



<p>Description Science is all around us! Brownies begin by making raisins and pepper dance using the amazing properties of density and electricity. Next, they become kitchen chemists and use everyday pantry items to experiment with delicious treats and blow up a balloon using no breath. Finally, Brownies will learn how science can be used to make toys by making their very own Silly Putty! (This program includes all five steps in the Home Scientist Badge and includes the badge).</p>		
<p>Grade Level 2-3 Girl Scout Juniors</p>	<p>Badge Program Outcomes Participants will:</p> <ul style="list-style-type: none"> • Become kitchen chemists and use a chemical reaction to create ice cream • Create static electricity using balloons to make pepper “dance” • Dive into density by making raisins float, then sink, then float again • Make something bubble up by blowing up a balloon without using any breath • Play with science by making their own Silly Putty 	<p>Girl Scout Badge Connections Brownie Home Scientist Badge, <i>It’s Your World – Change It! Brownie Quest</i></p> <ul style="list-style-type: none"> • Activity 1 – “Create Static Electricity”: Make pepper dance (Step 2) • Activity 2 – “Dive into Density”: Dancing raisins (Step 3) • Activity 3 – “Make Something Bubble Up”: Blow up a balloon without using your breath (Step 4) • Activity 4 – “Play with Science”: Homemade Silly Putty (Step 5) • Activity 5 – “Be a Kitchen Chemist”: Make your own ice cream (Step 1)
<p>Duration 2 hours</p>		

Vocabulary

Familiarity with these terms and concepts will enhance students’ experience in the activity.

- **Attract:** To pull closer.
- **Carbon dioxide:** A gas composed of carbon and oxygen; the air that we breathe out.
- **Density:** How close together the molecules of an object are in their set space.
- **Friction:** Rubbing one surface on another.
- **Matter:** What everything is made of; exists in three states: solid, liquid, and gas.
- **Particle:** A very tiny piece.
- **Repel:** To push away.
- **Static electricity:** An electrical charge built up in an item due to friction.



Post-Visit Activities

Since this lab does all five steps of the badge, we recommend trying out some of the other activities listed in the Home Scientist Badge Booklet.

Step 2: Create Static Electricity

- Head to <http://wonderopolis.org/wonder/what-is-static-electricity> for a basic explanation of what static electricity is as well as some more fun activities using static electricity.
- This Bill Nye clip gives a brief explanation of static electricity with a fun demonstration. <https://www.youtube.com/watch?v=Z-77IzaXGcg>

Step 3: Dive into Density

- This YouTube video has a great and simple explanation of density and why things sink or float. <https://www.youtube.com/watch?v=dcQR6vV1Sgo>
- Here is another great activity on density. Try layering different liquids in a cylinder to see which is more or less dense than the other. <http://www.kiwicrate.com/projects/Rainbow-Density-Cylinder/737>

Step 1: Be a Kitchen Chemist

- Try out different flavors of ice cream in a bag. Different flavors can be made by trying different flavored extracts or adding fruit and other toppings half-way through the shaking process. You can also try using flavored milk!