

DRY ICE CRYSTAL BALL BUBBLE

Create a soap film on the rim of a bucket and, with one other simple ingredient, you will have made the world's coolest crystal ball.

WHAT YOU NEED

Large bowl with a smooth rim

Liquid dish soap
(Dawn works well)

Plastic cup

A piece of cloth
18 inches long

Leather gloves

Safety glasses

A few pieces of dry ice

LET'S TRY IT!

1. Select a bowl that has a smooth rim and is smaller than 12 inches in diameter.
2. Mix 2 tablespoons (30 mL) of Dawn liquid dish soap with 1 tablespoon (15 mL) of water in a plastic cup.
3. Cut a strip of cloth about 1 inch (2.5 cm) wide and 18 inches (46 cm) long. Soak the cloth in the soapy solution, making sure that the cloth is completely submerged.
4. Fill the bowl half full with warm water. Have gloves ready to transfer the dry ice to the bowl.
5. Place two or three pieces of dry ice into the water so that a good amount of fog is produced.
6. Remove the strip of cloth from the soap solution and run your fingers down the cloth to remove the excess soap. Stretch the cloth between your hands and slowly pull the soapy cloth across the rim of the bowl. The goal is to create a soap film that stretches across the entire bowl. It also helps to dip your fingers in some water and wet the rim of the bowl before you start. Getting the soap film to stretch across the rim of the bowl can take a little practice until you get the technique mastered. If all else fails, try cutting a new strip of cloth from a different type of fabric (an old T-shirt works well), or change the soap solution by adding some more water.





TAKE IT FURTHER

If you accidentally get soap in the bowl of water, you'll notice that zillions of bubbles filled with fog will start to emerge from the bowl. This, too, produces a great effect. Place a waterproof flashlight in the bowl along with the dry ice so that the light shines up through the fog. Draw the cloth across the rim to create the soap film lid and, if you are inside, turn off the lights. The crystal bubbles will emit an eerie glow and you'll be able to see the fog churning inside the transparent bubble walls. When the giant bubble bursts, the cloud falls to the floor, followed by an outburst of ooohs and ahhs from your audience!

WHAT'S GOING ON HERE?

When you drop a piece of dry ice in a bowl of water, the gas that you see is a combination of carbon dioxide and water vapor. So, the gas that you see is actually a cloud of tiny water droplets. The thin layer of soap film stretched across the rim of the bowl traps the expanding cloud to create a giant bubble. When the water gets colder than 50°F, the dry ice stops making fog, but continues to sublimate and bubble. Just replace the cold water with warm water and you're back in business.



