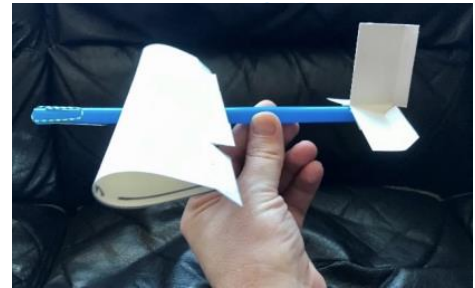




Making a Straw Plane

Materials

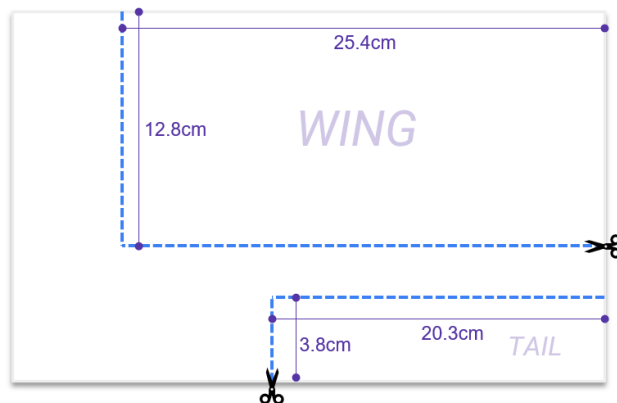
- Straws (one per student)
- Thick paper or card
- Paper clips
- Sticky tape
- Scissors
- A pencil or marker



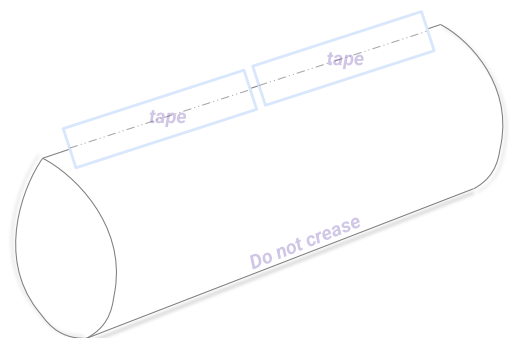
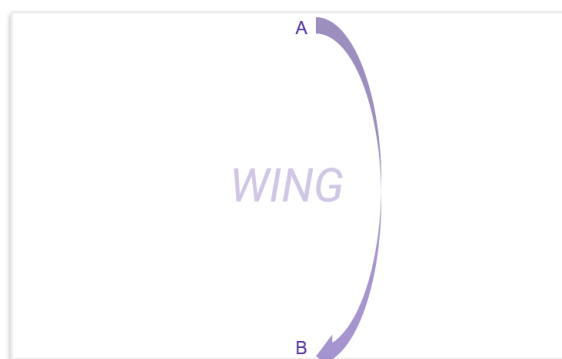
Original source link: [nasa.gov](https://www.nasa.gov)

Instructions

1. Each student will need a straw, a piece of thick paper and five (5) paperclips.
2. Using a ruler mark two (2) rectangles on the piece of paper measuring:
 - a. 25.4cm x 12.8cm - this will become the plane's wing
 - b. 20.3cm x 3.8cm - this piece will be the tail of the plane



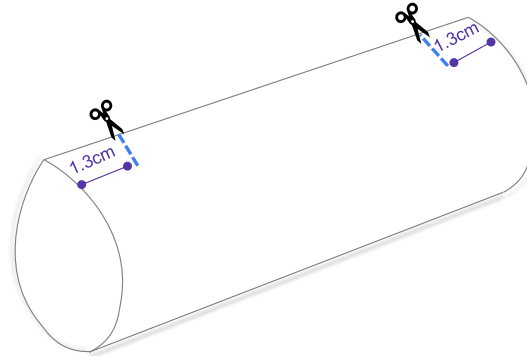
3. Without creasing the larger piece of paper, the wing, fold it in half (A to B), taping the two edges together on the longest side. This creates your wings, or **airfoil**.



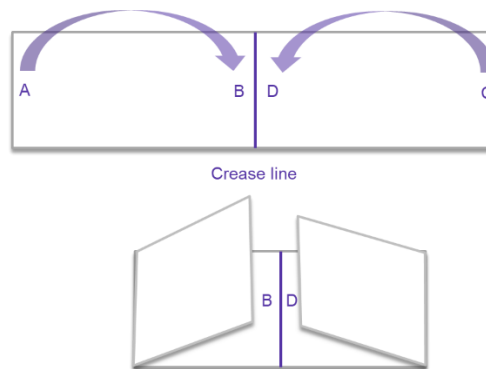


Making a Straw Plane

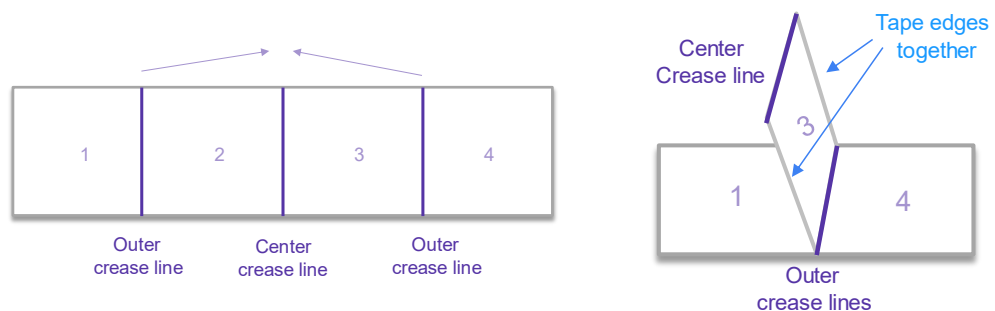
4. Make a 1.3cm cut on both ends, this forms **ailerons** for the wing.



5. Tape both ends of the **ailerons** shut.
6. Take the second smaller piece of paper and fold it in half to make a crease line down the center.
7. Open flat and fold each end in (A to B and C to D) so that both outer edges meet at the center crease line.



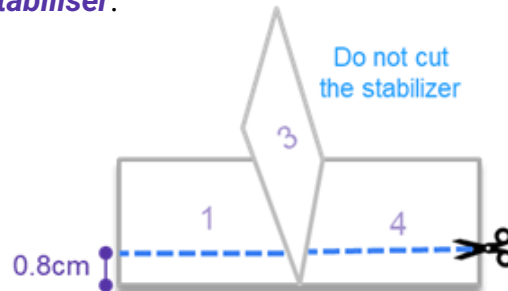
8. Open flat again. Bring the outer creases together, lifting the center crease to create a "T" shape. Tape the outer creases together and tape the sides that stick up.





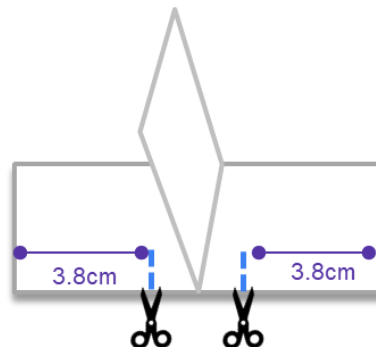
Making a Straw Plane

9. Lay it flat on the table so that the bottom of the "T" shape sticks up (**stabiliser**) towards you.
10. Cut off about 0.8cm from the long side of the two bottom flaps, but do not cut the **stabiliser**.



Now the **stabiliser** has a flap sticking out slightly from the bottom section. This will work as the **rudder**.

11. Make 0.8cm cuts into the long side of the bottom flaps, about 3.8cm from either end. This forms the bottom of the **rudder**.



12. Measure the wings and tail and find the middle of each, then mark them with a pencil.
13. Tape the straw to the centre of the wing. Make sure the **aileron**s are facing backwards, towards the tail.
14. Stick the tail to the end of the straw with tape, using your center marking as a guide.
15. Add weight to the front of the straw, by placing paper clips onto the end of the straw, the plane's **nose**.
16. The goal now is to make the plane fly as straight as possible. This can be achieved by adjusting the **aileron**s and **rudders** cut into the **wing** and **stabiliser** and adjusting the amount of weight on the **nose** of the plane by adding or removing paper clips.