



Girl Scouts of Virginia Skyline is excited to bring these at-home science experiments to your home for the Lexington Science Festival & Maker Faire!

# HOME SCIENTIST

These experiments can also help you earn your "Home Scientist" badge!  
Learn more at [gsyvc.org](http://gsyvc.org).





# 1 ROCK & ROLL

grow rock candy

## SUPPLIES

- 1 cup water
- 4 cups sugar
- food coloring
- jar
- wooden skewers  
or string

## DIRECTIONS

*\*you may need help from an adult for this activity*

1. Boil water
2. Slowly dissolve sugar into the hot water
3. Add a few drops food coloring of your choice
4. Pour the liquid into jar (leave any un-dissolved sugar out)
5. Put wooden skewers into the jar
6. Let cool & enjoy!

## what's happening?

Small crystals will start to form on the skewer after about an hour, but if you wait a day or more, larger crystals will start to form. Sugar is actually made of tiny crystals that clump together - this same principle is used to make rock candy



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# 2 GLOW FOR IT!

glowing jello

## SUPPLIES

- lime or lemon jello
- 1 cup tonic water
- 1 tbs sugar
- blacklight

## DIRECTIONS

*\*you may need help from an adult for this activity*

1. Boil tonic water (careful, this happens faster than tap water)
2. Add sugar to jello powder, then prepare according to package instructions.
3. Once jello has cooled, view under blacklight for a yummy glow-in-the-dark treat!

## what's happening?

Tonic water contains a chemical called quinine, which glows blue under ultraviolet light. Bonus fact: quinine has a bitter taste, which is why we added a bit of extra sugar to our jello powder! Follow along with this experiment here: <https://youtu.be/R5fQyt3wq6s>



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# 3 DENSITY DIVING

personal lava lamp

## SUPPLIES

- jar
- vegetable oil
- tap water
- food coloring
- alka seltzer tablets

## DIRECTIONS

1. Fill your jar 1/2 full with the oil
2. Add water so your jar is ~3/4 full
3. Add a few drops food coloring of your choice
4. Break alka seltzer tablets into small pieces, then slowly add to the jar.
5. Watch your lava lamp come to life!

## what's happening?

You'll notice that oil and water do not mix when combined because they are different densities! When you add the tablets, they sink then react with the water to produce bubbles. The bubbles rise to the top, bringing small pieces of the colored water with them & creating a lava lamp effect.





# 4 WE ALL SCREAM

for ice cream

## SUPPLIES

- 1 tbs sugar
- 1/2 cup heavy cream
- 1/4 tsp vanilla extract
- 6 tablespoons rock salt or kosher salt
- 1 pint-size ziploc bag
- 1 gallon-size ziploc bag
- ice

## DIRECTIONS

1. Fill pint bag with sugar, heavy cream & vanilla, then seal
2. Fill gallon bag with halfway with ice & all the salt
3. Place pint bag in gallon bag, then seal
4. Shake the bags for ~10 minutes, until ice cream begins to form
5. Add any toppings you'd like and Enjoy!

## what's happening?

The salt keeps the ice cream temperature low enough to freeze the cream, and the sugar prevents it from freezing solid. The vanilla is just for flavor. Find out more here, including how to make a homemade whipped cream topping!

<https://youtu.be/1AUG5J7eSTI>

