

Robotic Hand

Items Needed:

Cardboard
Pencil
Craft knife
Straight edge like ruler
Straws
Hot glue (or regular glue and lots of patience)
Thread
Scissors
5 zip ties

Directions:

- Draw the outline of your hand and forearm then clean up and square the lines
- Draw in lines where the fingers bend
- Cut out drawn hand
- Use straight edge to crease the lines where the fingers bend
- Cut a length of cardboard to support the structure on the back of the hand
- Cut a strip of cardboard and bend it so that it fits on the “arm” of the structure as a handle
- Cut straws into 14 short lengths to fit on each section of the finger
- Cut straws into 5 longer pieces that fit in the palm and on the back of the hand
- Cut two more shorter lengths for the thumb
- Punch a hole at the base of the thumb
- Glue support piece onto the back of the hand and arm
- Glue the handle onto the arm
- Glue straws on each section of finger and thumb
- Glue four longer straws in the palm along the line of the finger
- Turn over hand and glue one length of straw from the hole punched down the length of the hand
- Glue two more pieces up and across the handle
- Use zip ties to measure out a loop that will fit comfortably around your fingers and cut off any excess
- Cut a length of thread for each finger and thumb that will stretch the length of the palm and about 4 inches more
- Thread the top most straw section and tie a square knot
- Thread through the rest of the line of straw sections for each finger
- Tie on the zip tie making sure to put it where your fingers can reach it through the handle but not so long that you can't pull the fingers down
- After doing all four fingers, thread the thumb making sure to pass the thread through the hole you punched and on down into the straws on the back

- Tie on the last zip tie
- Slide your hand up under the handle, slip on each zip tie and make a fist to operate