

Manual Popsicle Fan Project

Standard: NGSS MS-PS2-2: Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

Materials Required:

- Plastic bottle
 - Hot glue gun and glue sticks (adult supervision required)
 - Popsicle sticks (2)
 - Barbeque stick (1)
 - String or yarn
 - Scissors
 - Markers or paint (for decoration)
-

Safety Precautions:

- Handle scissors carefully to avoid cuts.
 - Ensure an adult supervises the use of hot glue to prevent burns.
 - Use caution when cutting or trimming the barbeque stick to avoid sharp edges.
 - Do not pull the string too forcefully, as this may cause the fan to spin too fast and become unsafe.
-

Procedure:

Step 1: Make the Fan Blades

1. Carefully poke a hole at the center of each popsicle stick.
2. Decorate the popsicle sticks with markers or paint as desired.

Step 2: Assemble the Blades

1. Attach the decorated popsicle sticks onto the barbeque stick to serve as fan blades.
2. Use hot glue to secure the blades, ensuring they are evenly spaced.
3. Trim any sharp edges of the barbeque stick for safety.

Step 3: Prepare the Bottle

1. Poke a hole on the side and another on the bottom of the plastic bottle.

Step 4: Assemble the Fan

1. Tie the string securely around the barbeque stick.
2. Insert the barbeque stick through the top hole in the bottle, aligning it with the bottom hole, and pull the string through the side hole.

Step 5: Test the Fan

1. Gently pull the string to rotate the barbeque stick and observe the fan blades spinning.
2. Adjust the speed and force of your pull to see how it affects the airflow created by the fan.

Note 1: Clean Up

Dispose of any trimmed stick pieces, and ensure that all materials are put away neatly. Carefully unplug and store the hot glue gun after it cools.