2019 Maker/Tinker Challenge

Challenge: Make & Enhance a Robotic Hand

***Note: Members may still choose to enter the maker/tinker category that does not use the robotic hand as a basis for their exhibit. This is an additional option that youth may participate in.

This year we challenge you to try this simple activity in making a low-cost robotic hand as part of the maker/tinker exhibit! You only need a few materials to do this and it can be made in under 30 minutes. You can find the hand template here, as well as, a video which shows you directions on how to put together your robotic hand.

Your challenge is to add at least one enhancement to your robotic hand using some or all of the following materials: cardboard, string, clothespins, bottle caps, safety pins, a wire coat hanger, plastic milk jug, nuts and bolts, duct tape, newspaper, popsicle sticks, magnets, or pipe cleaners.

What do we mean by an enhancement?

Think about a function that your robotic hand could be used for or something that you would like it do that it can't being only made of paper, straws, and string. Is there something you can add to it that makes it do or be something else? In other words, tinker with your robotic hand until you create a new function or use for your hand or maybe a new way of doing something entirely!

This is your chance to be an inventor, a mad scientist, or solve the world’s next big (or smallest) problem! All exhibits will be evaluated using the existing maker/tinker rubric. Your robotic hand should be accompanied by a written reflection.

What exactly is making/tinkering?

Making and tinkering are terms that are often used interchangeably. To make or tinker is to experiment with phenomena, tools, and materials. It is thinking with your hands and learning through doing. It requires slowing down and getting curious about the mechanics and mysteries of the everyday stuff around you. It is whimsical, enjoyable, challenging, frustrating at times, and ultimately about inquiry. Tinkering is also about making something, but that something might reveal itself as you go. When you tinker, you are not following a step-by-step set of directions that leads to a tidy end result. Instead, you are questioning your assumptions about the way something works and investigating it on your own terms. You’re giving yourself permission to fiddle with this and dabble with that. The end result may create something new or solve a