step 7: Hold the cup with the clay and plaster and firmly tap it on the counter top a number of times. This will push the plaster completely into the indentation and will help force out any air bubbles that might be in the plaster.

Step 8: Put the cup in a safe place on your counter and allow the plaster to completely harden. It is best to wait overnight.

Step 9: When the plaster is completely hard, carefully separate the plaster from the clay. If you need to, you can rip the paper cup to pieces to remove the cup from the clay and plaster inside.

What did you create?

You actually created a fossil! Can you see how your plaster actually looks like the item that was pushed into the clay?!! This is very similar to how many fossils were created in nature.

In ancient seas, sediments settled on the ocean bed. Organisms died and they settled onto the sediment. Their shells left impressions in the sediment. Over time the sediment hardened and the shell dissolved away, but an impression of the shell was left - just like the impression you made in the clay. More sediment filled into the impression - just like your plaster. All of these sediments hardened into stone (a process geologists call "lithification").

The impression left by a shell in sedimentary rock is called a "mold." The sediment that fills in this impression and hardens to look like the original shell is called a "cast." Cast and mold is one manner in which fossils are created.

The impression you made in the clay is the "mold." The plaster created the "cast." You have made a cast and mold fossil in your own home!!

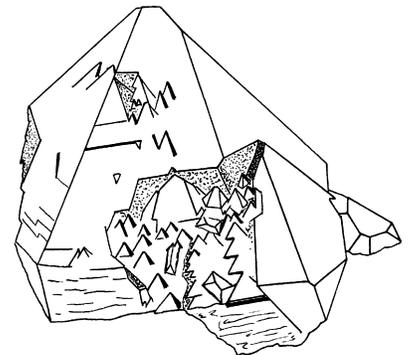
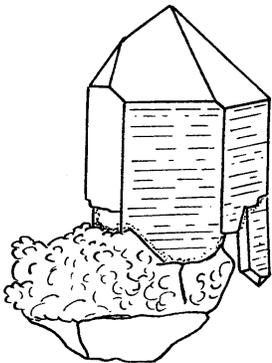
You will find the answers to the questions in this issue on our website. On the home page, click the link to "Mini Miners Monthly" and near the middle of the page are the answers.

COLORING PAGE

We always have some fun coloring for our youngest Mini Miners. This drawing of a small mineral collection was on the cover of last month's issue. Some Mini Miners asked to have one to color themselves, so here it is for you, kids! Enjoy!



Left: Silver-gray wire silver. Center: Purple amethyst crystals. Center right: Yellow mimetite spheres.
Right: Bright red wulfenite on brown matrix. Below: A variety of purple amethyst crystals.



MINERAL STAMPS

A brief introduction by Darryl Powell

In addition to collecting minerals, many young people enjoy collecting stamps from all over the world. The collector who is interested in minerals *and* stamps will be very happy to know that there are many colorful and interesting stamps from all over the world that feature minerals, crystals and gems.

Two sets of mineral stamps have been issued in the United States. In 1974 the first diamond-shaped stamps were issued by the United States Postal Service. The set of four featured petrified wood, rhodochrosite, tourmaline on quartz and amethyst. In 1992, a second set of four mineral stamps were issued. This set featured wulfenite, azurite, copper, and variscite.

Mineral stamps are relatively inexpensive. You will be able to find them rather easily from stamp dealers. There are many trustworthy stamp dealers on the internet. There is a very good chance that there is a good stamp and coin dealer within a reasonable driving distance from your home.

Below are some black and white pictures of a variety of different mineral stamps from the United States and around the world. How many do you have in your collection?



For more information about mineral stamps, and to see these stamps in color, visit the following website:

<http://stampmin.home.att.net/country.htm>.

You will find even more websites about mineral stamps on Kreigh Tomaszewski's website:

<http://tomaszewski.net/Kreigh/Minerals/MineralLinks.shtml>



The official **DIAMOND DAN** Mini Miners patches have arrived! Wearing this patch says "I am a Mini Miner!" (Of course people will ask you, "What is *that* patch?" and you can tell them that you are a mineral collector and a member of the only group for young mineral enthusiasts!)

\$1.50 each (postage paid)

The patches are 2" in diameter, as shown here.

*Send payment to: Diamond Dan Publications
P.O. Box 143, Manchester, NY 14504*

A SPECIAL OFFER

More and more of our customers are asking to receive their Mini Miners Monthly through email. It is delivered as soon as it is ready, you can print out the pages you like *and it is less expensive* than the mailed version.

Only \$9.95 for 12 issues.

You can choose this for your own subscription or give gift subscriptions to your family and friends.

Rocks & Minerals Dictionary

Here is a GREAT online dictionary about rocks and minerals. It is packed with pictures and information. It is designed for Elementary and Junior High students. Here is the web address:

<http://www.enchantedlearning.com/geology/rocks/glossary/>

(For our teachers out there, Enchantedlearning.com is **PACKED** with materials about science, languages, geography and history, writing, crafts and more. You will want to Bookmark this page!)

Mineral Museums

Will you be going on vacation this summer? Ask your family if you can plan to visit a good mineral museum. You will find a list of mineral museums in the United States at the following web address:

<http://www.the-vug.com/vug/vugmuseums.html>

If you are going to be a good collector, you need to know as much as you can about minerals. One great way to learn is to visit a good mineral museum and look at good specimens. Look at them, study them, stare and them!! Draw some pictures, take some pictures. Become familiar with the colors and shapes of as many minerals as possible.

Mineral Movies



Jeff Fast holding a natural Herkimer Diamond (quartz) cluster he collected himself in Middleville, Herkimer County, New York in 2007.

"I've been selling rocks and minerals since 1995. It started by accident. I was collecting milky quartz in Connecticut when I hit a vein that a few friends and I followed STRAIGHT DOWN for almost 20 feet (I'm not kidding). We were looking for the best piece for our collection. We wound up with thousands of nice crystals. I still have 5 good specimens from that find, but the others were the start of this business."

For quality mineral specimens and professional service, contact

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