

CURIOSITY AT HOME

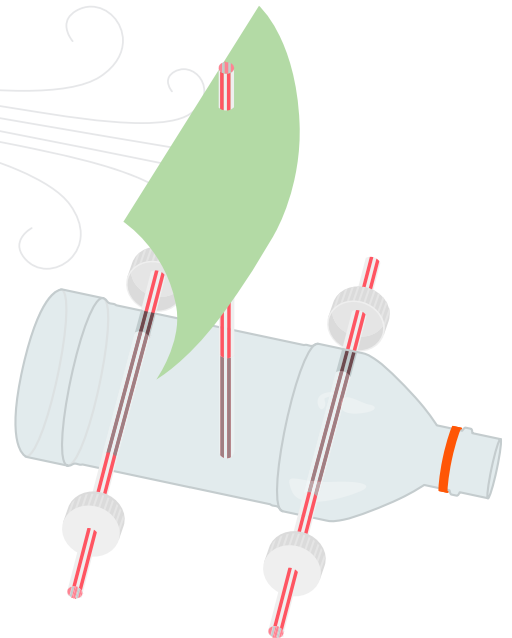
WIND POWERED CARS



Engineering is the field where people invent, design, and build things to solve problems, helping to make our communities better. Design a vehicle that is powered by the wind, test your invention, and redesign it to make it even better!

MATERIALS

- Paper or science notebook
- Pencil
- Recycled and craft materials (paper, tape, cardboard, straws, plastic bottles and caps, Ziploc bags, and string, etc)
- Fan or hair dryer



PROCEDURE

- Gather your supplies.
- In your science notebook, draw a sketch of the wind-powered car you will build. Be sure to include in your design how it will catch the wind.
- Using your supplies and your sketch, build a model of your car.
- When your car is complete, test it! Set your car on the floor in front of the fan or hair dryer. Turn on the fan, and observe how your car moves.
- Record in your notebook how well your car worked, including how far it traveled, if it moved in a straight line or curved, and anything else you noticed.

EXPLORE MORE

Vehicles are designed for a specific purpose, or to solve a problem; some carry people, others carry cargo. What problem could your vehicle solve? How would you change your car to be able to carry more weight?

The sun, water and wind are called renewable energy sources because these resources are naturally “renewed” and don’t run out. Cars today either run on fossil fuels (gasoline) or by electricity, which can be made by burning coal or with renewable energy sources like hydro, wind, or solar power. There aren’t wind-powered cars available commercially, but do you think there could be?

Experiment continued on next page...



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K-2 GRADE EXPLORATION

Here are some questions you can explore together.

- Test your car again with a rider (like a small stuffed animal).
Did it move as well as before? How can you change your design of your car so it can have a rider?



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3–5 GRADE EXPLORATION

Explore the following questions and write your observations in your science notebook

- What can you change so your car moves more easily?
- How far from the fan did your car move before it stopped?
How can you change your design so it can travel even farther, without moving the fan?
- What happens with smaller or bigger wheels?



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6–8 GRADE EXPLORATION

- What can you change so your car moves more easily?
- How far from the fan did your car move before it stopped? How can you change your design so it can travel even farther, without moving the fan?
- Can you change your design so your car turns (without moving the fan)?
- Can you change your design so your car can travel over both smooth and rough floors (like carpet)?



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