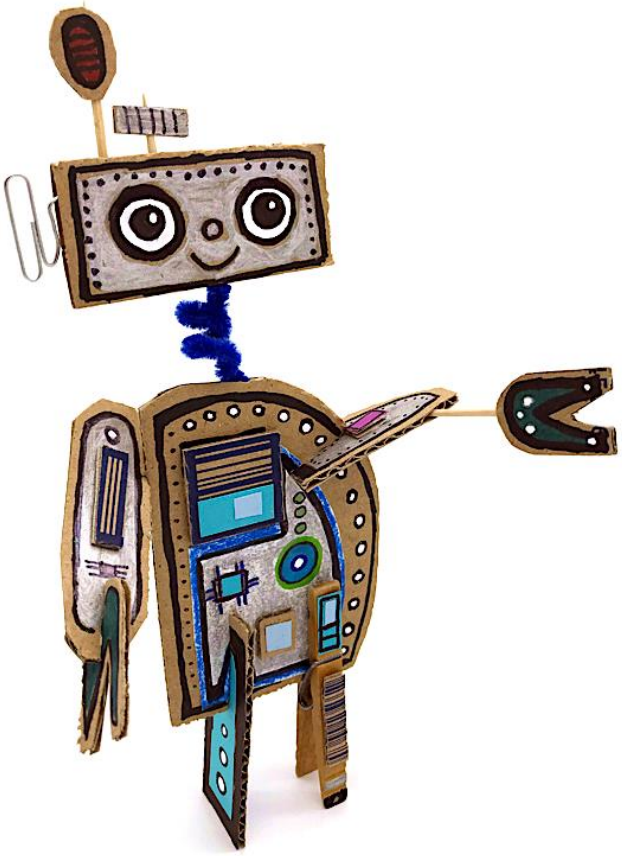
DAYTON ART INSTITUTE

ARTventures ... at home!

Recycle Robots

Create a robot sculpture using repurposed materials! Inspired by Nam June Paik's *Four Decades* from the DAI collection.

Image: Nam June Paik (American, born Korean, 1932-2006), *Four Decades,* 1989, video installation, 96 x 80 x 23 1/4" Museum purchase with funds provided by Society Bank by exchange. 1999.123



Basic Supplies Needed:

- Cardboard (3 sheets, approx. 4"x6" each)
- Markers (or pens, pencils, or crayons)
- Scissors

Additional Supplies Recommended:

- Toothpicks
- Chenille stems
- Masking tape
- Clothes pins
- Paper clips or bulldog clips
- Construction paper
- Glue sticks
- Ruler

Step 1: Prepare Cardboard

1. Cut cardboard into 3 sheets, approximately 4” x 6” each.
   Helpful hint: use blank cardboard (without text or words printed on it,) which will be easy to decorate later.

2. Draw the parts to your robot onto cardboard.
   Note: We recommend using the a single cardboard sheet for both the head and feet, a second sheet for the arms and hands, and your third sheet for just the body.

   Note: We also recommend arms be greater than **1” wide** and that feet be greater than **1.5” wide.**

3. Using scissors, cut all your drawn parts out of the cardboard.
   Helpful hint: Keep your scraps for extra parts and details for later.

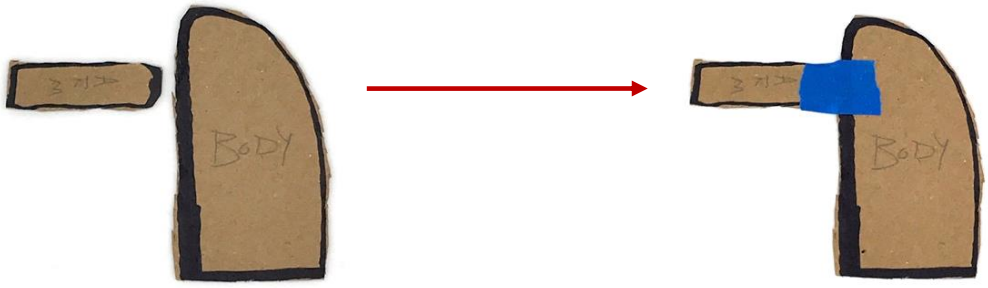
Step 2: Assemble Robot

There are many ways to assemble your robot—you can use one technique or mix and match all these techniques together.

Note: When assembling, make sure that feet are spaced widely apart and if possible—add some extra weight so your robot can stand up on its own.

Extra Challenge: Create interchangeable parts for your robot to help it complete certain tasks better than others (ex: a short arm vs. a long arm, a hand that has fingers vs. a hand shaped like a tool, etc.)

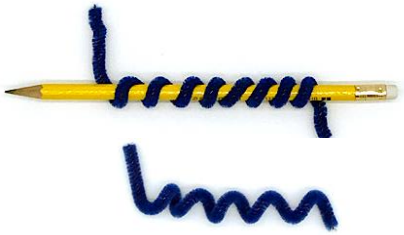
1. **Tape:** affix parts together using tape—tape on both sides to ensure rigid connection or tape only one side to allow pieces to bend forward or backward.



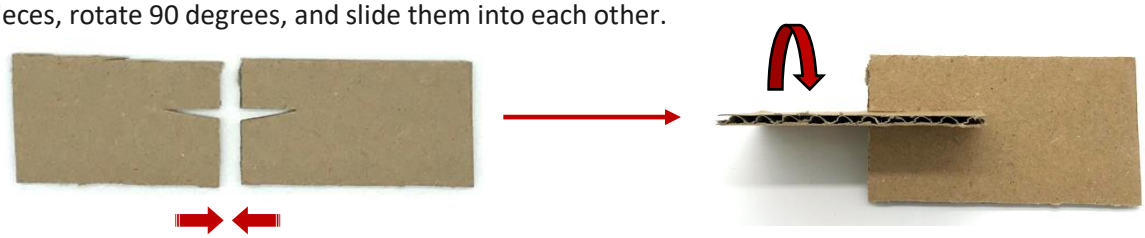
2. **Use Toothpicks:** gently push a toothpick into the narrow edges of both cardboard parts and join together—this type of connection allows pieces to rotate, (arms could move up and down or head could move side to side.)

3. **Twist in Chenille stems:** cut chenille stems to any length desired—we recommend at least 2" long. Twist or fold, then gently push into the narrow edges of both cardboard parts and join together—this type of connection allows pieces to pose and move in many directions, (head could be tilted or arms can move up down, left, and right.)

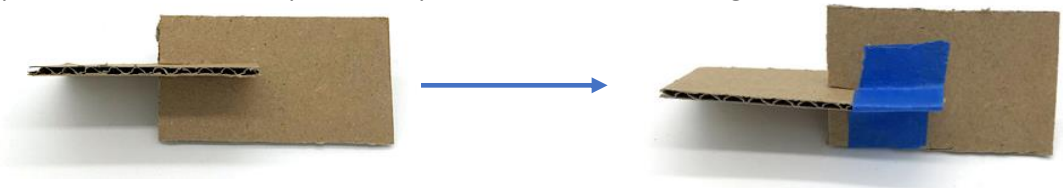
Note: Use a pencil to wrap the chenille stem around, twisting it into a spring for added movement.



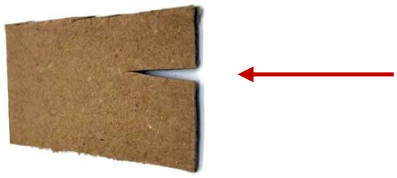
4. **Cut slots to create "joints":** safely slice a narrow slot into where you want to join two cardboard pieces, rotate 90 degrees, and slide them into each other.



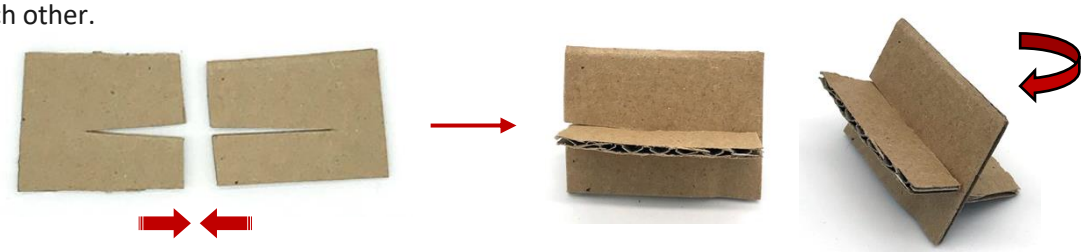
Note: to ensure a tight connection, make sure slots are as slim if not slimmer than cardboard—if pieces are loose, affix tape to both pieces to ensure a more rigid connection.



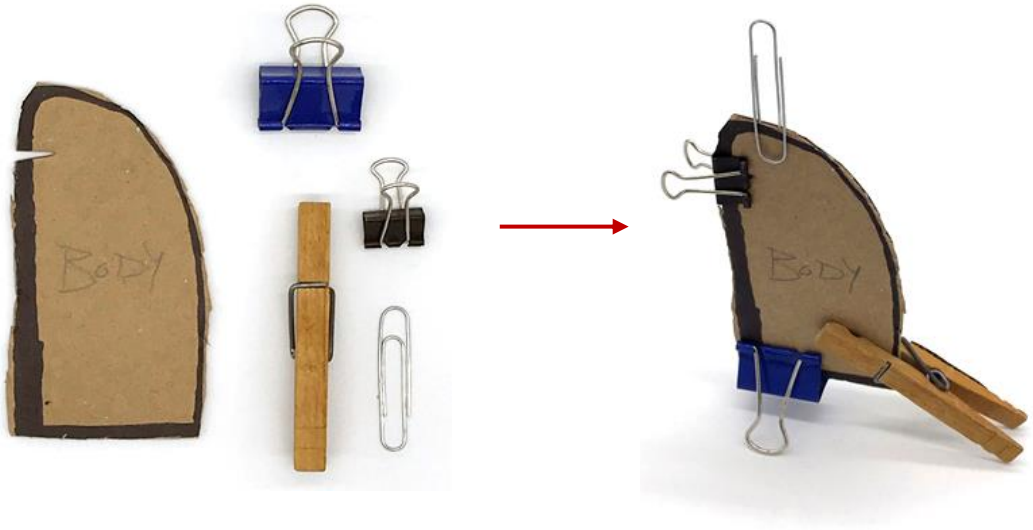
Helpful hint: cut triangular-shaped slots for even tighter connections.



Helpful hint: the longer you make your slot, the further your pieces will slide into each other.



5. **<u>Clamp pieces in place with clips</u>**: using a clothespin, paper clip, or bulldog clip, attach pieces sturdily.
   Helpful hint: clothespin legs can help your sculpture stand upright and also add weight.
   Helpful hint: Bend paper clips to form extra details such as antennas, arms, etc.



Step 3: Decorate your Robot

There are many ways to decorate your robot—you can use a single technique or mix and match multiple techniques together.

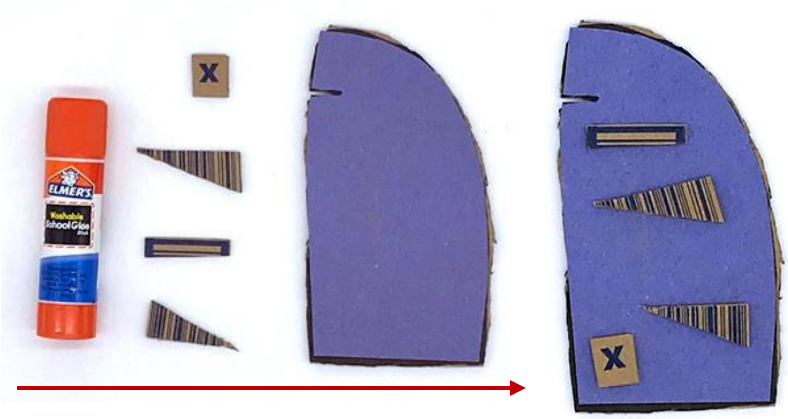
1. **Color with markers, pen, pencil, or crayons**

   Helpful hint: Sharpie works best, but be sure to draw in pencil first so you can draft your design before using permanent marker. Consider placing newspaper scrap paper underneath to protect surfaces from permanent marker.

2. **Use a glue stick to add leftover cardboard pieces for added texture.**

Helpful hint: This is a great way to feature cardboard pieces with printed text or designs.

Helpful hint: If you want to add color, make sure to arrange and glue all pieces first. Removing pieces glued together can be messy and challenging.

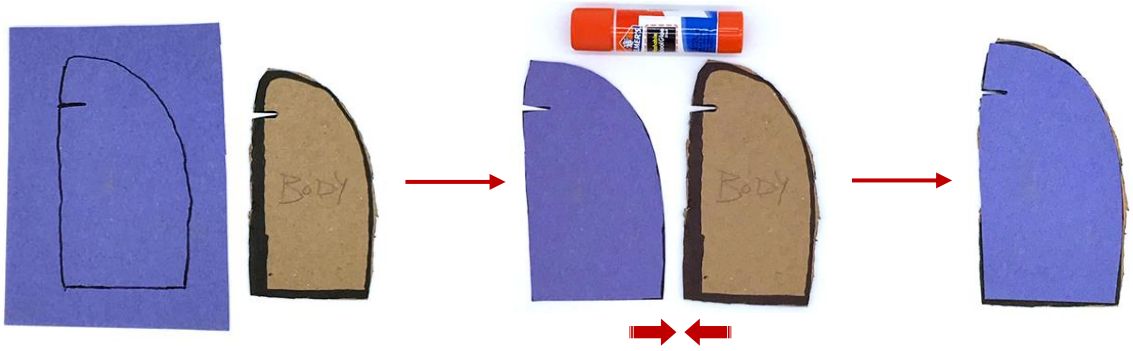


3. **Trace the robot's shapes onto paper, cut out and glue onto their corresponding cardboard parts.**

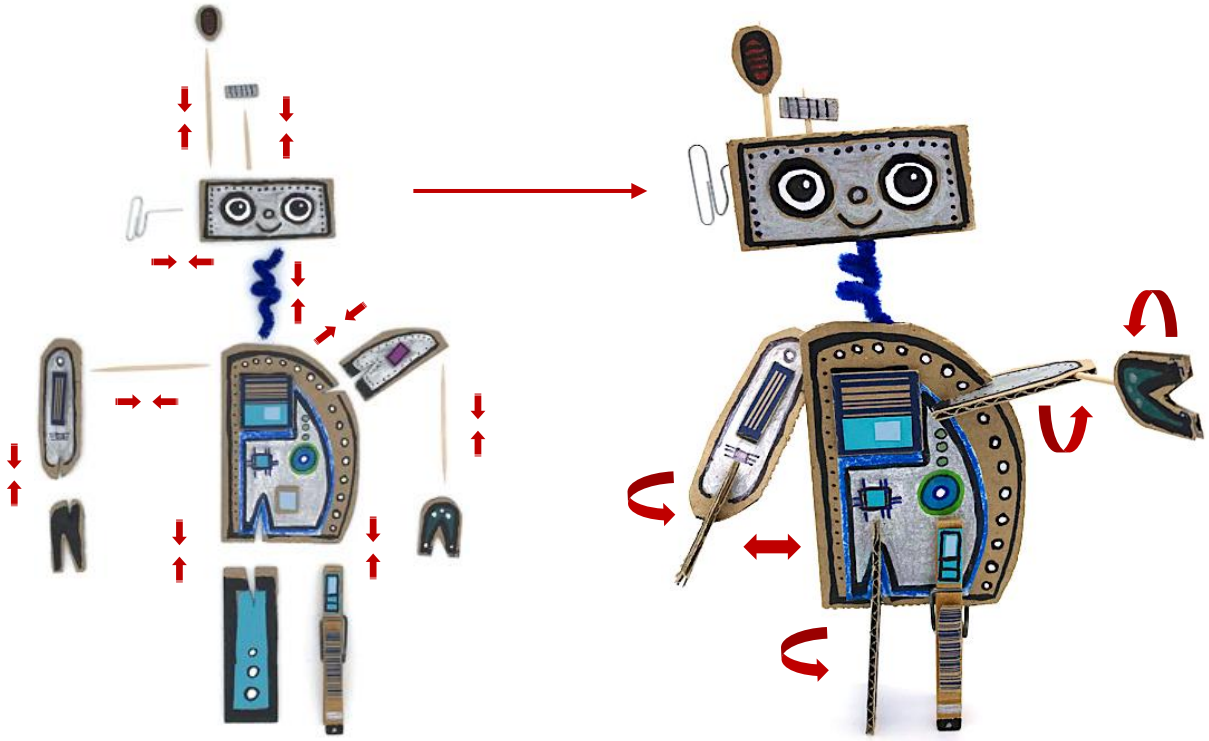
Note: Cardstock and construction paper works best, but any paper will do.

Helpful hint: This technique can help cover up any unwanted markings or printed text for an extra-clean look. If your cardboard has dark markings, use dark colored paper or apply extra layers.

Note: Don't forget to trace cut slots before cutting and gluing onto the cardboard!



Extra challenge: Use a computer and print your own text, shapes, or designs to add to your robot (print out your robot's name or images of gears, bolts, or other tech details for even more detail.)



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ARTventures ... at home!

Questions about or ideas for ARTventures at Home? Please email mburgy@daytonart.org