

PAPER ROCKETS



MATERIALS

- Drinking straw (bendy straw preferred)
- Paper
- Ruler
- Tape
- Clay or paper clip, if needed as a weight

DIRECTIONS

1. This challenge is to create a mini rocket that sits on a straw and can be “launched” directly up and reach a height of ten feet.
2. Cut out a strip of paper (about 5”x5”) that circles the straw at least once and tape it snugly (not tightly) around the straw. Make sure this tube is the height you want your rocket to be, and not too much longer than your straw.
3. Make a circle with a diameter of about 1 ¼ inches and cut a wedge out of it so you can twist it into a cone. Remember that the nose cone must be attached to the tube in an airtight way so that it catches your breath through the tube.
4. To test, put the rocket on the end of your straw, aim at your hand and very lightly blow through the straw - catching the rocket in your hand will prove it is airtight enough to fly!
5. Fins are often used to help stabilize a rocket in flight. Experiment with adding fins at the bottom and to help with steering. Triangle shapes are traditional, but any shape is allowed. If you want a basic triangle fin, try drawing a 1”x2” rectangle and cutting along the diagonal. You can also experiment with the number of fins on your rocket.
6. As you construct your rocket, you can add weight as needed.
7. Once you are ready to test your rocket, head to a safe place with a minimum height of ten feet, it can be indoors or outdoors. Have an adult or friend help you measure and keep track of your height. Remember to be conscious of who and what is around you. Aim your rocket straight up and blow through the straw as hard as you can! How high did it reach? If it didn't meet the ten foot goal, try to find your design flaws and try again. What can you do better? What worked? What didn't work? What is your max height? You can also try for distance!

For more instructions, visit <https://www.jpl.nasa.gov/edu/learn/project/make-a-straw-rocket/>

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