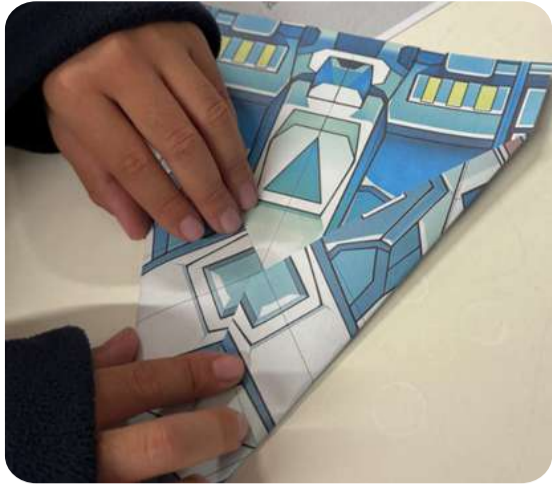




# WING THING

5 - 12 yrs | 15 min | Stage 1-3



## Mission

Can you build a paper plane that beats every other design?

### ? Wonder & Predict

I PREDICT THAT.....

- Plane A (dart) will fly furthest
- Plane B (glider) will fly furthest
- Both planes will fly the same distance
- Somthing else: \_\_\_\_\_

There are no wrong predictions.

### WHY DO YOU THINK THAT?

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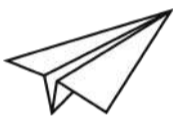


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### What you will need



- 2 paper planes



- Measuring tape



- bowl & spoon



- Paper clips



- Launch line marker

### Investigate

Follow the steps carefully while observing.

**1 Build Plane A and Plane B.**  
Different designs. One dart style and other a glider style

**2 Choose a launch line.**  
Launching from the same location makes the test fair.

**3 Throw Plane A three times.**  
 Distance 1     Distance 2     Distance 3

**4 Throw Plane B three times.**  
 Distance 1     Distance 2     Distance 3

**5 Calculate the average distance.**  
Add them together and divide the total by 3.

**6 Compare your results.**  
Was there a distance in how far they flew?  
 Yes                       No

### Test Results

What did you notice?

- Plane A flew further
- Plane B flew further
- One plane flew straighter
- One plane wobbled
- The results surprised me
- My prediction was correct
- I want to redesign my plane



**What did you observe?**

**Write or draw what happened to the planes in flight.**

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## What happened?

Fill in the sentences using words from the box.

drag | lift | wings | air | distance | glider | dart | weight

Different plane designs move through the \_\_\_\_\_ differently.

A narrow \_\_\_\_\_ cuts through the air more easily.

A wider \_\_\_\_\_ stays in the air for longer.

The shape of the \_\_\_\_\_ affects how far the plane travels.

Changing the design can change the flight \_\_\_\_\_.



## The science behind it

### Why didn't both planes fly the same distance?

Air pushes back against everything moving through it.

Scientists call this force drag.

Different wing shapes create different amounts of drag and lift.

### Why does wing shape matter?

Some planes move quickly through the air.

Others stay in the air for longer.

Different designs are good at different jobs.

### Real-World Connection

Engineers test hundreds of wing designs before building real aircraft.

Your investigation used the same idea—change one thing and compare the results.



## Take it further - Engineer's Challenge

Choose ONE challenge to investigate. Plan an idea, test it, and record what happened.



### Investigation Challenge: Nose Weight Challenge

Add ONE paper clip to the nose of your plane.

My prediction:

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What happened?

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Alex our engineer







## Want More Investigations?



### Great Investigations Start With Real-World Questions

Every mission inside The Crazy Scientist LAB™ begins with a real question designed to spark curiosity, launch investigation and build scientific understanding.

-  Why does this slime recipe work with some shampoos but fail with others?
-  Could a spider really grow as big as a car?
-  How does a jet engine create enough thrust to lift a plane?
-  Could a castle wall stop a cannonball?