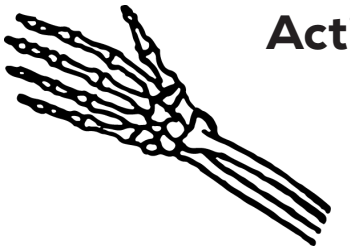
MONTSHIRE AT HOME: SKELETONS

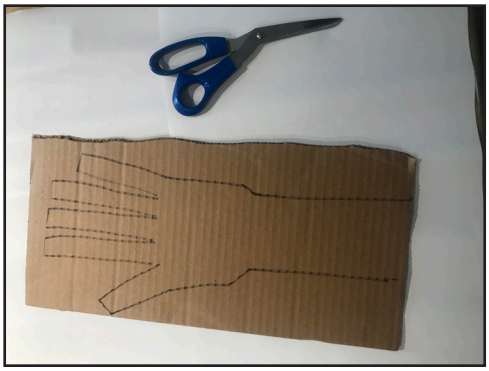
MONTSHIRE MUSEUM OF SCIENCE



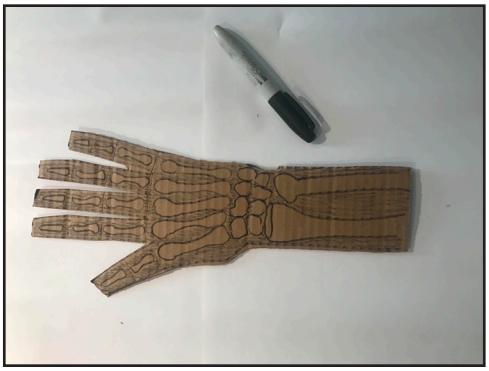
Activity: Make a Moving Skeleton Hand

Materials

- Carboard
- Marker
- Duct Tape or Hot Glue
- Scissors
- 3 Plastic Straws
- String

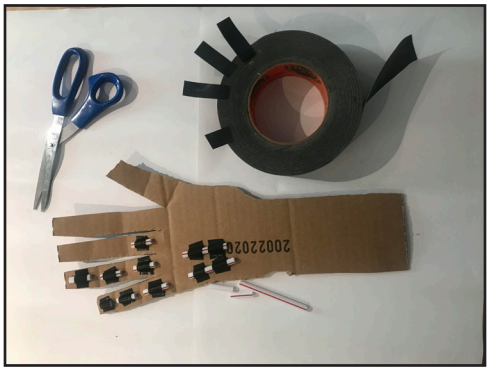


1. **Make a Hand**: Draw and cut out a large hand and lower arm from carboard. Wide flat square fingers work best.



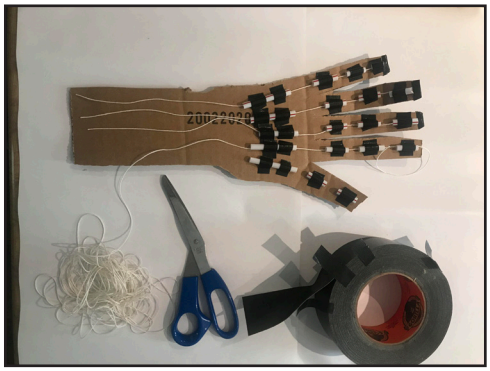
2. **Add Joints and Bones:** Score (cut through just the top layer of cardboard) where each of your finger joints are. Crease and bend the cardboard at each scored joint.

   Draw in your finger bones between the scored joints and your hand bones in the palm.



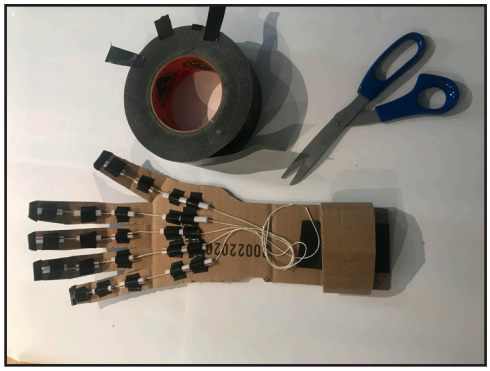
3. **Add Tendon Sheaths:** Cut a straw into small lengths that can fit between the finger joints. Cut a longer piece of straw for each finger in the palm of the hand. Tape or hot glue the straw pieces down.

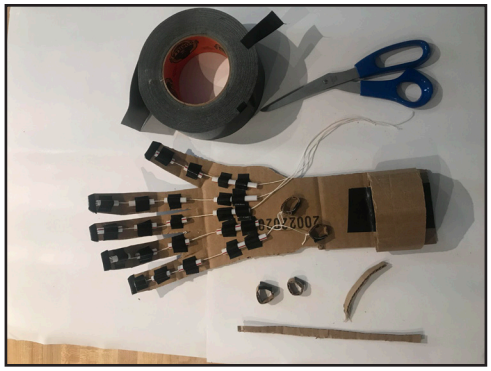
   Bend each finger. Trim straws shorter if needed so they don't catch on each other. These are the sheaths or tubes the finger tendons move through. Use your fingernail to push firmly down on the tape along the sides of each straw.



4. **Add Tendons:** Cut five pieces of string as long as your cardboard hand. These will be the tendons that control the bones in your fingers.

   Thread a string through each finger's four straw sheaths (only three for the thumb!). Firmly tape the string to the top of each finger. Test each string as you add it and reinforce the tape where needed.





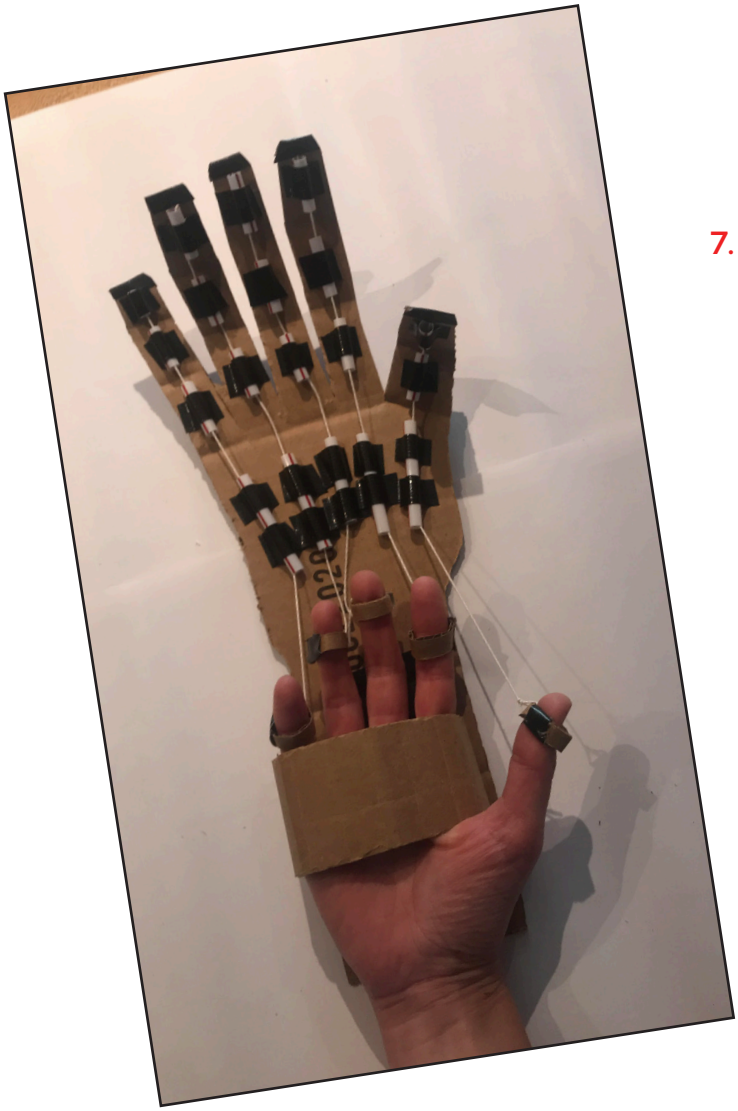
5. **Add an Arm Brace:** Loop a one inch wide length of cardboard around your palm, not including the thumb. Trim any extra cardboard so there's no overlap. Tape this loop to your cardboard arm.

   This will be where you hold onto your skeleton hand.

6. **Finger Loops:** These will connect the string on each skeleton finger to your real fingers.

   Cut narrow lengths of cardboard to make a cardboard ring for each of your (real!) fingers.

   Put your (real) hand through the arm brace and slide on each ring. Doing only one finger at a time, bend it all the way. Slide the string through it and tie the tight string to its ring. Bend you finger – does it bend the skeleton finger? Adjust the string as needed and cut off any extra.



7. **Test the Skeleton Hand:** Put your (real) hand into the arm brace with your thumb out the side. Slide the cardboard ring from each matching skeleton finger onto your (real) fingers. Bend your fingers to move the skeleton hand. Tweak and adjust as needed:
   - Push down the tape holding the tendon sheaths so there are no gaps.
   - Add extra tape where needed.
   - Trim any cardboard that sticks out or catches on a neighboring finger.
   - Adjust the string length as needed.

Tips

- Test each finger at each step to make small adjustments.
- Push the tape down hard with your finger nail – close to the straw

Sneak up on someone and tap them on the shoulder...