

Into Engineering

PUFF MOBILE

1. Make a **car** using **ONLY** the materials on this list:
 - 3 non bendable plastic drinking straws
 - 4 Lifesavers
 - 1 sheet of paper
 - 2 paper clips
 - tape
 - scissors

Here's the catch: to make your car move, you can only **blow** on it!

2. Test it out! How far does your car go when you blow once? How many puffs does it take to make your car travel 6 feet?
3. Try to redesign your car so that it will travel the **same** distance with **fewer** puffs. Consider:
 - What happens if you change the **size** of your car?
 - What happens if you use **fewer** materials?
 - Choose one thing at a time to change (that's a **variable**)
 - Make a **prediction** on how the change will affect the distance the car will go.
 - Then **test it out**
 - **Redesign** again if necessary!

Engineering Scoop:

When you blow you create moving air, or wind. When wind pushes against an object it can make the object move. Think about a sailboat. Wind pushes against the sail and makes the boat move. So a sail is one part of your car that can help it move.

Wheels can also help your car move. Maybe you have a bike at home. What would happen if you took the wheels off and tried to move it? (It takes a lot of force to move something that is rubbing along the ground) What other parts can you design to help your car move?

THE DESIGN PROCESS

ASK: What is the problem?

What have others done?

What are the constraints

IMAGINE: What are some solutions?

Brainstorm ideas.

Choose the best one.

PLAN : Draw a diagram.

Make lists of materials you will need.

CREATE: Follow your plan and create it.

Test it out!

IMPROVE: Talk about what works, what doesn't, and what could work better.

Modify your design to make it better. **Test it out!**

