Daisy Coding Basics

Pillar: STEM
Outcomes: Strong Sense of Self and Challenge Seeking

When you've earned this badge, you'll know how people tell computers what to do and how computers solve problems. You'll also learn about important female computer scientists and how you can help make the world better with coding.

Daisies will earn their badge by:

1. Create algorithms that follow a sequence

   a. An **algorithm** is a detailed, step-by-step process followed in order to complete a specific task or to solve a specific problem. The order the steps are in is called the **sequence**. Watch this video to learn more: https://www.youtube.com/watch?time_continue=1&v=Da5TOXCwLSg&feature=emb_logo
   b. Talk with an adult in your house about the algorithm for making your favorite sandwich, the algorithm they follow for your bedtime or the algorithm for making a s'more. Write down the detailed steps for one of the above and have somebody in the household follow the algorithm closely to complete the task! How did it go? Algorithms only work when they are very detailed – every single step is written clearly.

2. Learn about women in computer science

   a. **Computer scientists** create computer programs and write code that tells computers what to do. They're also called coders or programmers.
   b. Ada Lovelace is known as "the first computer programmer." Click on the following link to learn more about Ada: https://www.biography.com/scholar/ada-lovelace
   c. Just like Ada Lovelace, you can come up with ideas about what computers could do in the future. Create a list of things you would like a computer to help you with.

1. Explore sorting algorithms

   a. **Sorting algorithm** is a type of algorithm computers use to organize information in a specific order.
   b. Use what you learned about algorithms and create one with an adult member of your household for them to follow to do a sorting task. It could help them sort laundry by color, sort household members by age or alphabetically, sort the kitchen spices alphabetically, etc. Have them follow the steps in your algorithm. How well did they do? Did they mess up? Did they do it completely correct?

When you're finished: Congratulations, you have earned your badge! You can purchase by emailing shopdept@gsksmo.org or at https://www.girlscoutshop.com/DAISY-CODING-BASICS-BADGE

No shipping charges apply at this time.