

## Paper Airplane Lesson

**Objective:** Explore the variables that effect the flight of a paper airplane inside and then apply what you learn to outside flight.

**Environmental Literacy Guidelines:** Strand 1: Questioning, Analysis, and Interpretation

Make two or three paper airplanes using the attached video to make the “Classic Dart”. Practice flying your planes. Try to throw them the same way each time. Here are some questions to ask yourself.

- Do they all fly the same?
- Does one always curve to one side or the other?
- Which one flies farther than the other?
- What is different about the planes?
- Compare the planes to identify small differences that effect the flight.
- How do the different types of paper effect the flight?

### Math Connection

Measure the width and the length of your airplane wings. Use the area formula for a triangle:  $\frac{1}{2}$  base x height

- What is the surface area of the wings on your plane?
- Cut back  $\frac{1}{4}$  of the plane off of one of the planes
- How has the surface area changed?
- Fly the plane, how has the flight changed with the smaller wing?

### Outside Connection

Fly your planes outside

- How do they fly differently outside?
- Theorize why they fly differently.
- What environmental factors are different from inside the house?
- How could you change your planes to fly better outside?

### Extension

Do the activity again with a different air plane design. The following website has a great deal of plane designs.

<https://www.foldnfly.com/#/1-1-1-1-1-1-1-2>

<https://www.origamiway.com/paper-airplane-designs.shtml>

Just search for paper airplane designs, you will find several websites to explore.

### Written by Jack Shoaf

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