



# GIRL SCOUTS OF CITRUS COUNCIL CRAZY FOR CHEMISTRY PATCH PROGRAM



## Fun with Chemistry

### Introduction:



Chemistry is EVERYWHERE! It's in the air we breathe, in the food we eat, and even in our own bodies.

In this Council Own Patch, you will learn about what Chemistry is and the different branches of Science it involves.

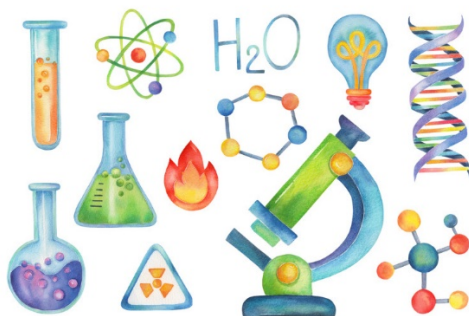
This patch also covers different types of chemical reactions we experience daily and how chemistry is affecting the world around us.

### Purpose:

This patch program is designed to promote STEM learning among girls and young women. Participants will learn about Chemistry and its different branches. All ages are invited to participate in this Council Own Patch program. To earn the patch:

- Girl Scout Daisies must complete 1 activity in all 3 categories
- Girl Scout Brownies must complete 1 activity in all 3 categories and an additional 1 activity from the category of their choice.
- Girl Scout Juniors must complete requirement 1 activity in all 3 categories and an additional 2 activities from the categories of their choice.
- Girl Scout Cadettes, Seniors and Ambassadors must complete 2 activities in all 3 categories.

Once girls have completed the patch requirements, you can contact the Girl Scouts of Citrus shop to purchase the patch.



## Category 1 - Discover

- Learn about what safety precautions you should use when working with chemicals
- Learn what a chemical reaction is and what the substances used in the reaction are called.
- What are the different parts of an atom? How do atoms behave differently throughout all of the states of matter?
- Learn what the significance of the periodic table is and what elements it includes
- Were you taught there were three states of matter? Discover how many there actually are!
- What everyday activities use chemistry?
- What are processes can be used to change an objects physical state of matter?
- Learn about heat energy and how it is transferred
- Learn what density is and what happens when liquids with different densities are mixed together
- Where do greenhouse gases come from and how do they affect our Earth?



## Category 2 - Connect

- Explore different careers involving chemistry.
- Select a famous female chemist and learn more about her!
- Experience an object change from one state of matter to another.
  - Ex: Make your own slime at home and watch as the slime switches between behaving like a liquid and a solid. (Tutorial for DIY is on our Girl Scouts of Citrus YouTube Channel under “Brownie Home Scientist Part 3)
- Learn more about the densities of different objects
  - Density affects an objects ability to float or sink. See whether different objects will float or sink in certain liquids.
- What types of chemistry are used in the kitchen? Cook up a meal and put your chemistry skills to work!
- Conduct an experiment to learn more about greenhouse gases and their effects.
- Experience a chemical reaction
  - Ex: Make your own bath bomb and use it
  - Ex: Slicing an apple
- Create your own way to memorize the periodic table of elements. You can use a mnemonic device, a song, flashcards, or anything else that might help you!

## Category 3 - Take Action

- Pick one branch of chemistry and teach a younger Girl Scout about it. Show her how fun science can be!
- Spread the word about greenhouse gases and their effects. Let people know what they can do to help reduce greenhouse gases.
- Research schools and universities that can help you to pursue a career in chemistry.
- Host a cooking demonstration for fellow Girl Scouts to show them how chemistry is involved in our daily lives.
- Enter one of your experiments from this patch program into a science fair.
- Teach others your memorization technique for the periodic table!



## Resources:

- Chemistry Safety Guide - <https://www.sciencebuddies.org/science-fair-projects/references/chemistry-safety>
- Interactive Periodic Table - <https://ptable.com/?lang=en#Properties>
- Meet the Greenhouse Gases Cards - <https://climatekids.nasa.gov/greenhouse-cards/>
- Crash Course for Kids on Chemistry and Baking Video - [https://www.youtube.com/watch?v=37pir0ej\\_SE](https://www.youtube.com/watch?v=37pir0ej_SE)
- Chemical Reactions in Action Video - <https://www.youtube.com/watch?v=5iowJs6MryI>
- What's Matter Video - <https://www.youtube.com/watch?v=ELchwUIIWa8>
- DIY Bath Bomb Video - <https://www.youtube.com/watch?v=4OSM7M0Zm48>
- Women in Chemistry Information - <https://www.sciencehistory.org/learn/women-in-chemistry>