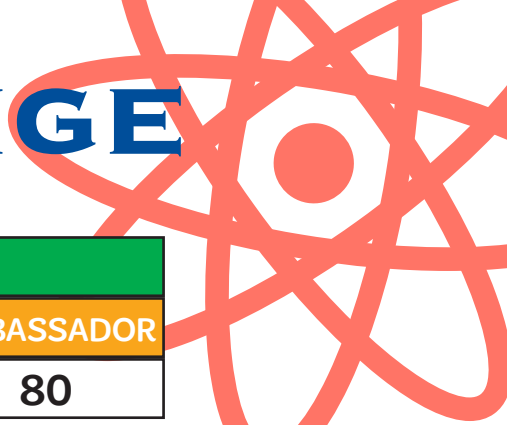




SCIENCE CHALLENGE

Share pictures of your challenge tasks to our social media platforms, we're @GSNYPENN.



POINTS REQUIRED PER GIRL SCOUT LEVEL					
DAISY	BROWNIE	JUNIOR	CADETTE	SENIOR	AMBASSADOR
30	40	50	60	70	80

1 point each:

- Find out when the official first and last days of spring are—how many days are in spring?
- Clean your yard and pile up small items that birds can use to make a nest; if you find nests, don't touch them, but post a picture to share
- Go outside and complete an alphabet scavenger hunt by finding something related to each letter of the alphabet
- Learn what the following terms mean: Question, Hypothesis, Data, Experiment, Control, Findings
- Make a rain cloud in a jar with shave foam, water, and food coloring; write down what you think will happen before you start your experiment and compare to what you observe
- Use coffee filters and non-permanent markers to make chromatography butterflies; check out buggymbuddy.com for the how-do
- Use a clear jar, many small items from your room and dry rice or uncooked small pasta to make your own "look & find" brain teaser

2 points each:

- Explore how sight influences taste; try adding some food coloring to something you like to eat; taste it with its normal coloring and also with its new color; have your family try it out; ask everyone to write down if they think it tastes different, better, or worse; extra points for extra foods; post pictures and tag us
- Use a stalk of celery to observe how plants absorb water; stand the celery in a cup with water and food coloring; take notes and pictures each day until the color reaches the tip of the leaves; note how long it takes; try it with a few different colors
- Learn about where the sunlight hits your house; cut out some green trefoil paper shapes, number them, and put one in several different windows of your house; keep one to compare with the rest; guess which will fade first and last; write notes to see which trefoil fades the fastest—that's where there is the most sunlight at your house

- Create a bubble experiment by choosing 3 different types of soap (dish, body, hand) and make a bubble solution from each; make a hypothesis about how each will perform and experiment to find out which is best; extra points if you're specific in your data tracking (biggest bubble, strongest bubble, longest lasting bubble)
- Find out why ants are important to our ecosystem; look around your yard and see how many types of ants are around your house; what can you learn about the species?
- Use Oreo cookies to display the phases of the moon by eating the cream into the correct shape; post a picture of your completed chart

3 points each:

- Set up a water cycle in a bag project by drawing a sun, clouds, and water with a sharpie on a Ziplock sandwich bag; mix 1 cup water with blue food coloring and pour into bag; seal and tape to window; observe for a few days
- Set up a rubber egg experiment using raw eggs and vinegar; complete a second one adding food coloring to the vinegar; observe what the vinegar does; post pictures of your results
- Research ooblek; find a recipe online and make it with your family; list cool observations about your ooblek
- Make your own kite; try using different materials until you can create one that flies; post photos of your kite flying
- Make your own ice cream by hand; use a pint size bag, sugar, milk, vanilla, ice, and salt; check online for a recipe or use the one in the Brownie Home Scientist badge booklet
- Create a "feel box;" find items around your house that have different textures (smooth, rough, sticky, bumpy, etc.) and put them in a box; have your family members cover their eyes so they can't see and then lead them to the box; ask them to tell you what each item is just by feeling it—did anyone guess right?

5 points each:

- Search online for how to make a soda bottle rocket; complete the experiment and see who in your family will have the highest-flying

- Make your own vinegar and baking soda volcano eruption; play with colors and see what happens
- Many different foods can be re-grown using parts we usually throw away; choose 3 foods to regrow from scraps; research how to do it; set it up and post a picture of your progress
- Set up your own hand washing experiment using slices of bread in Ziplock bags; 1 piece of bread is untouched, 1 piece has been touched by people who haven't washed their hands, 1 piece has been touched by people who have used hand sanitizer, and 1 piece has been touched by people who used soap and water; see how long it lasts and write down what you observe; OR come up with your own bread experiment; maybe try the bottom of your shoes on the bread and then your bare feet?
- Make homemade glass cleaner by combining 1 cup of water, 1 cup of rubbing alcohol, and 1 tablespoon of white vinegar into a plastic spray bottle; compare this to whatever glass cleaner your family has in the cupboard; does it work as well, better, or not as well?

10 points each:

- Complete a STEM-related badge; extra points for each badge completed
- Complete a STEM-related Journey
- Learn the definition of the word "upcycle," complete an upcycling project of your choice; when you're done, post a picture and a description of your project

Earn this patch!
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