MAKE YOUR OWN ROBOT ARM

CHALLENGE:

Build a robotic arm using materials from around the house.
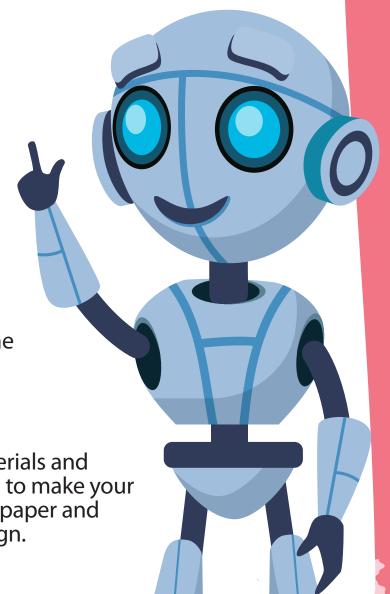
YOU'LL NEED:

- Cardboard or card stock
- Straws
- Jumbo straws
- Scissors
- Yarn
- Tape or hot glue

GET INSPIRED:

Visit YouTube and search "How to make a robotic arm at home," and get inspired by all the awesome examples out there.

PLAN IT OUT:

When you've gathered your materials and gotten some inspiration, it's time to make your design plans. Take out a sheet of paper and sketch out your robotic arm design.

PROCEDURE:

Trace your hand and wrist on the cardboard or card stock and cut it out. Place your hand back on the cutout and mark the location of your finger joints. Fold the cutout at the marked joint locations. Cut your straws into 1/4", 1/2", 1", and 2-1/4" sizes. Tape or glue the straws down each finger and hand and place one jumbo straw on the wrist. Grab five strands of yarn and cut each into 2-foot-long pieces. Knot one end of each strand. Thread one yarn strand through each finger straw with the knot at the tip of the fingers to prevent it from slipping through. Have all strands meet at the wrist and go through the jumbo straw. Explore what happens when you pull on different strands and what you can do with a robotic arm.

DISCUSSION:

What would happen if you didn't fold your cutout joints? How does this compare to coding a real robot arm? What would you do differently next time?