

Daisies and Brownies complete 2 activities, Juniors and up complete 3 to earn your Chemistry Fun Patch!



**Chemistry in the Environment** – The atoms and molecules that make up air, water, and the living things on earth are continuously interacting together. Pollution we create changes the chemistry of the air and then the rain. Discover more about acid rain and try an experiment to see how it affects the living organisms on earth. Then come up with and try out an idea to help improve the chemistry of our air and water. You can use these resources to help you out. <http://www.clean-air-kids.org.uk/acidrain.html>  
<http://www.kidsecologycorps.org/kid-power/activities/create-acid-rain-in-your-own-kitchen>

**Chemistry in the Kitchen** – How did we come up with the perfect cookie? By experimenting! Why do we add baking soda? How does adding extra flour affect the fluffiness of cookies? Choose one variable and test out what happens if you add more or less of an ingredient. Find out what your troop's ideal cookie recipe is! Here is a great resource to get you started: <http://www.npr.org/sections/thesalt/2013/12/03/248347009/cookie-baking-chemistry-how-to-engineer-your-perfect-sweet-treat>

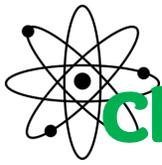
**The Power of Chemistry** – Chemical reactions are part of how power plants work, how heat is produced and how your vehicles run. Test out the chemical reaction of vinegar and baking soda, and use it to power a mini-boat. Can you figure out the best ratio of vinegar and baking soda to make your boat go the farthest? Check it out here: <http://www.kiwicrate.com/projects/Baking-Soda-Powered-Boat/2634>. For a different engineering challenge try making a rocket car by building wheels and axles for your vehicle.

**Secret Codes with Chemistry** – Try creating your own invisible ink and writing fun messages to your friends. Acidic solutions like lemon juice will react with heat from a light bulb to reveal your message. Find out more here: <https://www.scientificamerican.com/article/bring-science-home-invisible-ink/>

**Chemistry in Art** – Chemistry is an important part of many visual arts. From making paints from natural pigments to creating plastic buttons and many more. Try out an art project that uses chemistry. Some options include exploring the chemistry behind polymers and plastic by creating them from milk: <https://www.scientificamerican.com/article/bring-science-home-milk-plastic/>, making marbled milk paper: <http://babbledabble.com/science-art-for-kids-marbled-milk-paper/>, tie-dye using sharpies and rubbing alcohol: <http://www.sciencebuddies.org/hands-on-activities/tie-dye-markers?from=Blog>, or come up with your own art project.

**Your Own Experiment** – Design your own experiment or try an different activity to find out more about how chemistry works





# Chemistry Fun Patch Order

Level: Daisy Brownie Junior Cadet Senior Ambassador

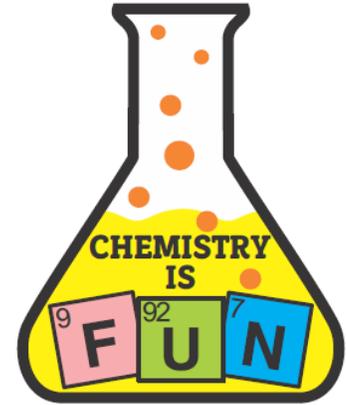
Troop # \_\_\_\_\_ Troop Leader/Adult \_\_\_\_\_

Mailing Address:

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

1. Which requirements did the girls complete?



(Patch Design)

2. What did the girls like the most about their chemistry experience?

Names of girls who participated

3. What did girls learn from these activities?



4. Please send a photo of girls if possible!

\_\_\_\_ # of patches (\$1.50 each) Total \$ \_\_\_\_\_

Select Delivery Method

\_\_\_\_ Mail (+\$1.50 Shipping) \_\_\_\_ Pick-up at Anchorage Office

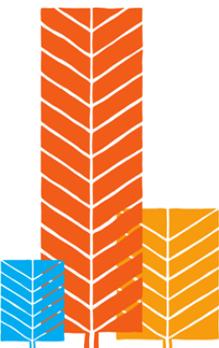
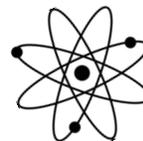
\_\_\_\_ Check \_\_\_\_ Cash \_\_\_\_ Visa \_\_\_\_ MasterCard \_\_\_\_ Discover

Printed Name \_\_\_\_\_

Card # \_\_\_\_\_

Exp. Date \_\_\_\_\_ Billing Zip Code \_\_\_\_\_ CVV \_\_\_\_\_

Signature \_\_\_\_\_



Submit your patch order form to Kelly FitzGerald at 3911 Turnagain Blvd E. Anchorage, AK 99517 or Fax 907-243-4819. Questions? Contact Kelly FitzGerald at [kfitzgerald@girlscoutsalaska.org](mailto:kfitzgerald@girlscoutsalaska.org)

