

Space Crystals

It's easy to grow your own crystals! A crystal called "Zeolite" has been grown on several shuttle missions since 1992. By growing the crystals in space, scientists are trying to grow larger more perfect crystals to better understand the structure of the crystal. Scientists are hoping one day to possibly use Zeolite crystals to store hydrogen for cars that run on fuel cells with no pollution! You can grow beautiful clear sugar crystals with sugar and water or you can add food coloring to get colored crystals. Boiling water is required to dissolve the sugar, so adult supervision is recommended for this activity.

In this activity, your child will grow sugar crystals that resemble the Zeolite crystals that the astronauts are growing on the ISS.

What You Need:

- ⌘ 1 cup water
- ⌘ 2 1/2 cups table sugar
- ⌘ clean glass jar or cup
- ⌘ pencil or popsicle stick
- ⌘ String - *crystals will form on a cotton or wool string or yarn, but not on a nylon line. If you use a nylon line, tie something to it to stimulate crystal growth.*
- ⌘ Pan or bowl for boiling water and making solution

What to Do:

Hint: You may wish to grow a seed crystal, a small crystal to weight your string and provide a surface for larger crystals to grow onto. A seed crystal is not necessary as long as you are using a rough string or yarn.

- ⌘ Tie the string to a pencil or popsicle stick. If you have made a seed crystal, tie it to the bottom of the string.
- ⌘ Set the pencil or popsicle stick across the top of the glass jar and make sure that the string hangs into the jar without touching its sides or bottom. Have the bottom of the string be just above the bottom of the glass jar.
- ⌘ Boil the water. If you boil your water in the microwave, be very careful removing it to avoid getting splashed!
- ⌘ Stir 2 cups of sugar into the boiling water, a teaspoonful at a time. Remove from heat. Keep adding the remaining 1/2 cup of sugar until it starts to accumulate at the bottom of the container and won't dissolve even with more stirring. (*If you want colored crystals, stir in a few drops of food coloring*).
- ⌘ Pour your solution into the clear glass jar or cup. (*If you have undissolved sugar at the bottom of your pan, avoid adding it to the jar*).
- ⌘ Place the pencil or object over the jar and allow the string to dangle into the liquid. Cover with plastic wrap or paper.

- ⌘ Set the jar somewhere where it can remain undisturbed.
- ⌘ Check on your crystals after a day. You should be able to see the beginnings of crystal growth on the string or seed crystal. It will take a few days to a week for the crystals to grow.
- ⌘ Let the crystals grow until they have reached the desired size or have stopped growing. At this point, you can pull out the string and allow the crystal to dry. You can eat them or keep them. Have fun!

