

## Paper Airplanes

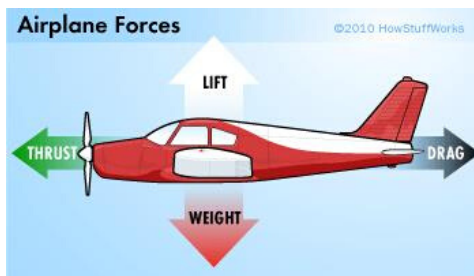
Paper airplanes are a fun opportunity to learn about the physics of man-made flight. Fold your best paper airplane and become a pilot! How far can your paper airplane fly?



### Science

Airplanes take advantage of four scientific forces - gravity, thrust, lift, and drag.

1. Airplanes need to overcome the force of gravity. Try to keep your airplane's weight to a minimum to help fight against the pull of gravity.
2. Gravity's opposing force is lift, which holds an airplane in the air. Lift comes when the air below the airplane wing is pushing up harder than the air above it is pushing down.
3. Thrust is the forward movement of your plane. Using your muscles to launch your airplane gives the initial thrust.
4. Airplanes that push a lot of air have a lot of drag or resistance. If you want your airplane to fly as far as possible, reduce the amount of drag with minimum wing surface.



### Inquiry

- Can you fly your paper airplane into a target taped to the wall?
- Can you land your paper airplane on a target placed on the floor?
- If you adjust the wings on your paper airplane, how does this affect its flight?
- Does the way your paper airplane is thrown affect the way it flies?
- Challenge someone in your household to see whose paper airplane will fly the farthest or whose will stay airborne the longest.

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