

## Fire From Ice



One of my latest Ice Spheres ... What does the future hold?

It was early in 2005 that [Ice #3](#) was published. This page seemed to generate a lot of interest. I've been getting weekly emails from many people around the world. Even Mythbusters (episode is currently airing on The Discovery Channel) contacted me about making and using ice lenses (as well as starting fires with a [Coke Can and Chocolate Bar](#).)

Other interesting emails queried whether primitive man or Native Americans might have used this technique. Of course, all evidence of the lenses would have disappeared. Maybe a campfire conversation on a rainy/snowy day!

There have been many emails praising the content/research/experimentation that went into this Ice Lens series. It's always good to get feedback that people are hitting the site and getting something from it.

Not too long ago, I got an email from Nelson Zink:

*Rob,*

*Rough ice into a semi-sphere. Then, get a can (with lid*

*removed) or a jar and use the opening to quickly and accurately machine/smooth the ice blob into a very respectable sphere. The can/jar opening must be smaller than the ice blob. In general, the sphere will end up with a diameter about 1.5 times that of the can/jar circular opening. A can might work a tad better as you can sharpen the edge a little bit. I use this principle to make clay spheres.*

*Neat article!*

*Nelson Zink*

After a couple of emails back and forth to clarify things, I was off! I believe that this technique is the "missing link" to fire by ice.

The results are obvious from the photo above.

Below are a number of things that I tried, and lessons that I learned:

### **Making the Perfect Ice Sphere**



I "just happened" to have a few buckets of ice in the garage.

As in Ice #3, this was just plain tap-water that was left in winter temperatures to freeze.

Of course, much of the ice was cloudy, but the top and edges were quite clear.

I sawed off the clear sections.



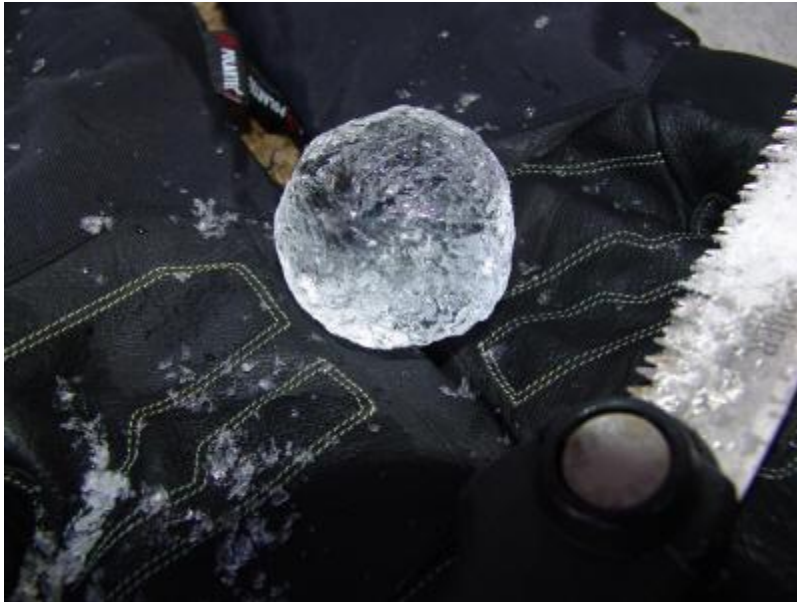
One technique is to start by making a rough cube.



The next step is to cut off the edges of the cube to form an octagonal shape.



Then round off the top and bottom.



Now cut away to any bumps or irregularities that don't look like a sphere.



Now for the magic!

By taking a tube, and rubbing it over the surface of the rough sphere, we start to cut/polish away at any irregularities.

As Nelson pointed out, with this technique, "you can't go wrong." If you use a true random motion in the polishing, then you have no choice but to make a perfect sphere!



A few more minutes of polishing.

Looking pretty good!



Getting close to done.



Wow!



An almost perfect Ice Sphere.

What does the crystal ball say, "I see fire in your future....."



Here is the ice sphere lighting a piece of tinder fungus.

A coal was generated almost instantaneously.

The sphere is being help with a strip of leather to minimize melting.



This sphere was just over 2 inches in diameter.



The neat thing about this technique is that by further polishing, you can keep improving the shape of the sphere - and can keep making smaller spheres.

As long as the diameter of the polishing tube is in the right "ballpark," you can make "any" size of sphere.

Of course there are limiting cases:  
1. Where the tube slides right over the sphere.

2. The other extreme, the tube is so small that it is difficult to keep the tube "square" on the sphere.)

As Nelson suggested, a ratio of 1:1.5 (tube:sphere) is a good starting point.



After some more polishing, we are down to a 1.7" sphere.



Still works just fine.

Since the day was warming up, the ice started to fracture, so I didn't get this sphere much smaller.