



Brownie Home Scientist

Pillar: STEAM

Outcomes: Seeks challenges

Brownies will earn their badge by: Learning to see the science all around them.

Before you get started – have an adult help with each experiment and wear some old clothes—science can get messy!

1. Be a kitchen chemist. Start your experimenting in the coolest place for science in your house, the kitchen! Science is responsible for making lots of different foods.
 - a) Grow rock candy. [Follow this link](#) for the recipe and instructions.
What happens? Crystals should start to form after about an hour, but if you wait several days or weeks, your rock candy will form large crystals. Sugar is made of tiny crystals that clump together. The same idea is used to make rock candy.
2. Create static electricity.
 - a) [Check out this video](#) on how static electricity works.
 - b) See if you can bend water with static electricity. Turn the water on in a very thin stream. Rub a comb very quickly on a wool sweater. Then bring the teeth of the comb near the water, about 3-4 inches below the faucet. Watch closely!
What happens? The water bends toward the comb! By rubbing the comb against the sweater, you gave it a positive charge. This caused the water to be attracted to the charged item.
 - c) Check out one of our Community Partners, Burns & McDonnell, for a fun [static electricity activity!](#)
3. [Follow this link](#) to dive into density. Why do some things float while others don't? It's all about density.
 - a) Dancing raisins – can you make raisins move without touching them? [Try this experiment.](#)
Pour a can of lemon-lime soda (i.e. Sprite or 7Up) into a clear glass. Drop 6-7 raisins into the soda and watch them for a few seconds. *What happens?* Raisins are denser than the soda so at first, they sink. Then the bubbles from the soda fill the wrinkles in the raisins, lifting them up. The bubbles pop when they reach the top of the glass and the raisins sink again.
4. Make something bubble up. When mixed with a gas called carbon dioxide, some household items can have a fun reaction.
 - a) Make a soda geyser. A geyser is a hole in the earth that sprays out hot water and steam. Making your own is definitely an outside experiment. [Click here for the ingredients and instructions.](#)
What happens? A soda geyser will erupt because of the carbon dioxide gas created by the rapid reaction between the candy and soda.
5. Play with science.
 - a) Make homemade slime! In a bowl mix together 1 ½ cups of cornstarch and 1 cup of water. Add a few drops of food coloring to the mixture. After about a minute, you'll have stretchy slime!

Online resources and activities:

<https://www.pinterest.com/gprograms/brownie-resources/badge-home-scientist/>

Our Community Partner MilliporeSigma has these activities and more fun home scientist activities here:
https://www.sigmaldrich.com/content/dam/sigma-aldrich/docs/Sigma-Aldrich/General_Information/2/curiosity-experiments-science-packet-ms.pdf



When you're finished: Congratulations, you have earned your badge! You can purchase by emailing shopdept@gksmo.org or at <https://www.girlscoutshop.com/BROWNIE-HOME-SCIENTIST-BADGE>

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