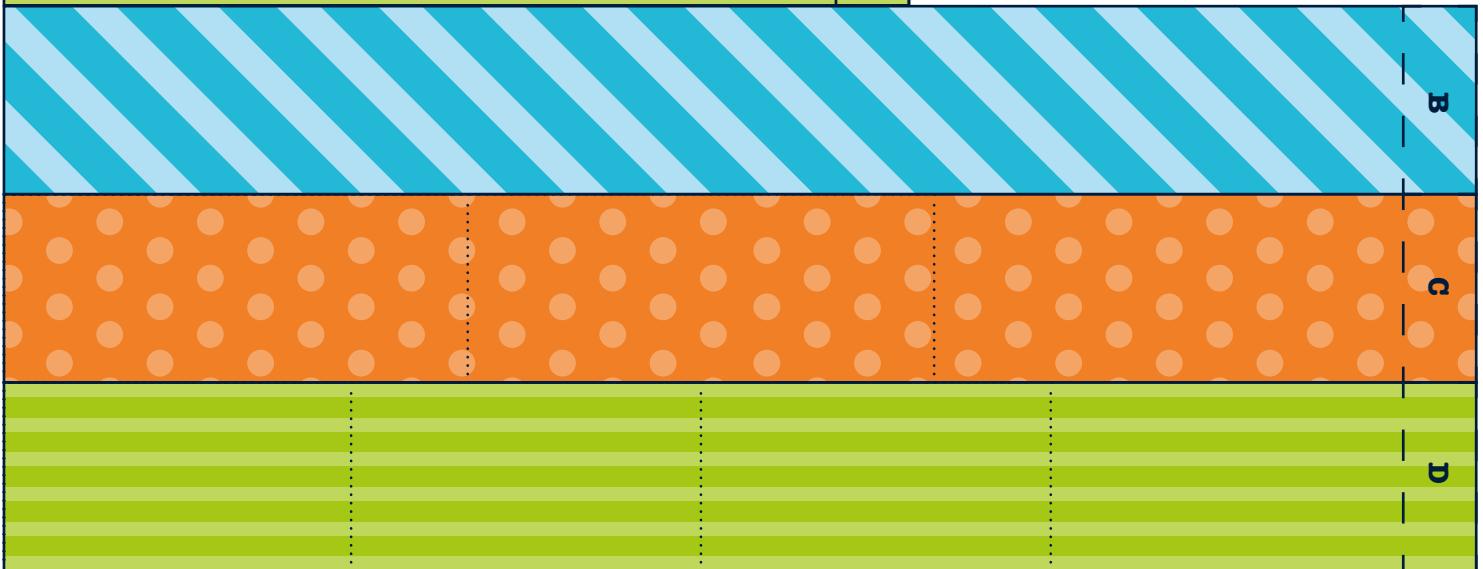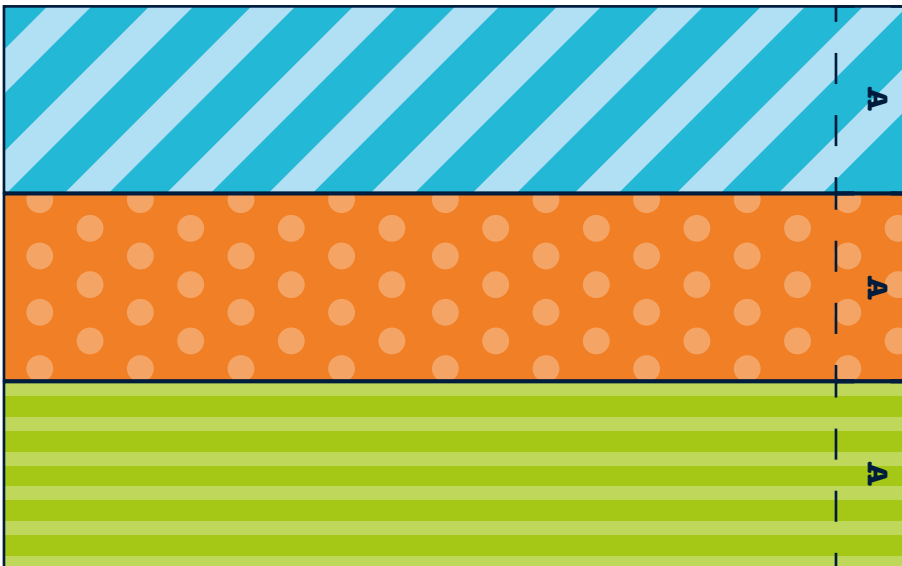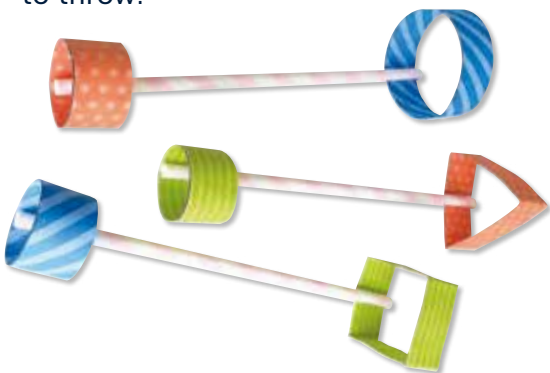# STRAW PLANE

Strips marked: A, A, A, B, C, D

You will need:

- The paper strips, left and below
- Some paper straws
- Scissors
- Sticky tape

What you do:

1. Cut out the paper strips.

2. Loop the shapes marked A and secure with sticky tape.

3. Fold along the dotted lines of B, C and D and secure with sticky tape.

4. Stick an A loop to one end of each of the three straws.

5. Stick B, C and D to the other ends of the straws.
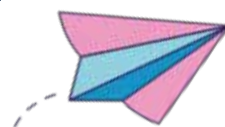
6. Your flying machines are ready to throw!
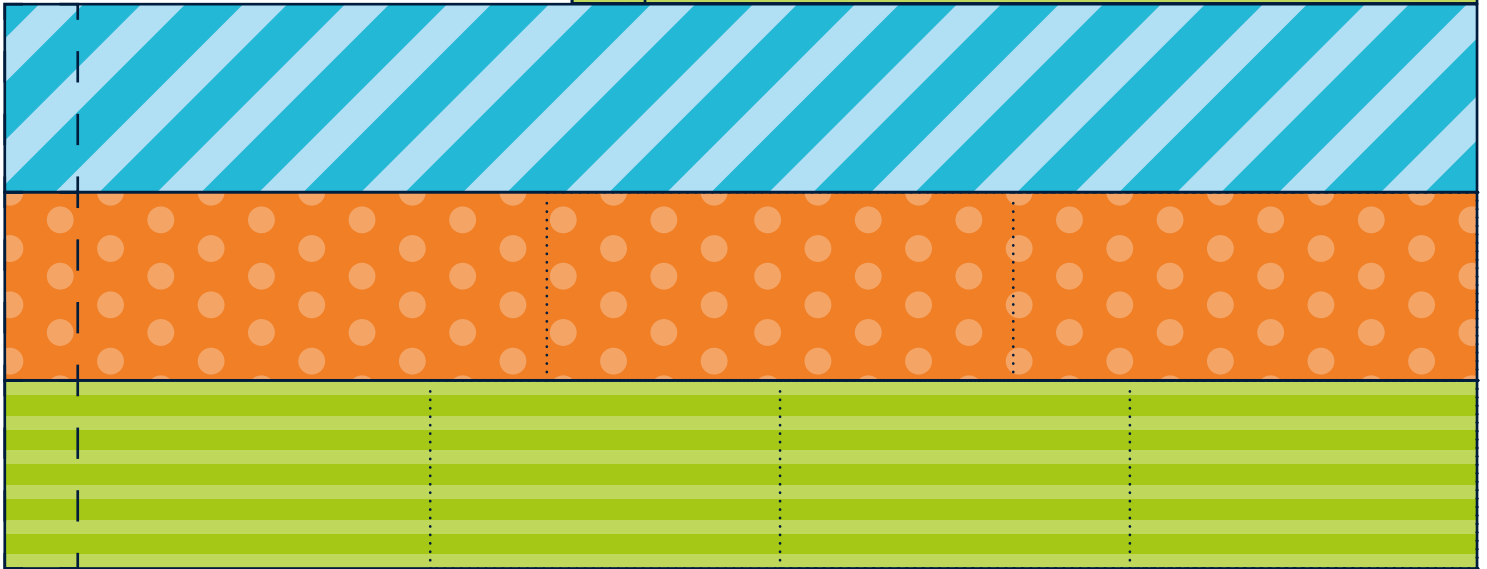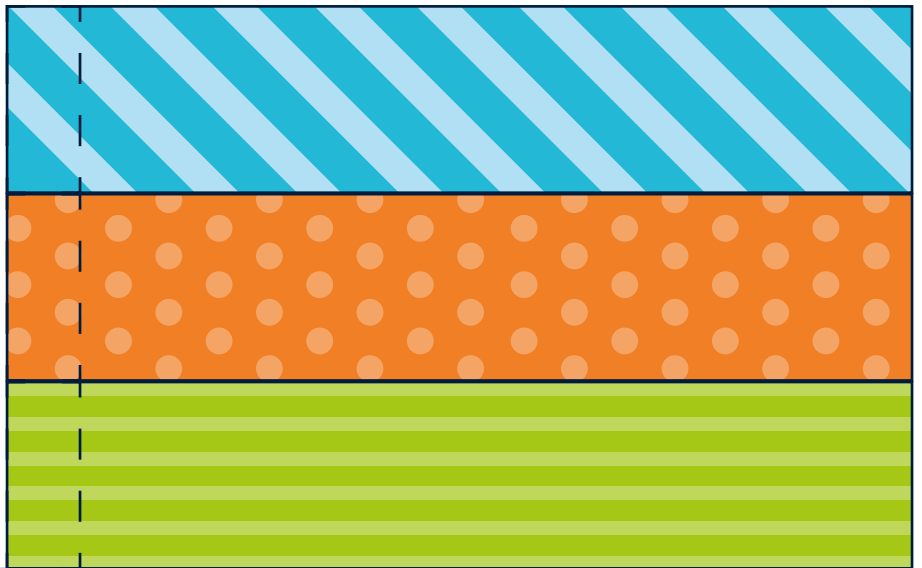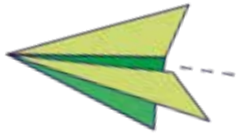
Test your straw planes like a scientist!

Which of the planes can fly the furthest? You can measure the distance they fly with your steps or with a long tape measure. Record your findings in the table on page 20.

When scientists conduct an experiment, they follow these simple rules to make sure it is a fair test.

1. **Make each test as similar as possible.** Always stand in the same place to throw your planes, throw them in the same direction and try to throw them with the same amount of force.

2. **Repeat your experiment,** in case something goes wrong with the first test. Try throwing each plane three times and then record the measurement that isn't the longest or the shortest. Or, to be even more accurate, find the average (mean) result by following the instructions on page 20.

3. **Only change one thing in each experiment.** This helps you to be sure you know what has caused any changes to the result. Start with plane 1, which has a round loop at both ends, and then test plane 2, which has just one difference (called a variable) – a square end. Now try plane 3, which has a triangular end.
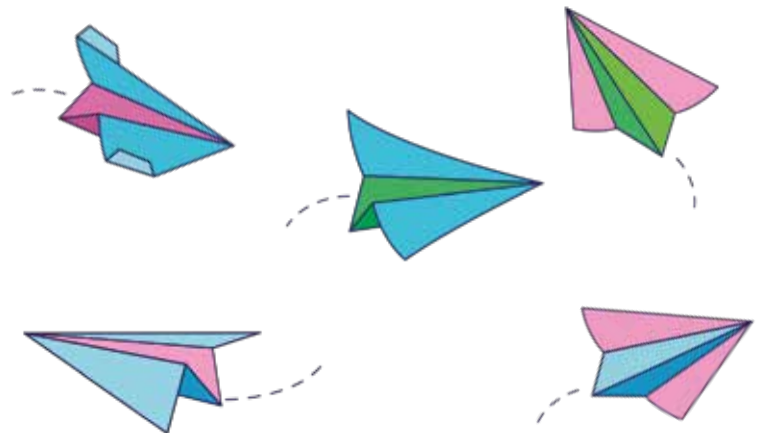
Try creating some more straw planes using scrap paper or the back of the Whizz Pop Bang envelope. Fold the paper loops into different shapes, try changing the shape of the smaller loop, or changing the length of the straw. Remember to change one variable at a time.

How to work out the mean result:

1. Throw one of the straw planes and write down the distance it flew.

2. Throw the same plane four more times, writing down the distance each time.

3. Now add together all five distances.

4. Divide the total number by five (the number of tests). This is the mean distance flown.

DISTANCE RESULTS

	Test 1	Test 2	Test 3	Test 4	Test 5	Mean distance flown	Other observations
Square shape plane							
Circle shape plane							
Triangle shape plane							
Your own plane							
Your own plane							