

Chapter 1 : The Secret Life of Snowflakes by Kenneth Libbrecht

*Tiny Snowflake Picture Book [Arthur Ginolfi, Louise Reinoehl Max] on racedaydvl.com *FREE* shipping on qualifying offers. Lacy the snowflake discovers what makes her special in God's world.*

Designer Snowflakes At left is a photograph of a designer snowflake -- a real sliver of ice, grown from water vapor, but created under controlled conditions in the laboratory. They might also be called synthetic crystals, but I call them designer snowflakes because I am free to design the final shape by changing the temperature and humidity as the crystal grows. I like to think of this as a new form of ice sculpture, except I am not carving away from an initial block of ice, but rather growing a desired structure by adding water vapor. I am bound by the rules of ice growth, of course, so I cannot fashion any arbitrary shape. But I can make some fine-looking snowflakes. This page shows some photographs from my designer snowflake collection. How does it work? Then I blow moist air gently down onto the crystal and watch it grow. The diagram on the left shows the basic layout. The camera not shown in the diagram sits above the microscope objective. A fast crystal might take 15 minutes to make, but I have let some grow for hours. Since I photograph the crystals as they grow, the facets and edges are sharp and distinct. Natural snow crystals tend to have more rounded edges, since they evaporate a bit once they leave the clouds. Sometimes water droplets condense on the substrate, as shown in these photos. The tiny droplets are like the fog you see when you breathe on a cold mirror. Ice absorbs water vapor from the air, however, so no droplets condense near the crystals. These two snowflakes measure 0. The structure is shaped a bit like a broad, flat mushroom. The nub of ice supporting the plates is minute -- about the diameter of a human hair. Inverting the photos and playing with the colors gives some nice results also: The Hardware Making designer snowflakes is a rather involved process, alas, and expensive also. Reference You can read all about the experimental apparatus in detail here: An experimental apparatus for observing deterministic structure formation in plate-on-pedestal ice crystal growth, by Kenneth G.

Chapter 2 : The Smallest Snowflake by Bernadette Watts

In this endearing new book by Art Ginolfi, Lacy, the tiny snowflake, searches for her special purpose in life. Carried through a quiet, wintry night with gentle nudges from the wind, Lacy discovers that God will make us all sparkle, if we only trust His will. Through the soft words of Art Ginolfi.

By Don Komarechka The winter months are typically uninteresting for macro photographers. Flowers, insects, and tiny details in nature all but disappear. Only one faithful subject is left in abundance – the tiny snowflake. So, how do you start? How do you capture one of these tiny crystalline subjects and fill the frame behind your lens? The average snowflake is around mm across, so filling the frame with one of these crystals will require powerful magnification and good lighting. Any camera will do, as long as you can get close enough. Adding a set of extension tubes to your macro lens will often get you close to 2: These are hollow tubes that sit between the camera and the lens, effectively allowing the camera to focus closer to its front element. This is the most convenient way to increase your magnification, but close-up filters are another good option. Close-up filters are basically reading glasses for your camera. They act as a magnifying glass, and multiple can be stacked together for an increased effect. Ring flashes may not be favored in all areas of macro photography because they create a distracting reflection in water droplets and some insect eyes. I nearly completely turn one bank off and use half of the flash – and I aim for the perfect angle. Getting the right angle can drastically change the outcome. The above image is photographed at two different angles only a few degrees apart. I avoid this unless necessary, because the crystals often shatter when manipulated too much. All of my snowflake photographs are made on the same old black mitten. Choose another color besides black for a different feel to your images – but keep it darker for good contrast. If the snowflake were to fall on a flat metal surface, and that surface were to transfer even the slightest amount of heat – the snowflake would be a water droplet fairly quickly. With the mitten, the ice gets caught in the fibers and only makes a few contact points with the surface, keeping it insulated from heat. Every shot will have some number of woolen fibers present, but these are far easier to edit out than a flat and detailed surface like felt or a BBQ cover in your backyard. Set out the mitten during a snowfall and wait for the snowflakes to land tip: It may take a few snowfalls before you see the best crystals for photographing – big, clean snowflakes with lots of branches: As soon as one hour afterwards, the crystals will begin to melt or sublimate evaporate without melting first and the sharp crystal edges will soon disappear. All of my snowflakes are focus-stacked. This means that I take multiple frames of the same snowflake at many different focus points; I do this by physically moving the camera forward and backward through the focus plane of the crystal, continuously shooting all the while. I photograph them on an angle to bring out surface reflections, prismatic colors and even vibrant center colors as a result of optical interference: This is not, however, how the image comes out of the camera. The below image is one of 33 images used in the final composition. The 33 frames I used in this image were selected out of in total. Getting a tripod set up to exactly the right angle and adjusting a focus-rail to get everything set perfectly would take a significant amount of time. I find the snowflake freehand and adjust the angle of the camera to get the desired reflection by taking test shots, something far more time-consuming if a tripod were involved. Snowflakes measuring roughly 0. Support the project and help the book get published! The campaign ends April 30th

Chapter 3 : Paper Snowflake Arts & Crafts

Tiny Snowflake Picture Book by Art Ginolfi, Louise Reinoehl Max, Louise Reinoehl Max In this endearing new book by Art Ginolfi, Lacy, the tiny snowflake, searches for her special purpose in life. Carried through a quiet, wintry night with gentle nudges from the wind, Lacy discovers that God will make us all sparkle, if we only trust His will.

Capturing the fleeting beauty of snowflakes They were captured by Kenneth G. Libbrecht using a specially designed snowflake photomicroscope. Please do not reproduce any pictures without consent; click here for permissions. Support snowflake photography -- buy a Snowflake Book or visit the Snowflake Store! How were these pictures taken? Check out Photographing Snow. The first substantial collection of snow crystal photographs was created by Wilson Bentley A Vermont farmer, Bentley made snowflake photography his life-long passion, eventually capturing some images on old-style photographic plates. His efforts eventually came to the attention of W. Humphreys of the U. The publication of this book, entitled Snow Crystals, introduced the world to the beauty, complexity, and diversity of snow crystals. Bentley web site , which also describes the Bentley museum in Jericho, Vermont. Note that snow crystals are clear, not white. Bentley illuminated his crystals from behind giving a bright background , and then he made the background dark. Another classic book on this subject is Snow Crystals: Natural and Artificial, by Ukichiro Nakaya, published in [2]. Nakaya was the first person to closely examine the science of snow crystals, and he was the first to create snow crystals in the laboratory. The leftmost picture shows an artificial snow crystal growing on a rabbit hair. Museum Photographs in Japan. In my travels researching snow crystals, I found two books of snow crystal photographs in Japan see Snowflake Touring - Hokkaido, Japan. Unfortunately, the only way I know of to buy these books is to visit the museums in which they are sold. The first photo collection is in the museum book at the Nakaya Museum of Snow and Ice in Kaga city, which includes a number of excellent photographs by Rokuro Yoshida. These images were taken using the technique of dark-field illumination, which produces the effect of bright crystals on a dark background. Click here for a virtual tour of this museum. William Wergin has developed techniques for taking snow crystal photographs using an electron microscope, which is capable of examining very fine details in their structure. In the extremely cold and dry climate at the South Pole, snow crystals grow into their simplest forms see the Snowflake Primer. Walter Tape presents a number of photos of such crystals in his book Atmospheric Halos [3], which describes the atmospheric displays that result from the interaction of sunlight with falling snow crystals see Ice Crystal Halos. My first venture into snow crystal photography was in collaboration with amateur photographer Patricia Rasmussen, during the winter of Patty had been taking some excellent snow crystal photographs, but she was limited by her equipment. I designed and built a photo-microscope that was optimized for the task see Photographing Snowflakes and brought it to Patty in Wisconsin. Many of the resulting pictures are in our book -- Snow Crystals: Later I rebuilt my microscope to fit into a suitcase, and I began traveling across the frozen north to photograph snowflakes myself. Other Online Photo Collections. There are only a small handful of snow crystal photographers in the world. Here are a few other collections of photographs you can find on the web. If you know of any more, please send an e-mail. Scientific photographer Ted Kinsman has assembled a collection of snow crystal photographs from Rochester, NY, that can be viewed at Kinsman Physics Productions. The image at left is from that collection. Nature photographer Mark Cassino has posted a collection of images from Kalamazoo, MI, at Mark Cassino Photography , which includes the image at right. Central Hokkaido, Japan, serves up some pretty good snowflakes, and they have attracted a number of photographers. The image at left is one from a small online collection by H. Uyeda that can be viewed at Snow Crystal Gallery. Estonia produces some good crystals too, as photographed by Hermes Sarapuu. Natural and Artificial Harvard University Press,

Chapter 4 : Tiny Snowflake Picture Book by Art Ginolfi

*Tiny Snowflake Picture Book [Art Ginolfi] on racedaydvl.com *FREE* shipping on qualifying offers. In this endearing new book by Art Ginolfi, Lacy, the tiny snowflake, searches for her special purpose in life.*

To view it, click here. Living in Canada, I feel like I have a special appreciation for the snow. Sure it gets cold, but where are the winter jackets? Where are the boots? About seasons, shall we say. Sure there are plenty of places a snowflake can go, there are plenty of big dreams it can have, but the best dream is one where it has a companion and where it can stick around to enjoy the beauty it can create. The ending of the book seemed a bit odd to me, and it was quite abrupt. I wished the story had more depth and would have continued a little longer—it needed just a bit more something to really grab my attention and I felt like that was lacking. The message I took from the small snowflake and the beautiful illustrations made it all worthwhile. This smallest snowflake has just started her life. She is falling down from the sky and following all the other snowflakes. She watches all the older snowflakes and they seem to know where they are going. She spends many day in the sky and she finally comes to a small village in Wales where she sees an ar This is a story about a new snowflake that is trying to find her place in the world. She spends many day in the sky and she finally comes to a small village in Wales where she sees an artist painting in the window and she decides that her place in the world is outside this beautiful house where this wonderful artists lives. She is very happy to have found her place and she stays there until spring comes and she is turned into water to feed the new spring flowers. I really enjoyed this story because it has a great moral to the story. It tells the readers that there is a place in the world for all of us. We may just float around in the world until we find our perfect place to land. The illustrations in this book are beautiful and I must admit that the reason I took it off the shelf is that it had a very colorful cover picture. The illustrations are all very clear and crisp which is what I like to see in illustrations and I really liked that they were colorful even though they were talking about winter. I also enjoyed that the illustrations showed what different parts of the world look like during winter and shows what happens in those parts of the world when it is winter. This is a cute story and I think any little child would enjoy reading it.

Chapter 5 : Snowflake and Snow Crystal Photographs

In this endearing new book by Art Ginolfi, Lacy, the tiny snowflake, searches for her special purpose in life. Carried through a quiet, wintry night with gentle nudges from the wind, Lacy discovers that God will make us all sparkle, if we only tru.

Chapter 6 : Alexey Kljatov | Snow | Pinterest | Snowflakes, Photography and Books

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Chapter 7 : 39 best Winter images on Pinterest | Snowflakes, Winter snow and Snow flakes

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