

# STEAM's Excellent Eggstravaganza

## Crystalized Eggs

1. Make your egg (or anything you like) out of the pipe cleaners.



2. Tie a string around the top of the egg and hang it from the dowel.



3. With the help of an adult, pour hot water into the jar. For each cup of water you will use 3 tbl (tablespoons) of Borax. Stir until it dissolves.
4. Place the dowel on top of the jar and let it sit.
5. Wait... and wait .....and wait. (12 to 24 hours!) The longer you wait the bigger the crystals.

### How do the Borax crystals grow?

Hot water holds more borax crystals than cold water. That's because heated water molecules move farther apart, making room for more of the borax crystals to dissolve. When no more of the solution can be dissolved, you have reached saturation. As this solution cools, the water molecules move closer together again. Now there's less room for the solution to hold onto as much of the dissolved borax. Crystals begin to form and build on one another as the water lets go of the excess and evaporates. This also applies to snowflakes - As water cools the molecules move closer together. Since all water molecules are shaped the same (H<sub>2</sub>O) they align in a six sided crystal.

## Walking on Eggs!



- Keep the eggs in the carton. Make sure they are all pointy side up.
- Take your shoes off. It will work better and no one wants shoes with eggs on them!
- Get an assistant to help you step onto the first carton. Make sure your weight is **evenly distributed**. Go slowly. Once you are there, don't move around too much.
- Step onto the second carton with your other foot. Try moving to the next carton.

## Egg Catapults

1. Make a stack of popsicle sticks by stacking them one on top of each other. Start with 5 sticks but go up to 7 or 8 if you want. *Optional: color the popsicle sticks before starting.*



2. Wrap a rubber band around each end of the stack to hold the stack together.



3. Take two popsicle sticks and stack them together. Wrap one rubber band around one end of these two sticks to hold them together. Pull the two popsicle sticks slightly apart and place the larger stack in between the two. Attach the larger stack to the stick on the top using a rubber band.



4. Set the spoon on the top popsicle stick and use a rubber band to lash it down. The spoon should be facing cup side (scoop side) outwards.



**Try it out. Not working well? Move the spoon? The position of the rubber bands? Make it better!**

## **Egg Drop!**

We dropped our eggs from the second story of the library. The only rule is that **eggs must be raw**. Otherwise you can use whatever you want to protect the egg. Many people try cushioning it or using a balloon or parachute to slow the fall. But you can be as creative as you would like.