

Girl Scout Juniors Badgework



STEM Career Exploration

Step 2: Discover the possibilities in the STEM Pathway

- Whether you want to invent something, make a huge discovery, or help others, you could make that happen with a career in STEM. Visit the *STEM Pathway* to find some career possibilities. Use the screen titled “What does your future look like?” Answer a few simple questions about yourself to discover your dream job!

Robotics: Designing Robots (Badge 2)

Step 4: Create a prototype in the Make-It Workshop

- Engineers create prototypes, a way to show an idea to others or to test it out. Prototypes can be as simple as a drawing or can be created with common materials, such as cardboard, paper, and tape. Visit the *STEAM Center* and utilize materials available to create a prototype of the robot you would like to create.

Coding for Good: Coding Basics (Badge 1)

Step 1: Create algorithms for a computer that follows a sequence in the Make-It Workshop

- A computer can only do exactly what it is told to do, in exactly the order it is told to do it. The directions that programmers write are called algorithms. Now it is your turn to create an algorithm for a small, computerized robot in the *Make-It Workshop*. In the *Connect-It* section, choose from either the *Ozobot* or *Botley* and code a simple set of directions for the robot to follow. Need help? Ask a STEAM team member for help!

Flowers

Step 1: Uncover the Science of one flower in the Front Play Garden

- Botanists track different kinds of plants. Act like a botanist and go on a flower hunt! Find at least five flowers around The Magic House. Inspect them closely, but do not pick them. Make observations and sketches for your botanist notes.

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Step 4: Have fun with flowers in the STEAM Center

- Make your own bouquet of flowers! These flower look-alikes can be made from materials found in the *STEAM Center*. Need inspiration? Think about the flowers in our garden. What materials can you use to create them here? Popsicle sticks, pipe cleaners, tissue paper, colored paper, and cardboard are all great items to work with!

Art and Design

Step 2: Turn your feelings into abstract art in the Art Studio

- Abstract art has colors, lines and shapes, but is not designed to represent living things or actual objects. How does your favorite place or person make you feel? Imagine how that feeling looks. What comes to mind? Shapes or colors? Lines or textures? Make abstract art about a subject using any medium available in the *Art Studio*.

Step 4: Explore composition in the STEAM Center

- When artists focus on light and shadow, they can make a flat image look as realistic as the 3D object! Sketch the still life in the *Art Studio* three times, moving positions each time to get a different light angle. Compare your sketches. How does changing the shading or light impact composition?

Step 5: Design an art display in the STEAM Center

- Portfolios protect artwork and allow artists to share their work. Make a portfolio in the *STEAM Center* using paper or cardboard. Choose your favorite artwork and designs to put in your portfolio and share it with family and friends!

Craft and Tinker

Step 2: Upcycle discarded material to make a craft

- When you upcycle, you use an old or discarded material to make something new. Choose recycled material in the *Make-It Workshop* to upcycle and make a craft. How does using different materials change the craft?