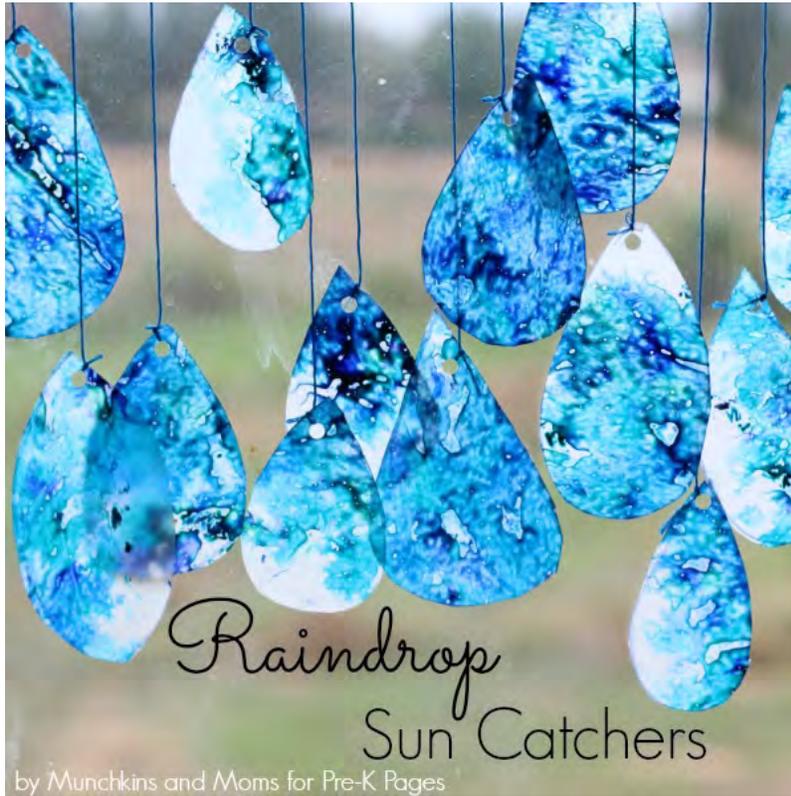


Raindrop Sun Catchers



Supplies to make this project:

- Blue crayons
- Pencil or crayon sharpener
- Waxed paper – cut two ~ 10 in sheets for each camper
- Iron (for adult use only)
- Scissors
- Yarn or embroidery floss
- Stick for each camper – let them find in nature.

Have campers sharpen the crayons right on top of a large sheet of waxed paper. As they sharpened, spread the shavings around to take up space on the waxed paper.



After the shavings have been collected and spread evenly across the paper, cut another sheet of paper equal in size to lay on top of the shavings. Use an iron on the lowest setting to iron directly on top of the waxed paper and melt the crayon shavings. It only takes a quick swipe of the iron to do this. The wax immediately melts and cools rather quickly.

Draw raindrop shapes on the paper and cut them out. Use a hole punch and then tie them to a stick



Use a hole puncher and embroidery floss to string them up in windows for display!

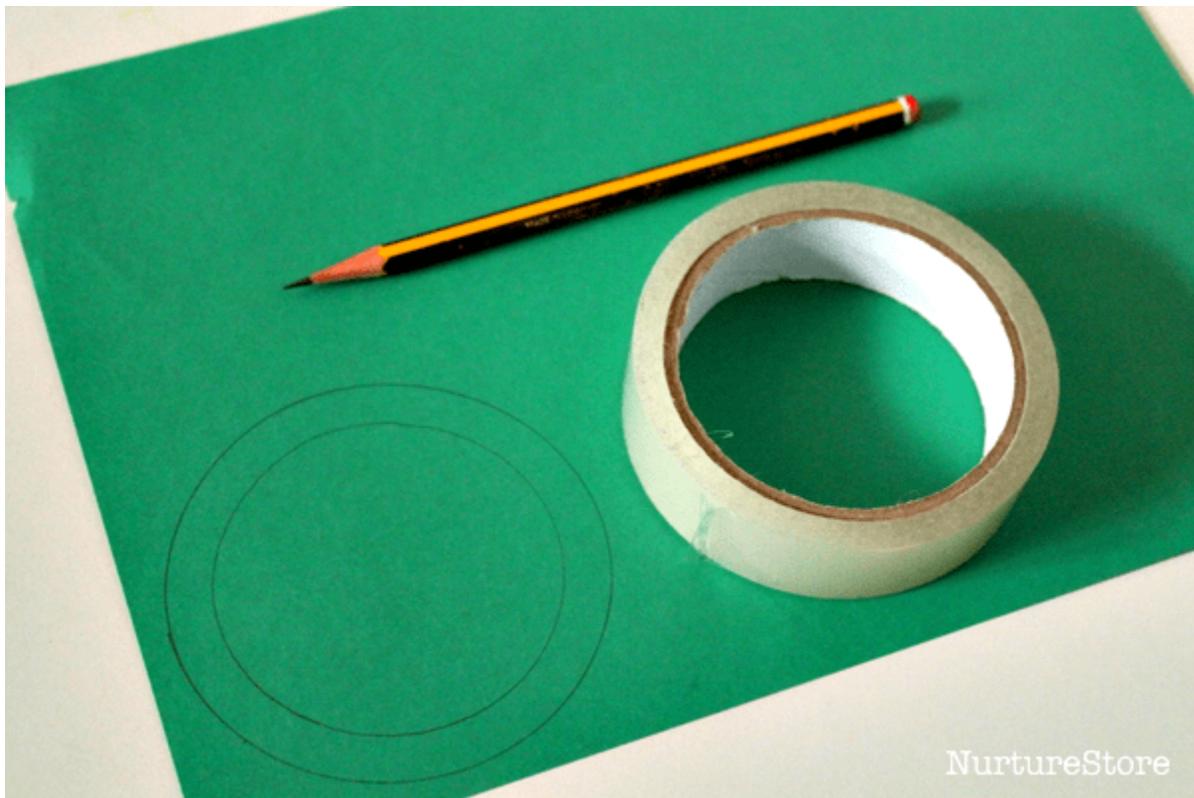
Nature Mandala Designs

08/07/2016 by Cathy James

A mandala is a circular symbol, often seen in Hinduism and Buddhism, which represents the universe. It can be used as a focus for meditation, and making one is very calming and centering.

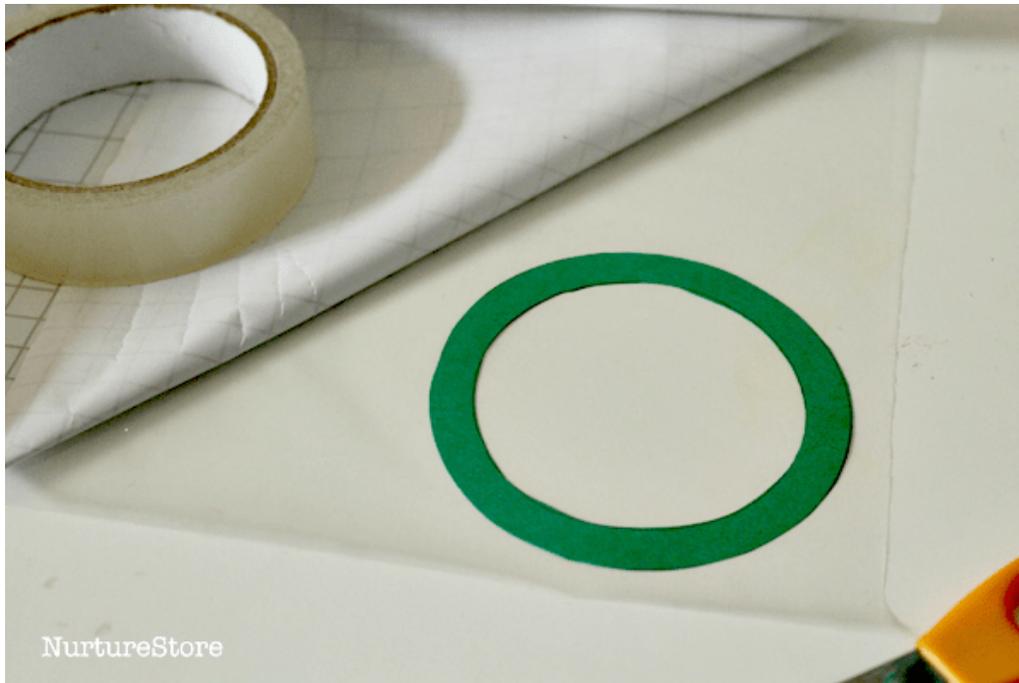
You can use any materials you like to make a mandala, indoors or outside. They often use symmetry, repeating patterns, fractions and concentric designs, making them a wonderfully creative way to play with math concepts. They're quite addictive too.

Today we're using leaves, flower petals, and contact paper to make sun-catcher mandalas.



Start by drawing out a frame on a piece of card stock. Traditionally mandalas are circular, but you could use a square, rectangle, flower, or heart shape.

Place your card frame on a piece of contact paper (sticky backed plastic), trim round the outer circumference with scissors, and you've made your sticky canvas on which to create your mandala design.



Then you'll need some flowers. You could use weeds or wild flowers from a nature walk, or buy some especially for your project. You don't need very many, as you will be using individual petals for your designs, and you can use any color combination that appeals to you.

Carefully separate your leaves and/or flower petals and then you can begin to design your mandala wheel.



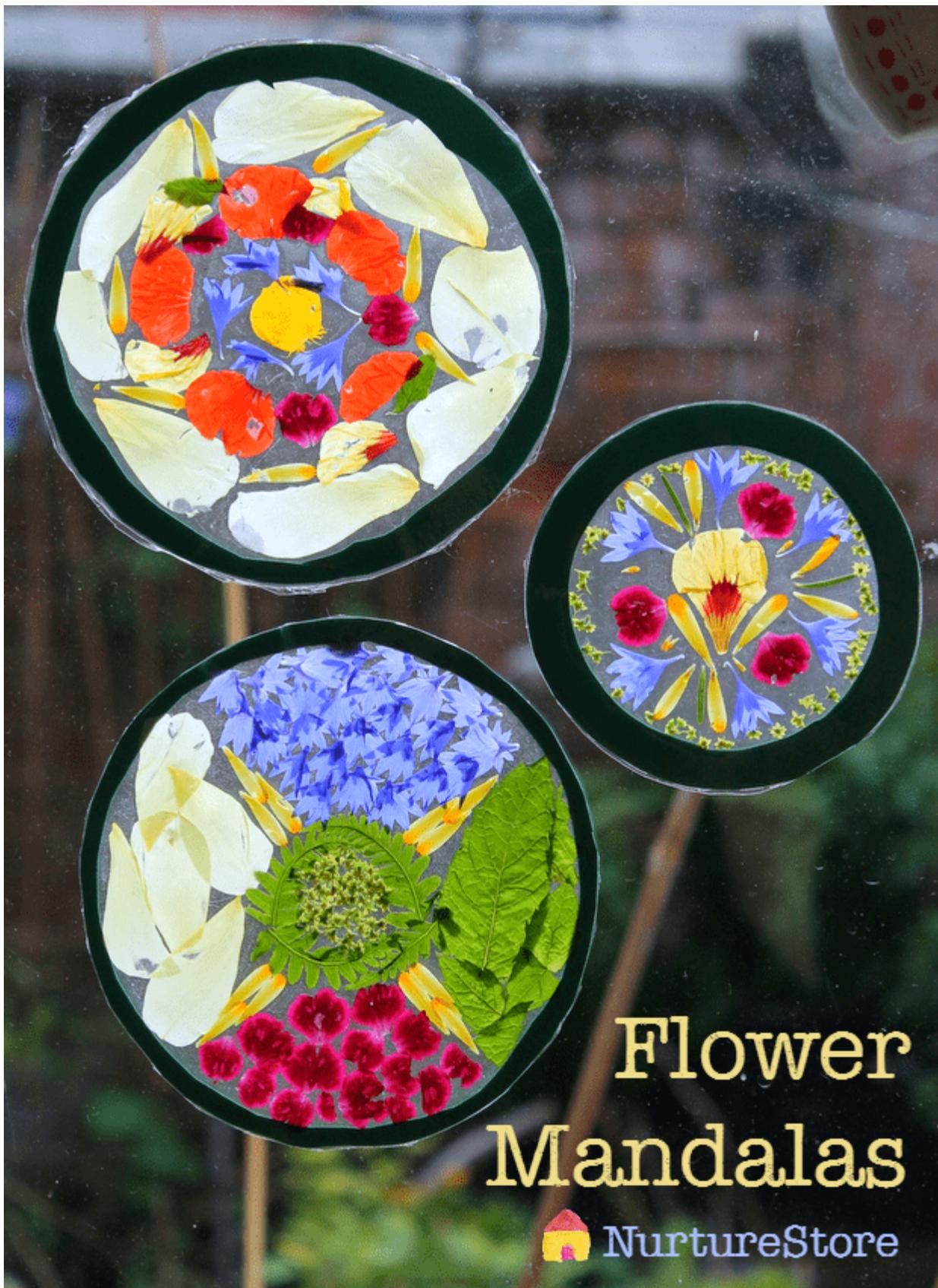
You could divide your circle into fractions and fill each with a different flower.
Or play with symmetry.



Or make concentric circles or repeating patterns. A great thing about working with contact paper is that you can gently peel flowers off and replace them, changing your mandala design until you are happy with it.



Once you have created your finished design, stick another layer of contact paper over the petals, so they are encased inside. Then you can place your flower mandalas in the window and watch how the light shining through them really makes the green leaves and flower petals shine!



Flower Mandalas

 NurtureStore



Photos: Jennifer Tsang

4. Creating Pollen

- a. An adult should sprinkle a small amount of glitter (pollen) at the bottom of the flower cups.
- b. Try to avoid contacting the anther (taped pipe cleaner) when pouring glitter.



Photo: Jennifer Tsang



Photo: Jennifer Tsang

5. Pollination

- a. Have the students "fly" their bees in and out of their model flowers and the flowers of other students. Have students use the bee's antenna (pipe cleaner) to pick up pollen (glitter) from the bottom of their cup and transport it to the cup of other students.



Photo: Jennifer Tsang



Photo: Jennifer Tsang

Make Your Own Rainbow

What you'll need:

- A glass of water (about three quarters full) – need clear glass, not plastic or acrylic
- White paper
- A sunny day
- Suggested – prisms for demonstration
- Suggested - Smaller cut crystals students can hang in a central camp location or carry to experiment.

Instructions:

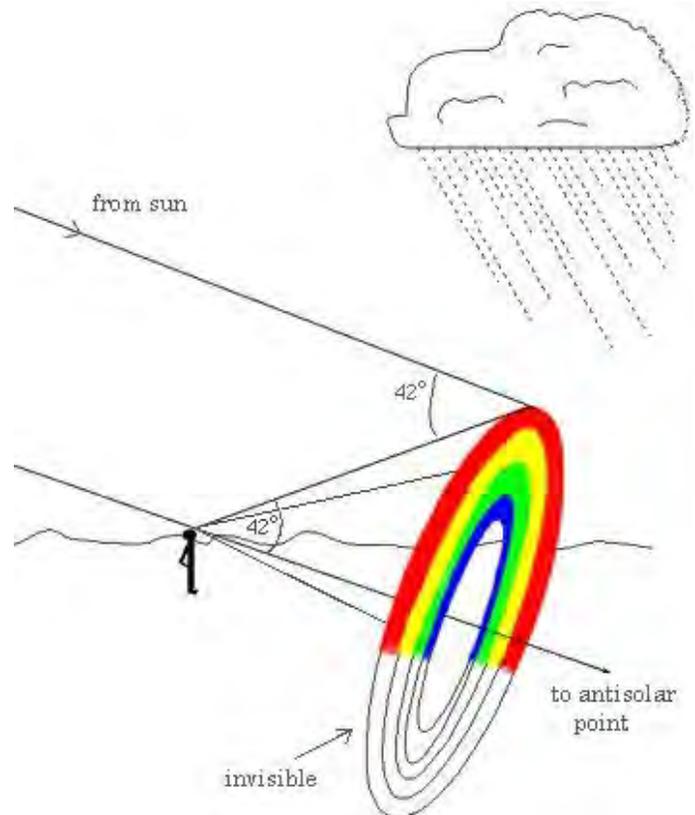
1. Take the glass of water and paper into a sunny area.
2. Hold the glass of water (being careful not to spill it) above the paper and watch as sunlight passes through the glass of water, refracts (bends) and forms a rainbow of colors on your sheet of paper.
***Note: your angle to the sun will make a difference, try keeping the cup level and tilting the paper at different angles to see what works best!*
3. Try holding the glass of water at different heights and angles to see if it has a different effect.

What's happening?

While you normally see a rainbow as an arc of color in the sky, they can also form in other situations. You may have seen a rainbow in a water fountain or in the mist from a waterfall.

Rainbows form in the sky when sunlight refracts (bends) as it passes through raindrops, it acts in the same way when it passes through your glass of water.

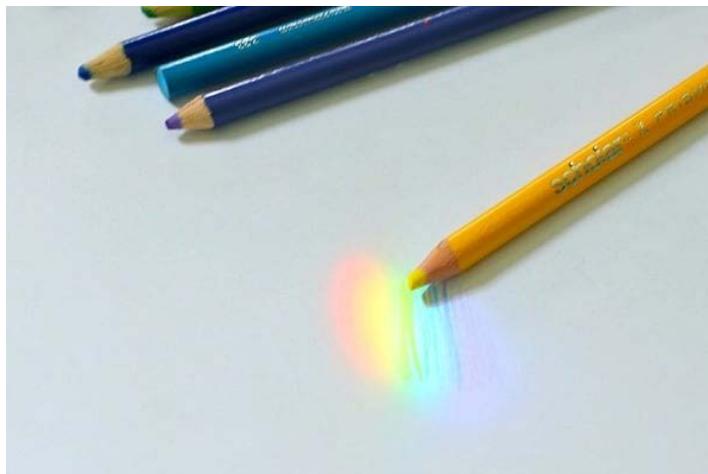
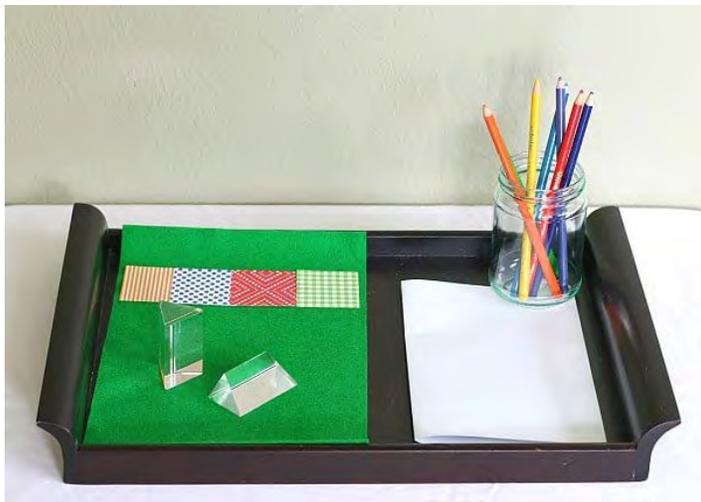
White light is a combination of all the colors of the rainbow. As the light from the sun passes through the prism, the light **refracts** (bends) and separates, making the colors of the visible spectrum. Our eyes then see the separate colors - red, orange, yellow, green, blue, indigo and violet.



Extensions:

Setting Up a Prism Exploration Center

- Various prisms (Glass is better but more fragile!)
- Some scraps of paper with different designs on them
- Blank white paper
- Colored pencils or crayons in the colors of the rainbow



Have campers take turns exploring with the prisms. By putting the prism in front of patterned paper, they will be able to see how light is refracted as the pattern changes.

You can also demonstrate this by dipping a pencil in a glass of water and seeing how it appears to bend (or looks broken)! That's refraction!

Next, have campers use the prism to make a rainbow on a sheet of white paper, using color pencils, they can trace the rainbow.



Extension 2

Create a rainbow mobile!



Make a Rainbow Mobile with Prisms:

What you need:

- small prisms (Pack of 20 prisms = ~\$12 – [example here](#))
- thin cording, thread or ribbon.
- beads
- sturdy branch
- You may need thinner thread to attach prisms

Ice Sculpture

Create a beautiful sculpture made of ice and natural treasures! Hang your sculpture from a tree or hook outside for a festive winter decoration. Watch your sculpture slowly melt away in the sun and uncover the treasures inside!

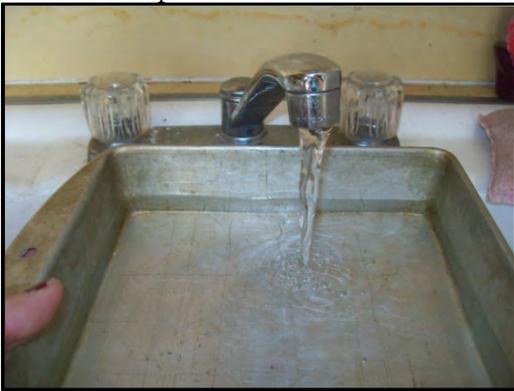
What you need:

1. A metal tin, cake pan, or cookie sheet with edges
2. Water
3. Natural items (sticks, pine cones, rocks, shells, feathers, etc.)
4. A piece of yarn or twine about 2 feet long
5. Food coloring (optional)



What you do:

1. Go outside (take an adult with you!) and collect small natural items. I found small pine tree branches on the ground, juniper berries, rocks, sticks, and a dandelion flower. (Remember to try and find items already on the ground instead of breaking them off a tree.)
2. Fill the cake pan with a few inches of water.



3. Place natural items in the water one at a time. Which ones sink? Which ones float? Try small branches, pinecones, shells, sticks, berries, rocks...whatever treasures you find outside!



4. If you would like, add a few drops of food coloring for a colorful ice sculpture.
5. Make a loop with a piece of yarn or twine and place it into the water. This will be used for hanging your sculpture from a tree or hook outside.



6. Put your sculpture in the freezer or outside in the cold to freeze. It will take a few hours to freeze completely.
7. When your sculpture has frozen completely, remove it from the pan. You may need to run warm water on the outside of the pan to help it separate from the sides.
8. Find a spot to hang your ice sculpture outside where you can enjoy watching it sparkle in the sunshine!

