

# A STEM in the Park

## Take Home Activity

# STEM

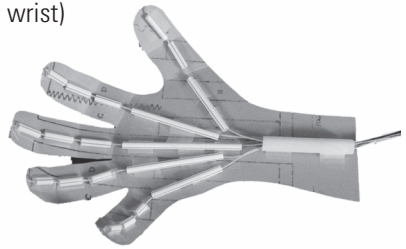
in the **PARK**™

Science, Technology, Engineering, and Mathematics

# I Want To Hold Your Robotic Hand

## ***What You Need***

- Tape
- Scissors
- Styrofoam Plate (large enough to cover hand and wrist)
- Standard drinking straws
- String
- Duck Tape
- Rubber Bands
- Hot Glue Gun and Glue sticks



## ***What To Do***

1. Trace your hand and wrist on the Styrofoam plate and cut it out (make sure your hand has a wrist as this is where you will hold onto the hand, you could also glue a popsicle stick here for a better grip)
2. Cover one side of your hand with duck tape, this will be the palm side of your hand.
3. Draw lines on their hands where their joints are located (use the wrinkles where their fingers bend as a reference). Bend each joint.
4. Glue a piece of string to the tip of each finger, long enough that it goes beyond the wrist of the hand. This string will go through each straw piece in the next step.

***Continued on back***

5. Cut a straw into small pieces. You must have one small straw piece for each joint. You will then glue the small piece of straw to each joint on the inner palm side of the hand (duck tape side).
6. Thread the string through each straw.
7. Place a rubber band on each joint on the opposite side of the hand ( the non duck taped side).
8. Pull each string to move one finger or all the strings to make a grasping motion.

## ***The Science***

A robot is a machine that collects information from its surroundings. It uses that information to follow instructions and to complete a task. Today's Robots have multiple sensors and are able to make their own decisions based on given information. Robots come in all shapes and sizes. The jobs they do are also varied. Some robots are used in factories. Others are experimental robots that use artificial intelligence. Artificial intelligence allows robots to behave more like human beings and to act independently in a changing environment. Today, robots are used in hospitals, space and ocean exploration, and other dangerous areas.

### **Additional Notes:**

When using a Glue Gun always ask an adult for help.

***This activity is brought to you by the  
Challenger Learning Center of Lake Erie West***

