

# Puff Car

**What is the Challenge?** Design and build a wind-powered car using only a handful of household materials.

## What you need:

- Lightweight toy car (such as a Matchbox car)
- Pencil
- Paper
- Straws
- Masking tape
- Scissors
- Electric fan (optional)



## What to do:

- Place your car on a hard, flat surface. Take a fan (or your mouth) and blow on the car.
  - How far did it move?
- Imagine the sail on top of a boat. Using a pencil and paper, sketch out what you want the sail on top of your car to look like.
- Time to build! Using only straws, paper, and tape to bring your design to life.
- Once your sail is done, attach it to the top of your car.
- Again, place your car on a hard, flat surface and blow.
  - Was it easier or harder to move the car this time?
  - Did it move faster or slower?



### Notes for Adults:

- Encourage learners to test and adjust their sail as they build.
- Adult supervision is advised when using sharp objects.

### STEM Connection:

- A *sail* is a big piece of fabric typically found on boats. They catch the wind and power boats along the water.
- Most cars use gasoline as power, but your car used wind instead. Wind is a renewable source of energy, meaning it can be used over and over again without running out. Other renewable energy sources include: solar, hydro, and geothermal power.

### Take it further:

- *For Older Learners:*
  - Leave the challenge more open-ended. Don't mention they need to build a sail. What solutions will they come up with?
- Experiment with different materials. Does a sail made of tin foil work better than paper? What about a plastic bag? Get creative – the possibilities are endless!

