**Hoop Glider**

What You Need
- paper
- ruler
- scissors
- pencil
- nonbendable, plastic drinking straw
- tape

Engineering Scoop
If you throw a plain straw, it doesn’t go very far. But when you add paper hoops, the straw glides through the air. That’s because the hoops act like wings. Things that fly—like insects, birds, and airplanes—all have wings. But wings are not all the same shape and size. Different wings can be better for different kinds of flight. For example, an eagle has long, wide wings that help it glide. An airplane has wings with small flaps that move up and down to turn the plane. Try changing the wings on your glider. How does it fly with different wings?

1. Cut two strips of paper. Make one strip 1 inch wide and 5 inches long. Make the second strip 1 inch wide and 10 inches long.
2. Curl each paper strip into a hoop. Tape the ends together. Now you have a big hoop and a small hoop.
3. Tape the small hoop to one end of the straw.
4. Tape the big hoop on the other end of the straw. Make sure the big hoop lines up with the small hoop.
5. Hold your Hoop Glider in the middle of the straw, with the small hoop in front. Throw it gently like a spear. It might take some practice to get the hang of it. How far does your glider fly?

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Change your glider so that it flies the longest possible distance. What happens if you make the straw smaller? What happens if you change the size of the hoops? Or, what happens if you add a third hoop? Choose one thing to change (that’s the variable), and make a prediction. Then test it and send your results to ZOOM.

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**Sent in by Stephanie C. of Milton, NH**