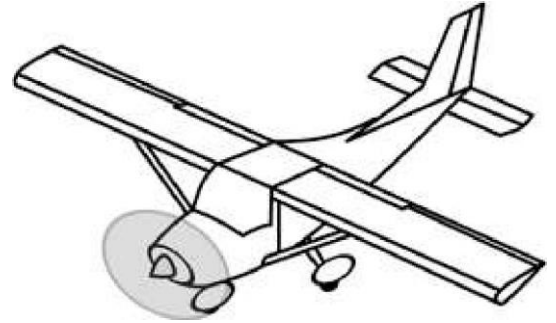


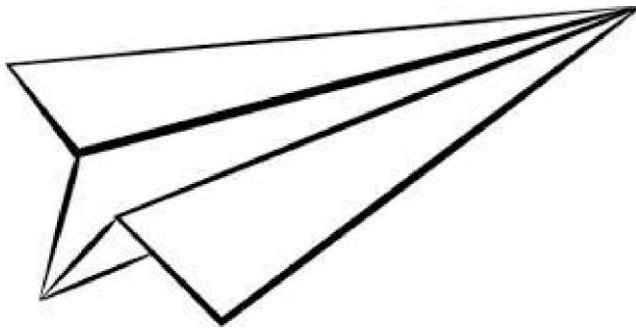


Paper Airplanes - Aerodynamics

Flat Dean and Woody's Paper Airplane Adventure!



Flat Dean and Woody are in trouble! While traveling around the world spreading their STEM knowledge, their plane broke down on a deserted island! They need your help to build an airplane that will fly them the farthest so they can continue their journey. You have a few blueprints for some designs; which one do you think can produce the best flier?

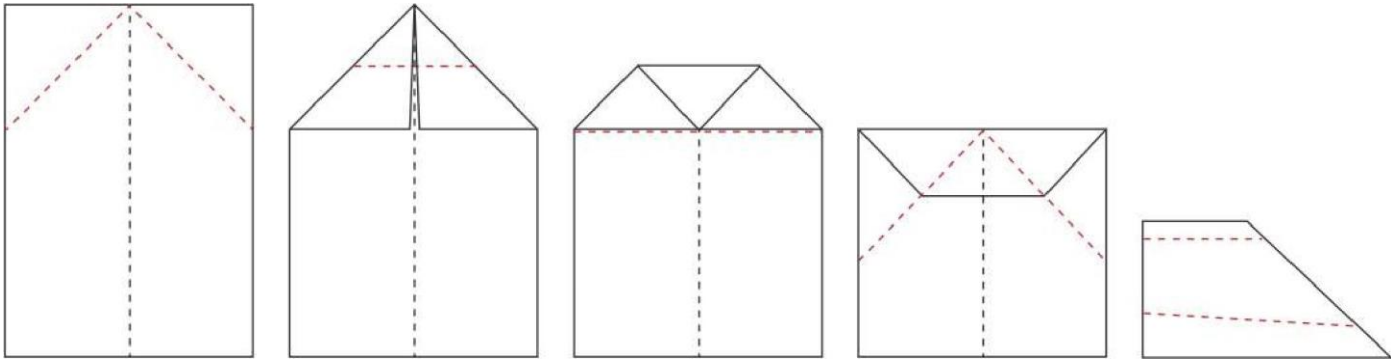


There are four key forces that allow paper airplanes to fly: thrust, lift, drag, and gravity. When you throw the airplane, you are creating thrust, a force that pushes the plane forward. Once you let go of the plane, it stays afloat in the air and doesn't start to sink thanks to lift, another force that is made when the pressure under the airplane is different from the pressure above the airplane.

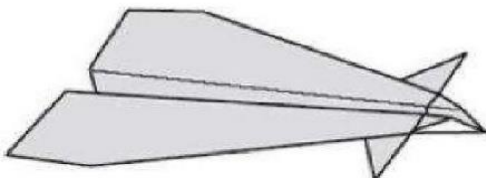
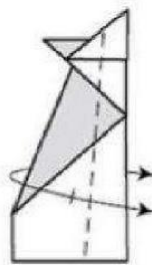
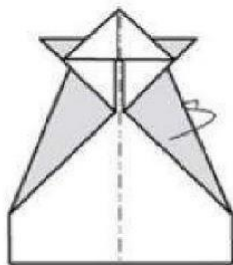
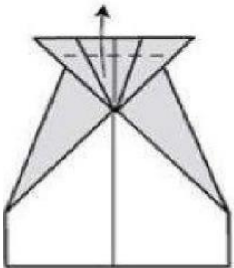
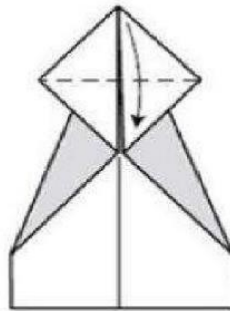
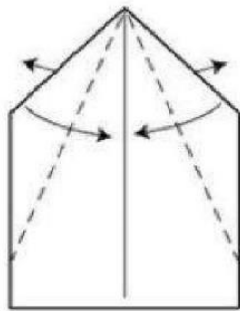
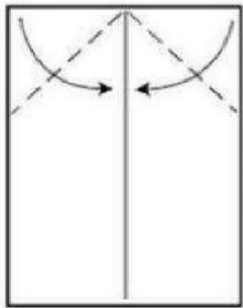
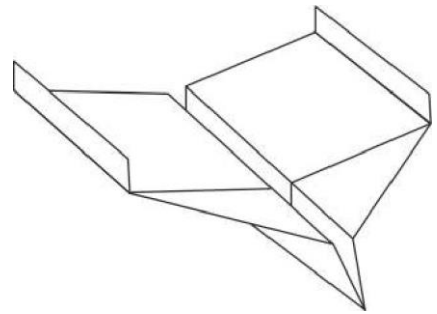
Of course, the airplane will eventually fall to the ground! This is due to gravity and drag. Gravity is a force that does the opposite of lift. Instead of keeping objects in the air, it pushes them towards the Earth. If gravity did not exist, then we would all be floating in the air! Riding a skateboard or jumping rope would be hard, too. Making a paper airplane out of printer paper is better than one made of cardstock, since there is less gravity trying to pull down the heavier cardstock.

Finally, drag, also called resistance at times, works to stop your plane from moving through the air. When designing your airplane, you should try to reduce air resistance (drag), one way being by cutting slits out of your airplane that help get rid of drag.

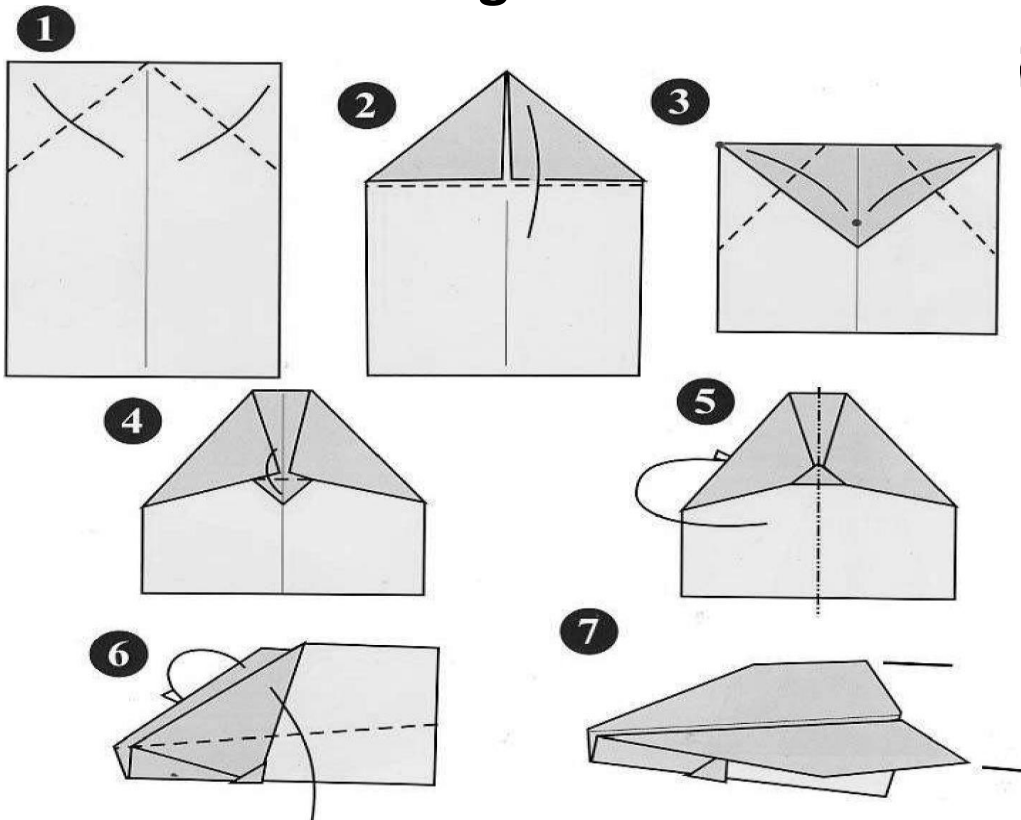
Design #1



Design #2



Design #3



Design #4

