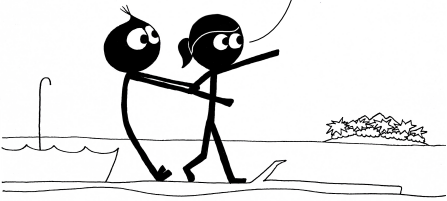


LOOK! AN ISLAND! LET'S GO EXPLORE!



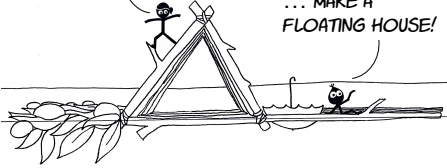
# SCIENCE MOM

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## SCIENCE MOM'S Guide to WATER, Part 6

WHEN LIFE GIVES YOU DRIFTWOOD...



... MAKE A FLOATING HOUSE!



When water freezes, it forms a crystal. But water's not the only thing that can make crystals.

Most minerals and salts can form crystals, especially if they are in a solution with water and the water evaporates.

TABLE SALT MAKES CRYSTALS THAT LOOK LIKE BLOCKS.



ALUM AND EPSOM CRYSTALS LOOK LIKE THIS!



1

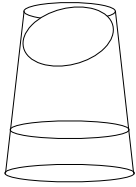
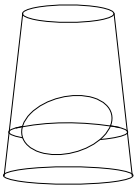
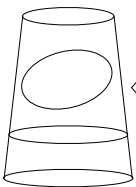
## WHAT IS THIS CRYSTAL MADE OF?



Name	Chemical Formula
Table Salt	Sodium Chloride (NaCl)
Alum	Hydrated potassium aluminum sulfate (KAl(SO <sub>4</sub> )*12H <sub>2</sub> O)
Borax	Sodium tetraborate (Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> *10H <sub>2</sub> O)
Sugar	Sucrose (C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> )
Epsom Salt	Magnesium sulfate (MgSO <sub>4</sub> )
Quartz	Silicon dioxide (SiO <sub>2</sub> )
Diamond	Carbon (C)

2

HALOCLINE: layers of water having different amounts of salt.



Tip: Make sure the salt water and plain water are the same temperature and then pour the water onto a spoon held by the side of the cup just above the salt water—don't pour it directly into the salt water.

**a)** Prepare salt water and let it cool to room temperature.  
**b)** Fill 3 jars or cups. One with plain water, one with salt water, and one by carefully filling it half way with salt water, and then layering the tap water on top.  
**c)** Place the eggs in the jars and observe if they sink or float.

Method:

- Salt water
- Tap water
- 3 jars or cups
- Eggs

Materials:

## 2. Halocline plus Eggs

## 3. Eggshell Geodes

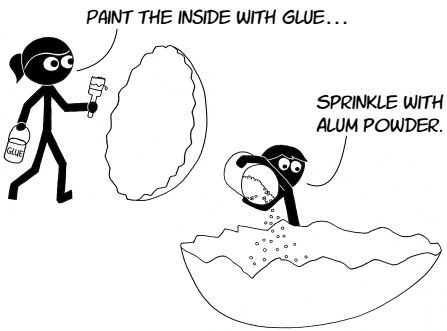
Materials:

- Water
- Alum
- Eggshell
- Jars or cups
- Food coloring
- White glue

Method:

- Heat 2 2/3 cups of water and add 1/2 tsp food coloring and 1 1/3 cup of alum powder.
- Stir until dissolved, and then carefully transfer the solution to two heat proof jars. *Hotter water makes larger the crystals. Cooler water makes smaller sized crystals.*
- Optional:** Seed the inside of the eggshell with glue and sprinkle alum powder over surface.
- Place eggshell in alum solution and let sit for 12-24 hours.

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ONE DAY LATER...



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## 4. Borax Snowflakes

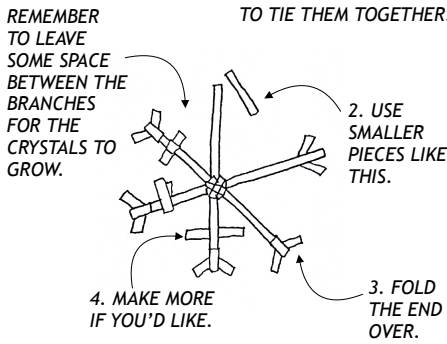
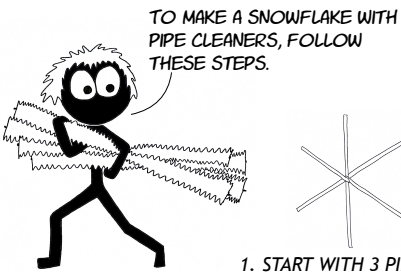
Materials:

- Water
- String
- Jars or cups
- Pencil or piece of cardboard
- Pipe cleaner
- Borax powder
- Food coloring

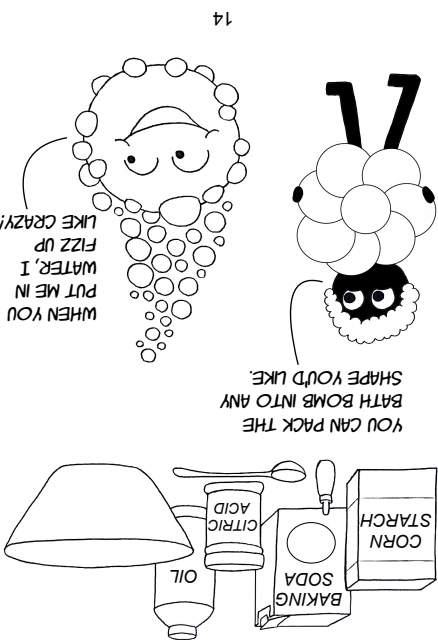
Method:

- Heat 4 cups of water and add 1 cup Borax. Stir well.
- Take three pipe cleaners and fold into a snowflake shape.
- Suspend the snowflake in the borax solution using the string and cardboard or pencil.
- Wait 12 to 24 hours and then remove from solution. To preserve the crystal, coat it with clear nail polish.

9



10



14

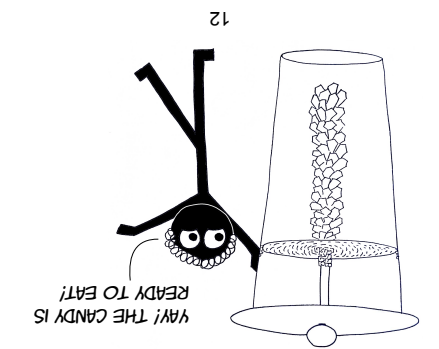
**a)** Mix the dry ingredients together in a bowl.  
**b)** Mix the wet ingredients together and very slowly combine the wet mixture into the dry mixture using a fork or whisk.  
**c)** Pack the mixture into clear ornament balls or other molds and let sit 24 to 48 hours.  
**d)** Carefully remove egg or ball.

Method:

- 1/2 C baking soda
- 1 Tbsp citric acid
- 1/3 C cornstarch
- 1/4 C epsom salt
- 1 Tbsp oil
- 1/4 tsp essential oil
- Food coloring
- Plastic molds

Materials:

## 6. Bath Bombs



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**a)** Heat 1 cup of water to boiling and mix in 3 1/2 cups of white sugar. Bring it to a boil.  
**b)** Dip the sticks into the syrup and then roll them in sugar. Let dry.  
**c)** After the sugar solution has cooled, pour it into cups and suspend the sticks inside.  
**d)** Remove when your candy is the desired size.  
Tip: You can add lemon juice or other extracts for flavoring.

Method:

- Water
- Sugar
- Jar or cup
- Wood popsicle
- or cake pop stick.

Materials:

## 5. Rock Candy

B	A	A	X
B	C	C	D
F	E	E	D
E	G	G	X