



San Francisco  
Public Library

## STEM CHALLENGE

# STRAW ROCKETS

### WHAT MAKES THIS STEM?

This activity is an exploration of the principles of flight. With this activity you can compare how different angles of the straw can affect the distance the rocket travels or how adding fins or folding the rocket in different ways can affect its flight.

### MATERIALS



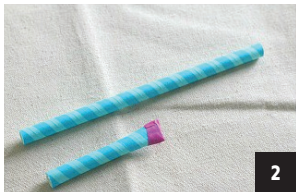
1

- Rocket template
- Regular straw
- Boba straw
- Scissors\*
- Tape\*
- OPTIONAL: Markers, crayons, or colored pencils\*

\* These materials are not provided in the kit. If you would like to make your kit in the library, ask a librarian to use their craft materials.

### HOW TO DO IT

(Optional step) before you begin, you can decorate your rocket, if desired. But this could affect the flight of your rocket.



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1. Cut out the rocket template.
2. Cut the boba straw to the length of the rocket template and tap closed one end of the boba straw. Save the rest of the boba straw if you have not yet made your Balloon Car.

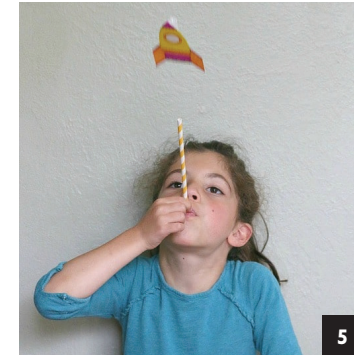


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3. Tape the boba straw to the back of the rocket with the tape end at the nose of the rocket.
4. Slip your regular straw into the boba straw, and you're ready to launch.
5. Give your straw a big puff of air, and watch it take off!



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### CHALLENGES

- How does the angle you launch your rocket affect the distance it travels? Try out different angles and record the results.
- Can you design your own rockets to attach to the boba straw? Which designs work better?
- Try adding a fin to your rocket with tape. How does it affect the flight of your rocket?



For easy video instructions and other challenges, visit [on.sfpl.org/stem-challenge](http://on.sfpl.org/stem-challenge).

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