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S.T.E.M. Mo Newsletter

Newsletter developed by:
Chinook Regional Library, Swift Current Branch.

Sugar or Salt Snowflake Crystals

This is a fun way to explore solutions and atom and molecule science. You can choose to make either the sugar or the salt solution or experiment with both.

Sugar Crystal Solution
(At least 8 days growing time)

- 3 Mason Jars
- Pipe cleaners (cut in half)
- 1 cup of water
- 4 cups of sugar
- Food colouring (optional)
- Straws or clothes pins
- String

Salt Crystal Solution
(At least 3 days growing time)

- 3 Mason Jars
- Pipe cleaners (cut in half)
- 9 cups of water (3 cups per mason jar)
- 1 box of salt
- Food colouring (optional)
- Straws or clothes pins
- String

Day before you start your experiment: Start by having your child(ren) make the shape of a snowflake with six half sections of pipe cleaners. Make sure the snowflakes can easily fit into the mouth of the jar. Tie a bit of string to the top of the snowflake and fasten it to a straw or clothes pin. If using the sugar solution wet the snowflakes and coat them in sugar. Let them dry overnight

Directions for Sugar Solution: Add 4 cups of sugar to 1 cup of boiling water. Stir until dissolved but be careful not to heat the sugar too much or it will start to turn into candy. You want your sugar solution to be 210 degrees.

Remove sugar mixture from heat and pour into your mason jars. Next add food colouring of your child's choice. Lower the snowflake carefully into the jar using a popsicle stick or small spoon to help push it into the solution. Set the jars on a counter or windowsill for at least 7 to 10 days. When you notice the crystals have grown over your pipe cleaners you can remove the snowflake and hang somewhere. **(continue page 2)**

"Think outside the lines"
~ CRL Staff

Directions for Salt Solution: Add 9 cups of water to a large pot and bring to a boil. Once the water starts boiling add salt, keep adding salt until crystals start to form on the surface of the water. It will take nearly the whole box of salt.

Let the water cool. Once it is cool add it to the 3 mason jars. Let your child choose a colour of food colouring if desired. White salt snowflakes are nice too. Let your child lower the pipe cleaner snowflakes into the water.

Place jars in the sun on windowsill for at least 3 days. When crystals have formed, take out snowflake and hang it up.

What happens? Each of these experiments works because of a saturation affect. The amount of sugar or salt poured in the water leaves less space for molecules to move around and so they bump into each other. With adding the snowflake, the molecules not only bump into each other but they have a structure to hang onto.

Share your creations with us by taking pictures and emailing them to Tekeyla at tfriday@chinook.lib.sk.ca

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Site Reference: Little Bins Little Hands
https://littlebinsforlittlehands.com/snowflake-activities-for-preschool/

https://littlebinsforlittlehands.com/grow-sugar-crystals-rock-candy/

S.T.E.M or S.T.E.A.M

S.T.E.M is the acronym for Science, Technology, Engineers and Mathematics. S.T.E.A.M is another acronym for the same type of program but includes art. A third acronym you may come across is S.T.R.E.A.M featuring robotics.

Whether you call it S.T.E.M, S.T.E.A.M or S.T.R.E.A.M you will enjoy watching your little ones explore their world, develop literacy skills through activities and learn a wealth of knowledge.

Sites to checkout

101 Engineering STEM
https://www.helpteaching.com/blog/101-engineering-stem-activities-for-kids.html

I Game Mom
https://igamemom.com/cold-science-experiments-winter-amaze-children/

Inspiration Laboratories
https://inspirationlaboratories.com/snow-science-explorations/