

Benny the Boeing's FRANTIC FLYERS!



This "plane" is more of a copter. It requires construction paper and some measuring and cutting, so ask an adult to help you.



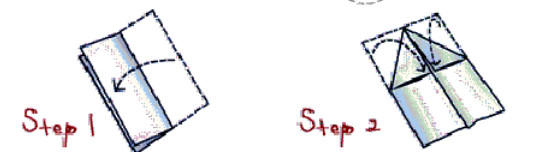
Cut a piece of construction paper or other heavier paper in the shape shown in the picture. Cut a slit down the center as shown, then cut a slit in each side as shown.



Fold the two lower sides in like this. Place a small piece of tape along the body like this.



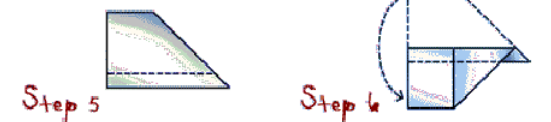
Fold the bottom up like this and secure it with 2 paper clips. Fold one copter blade down towards you and one down away from you. Now hold it over your head, let it go and watch it whirl all the way down!



First, fold a piece of paper in half the long way, like this. Next, open it and fold the top corners in and down like this.



Then fold the top down like this. Then fold the top corners down again like before.

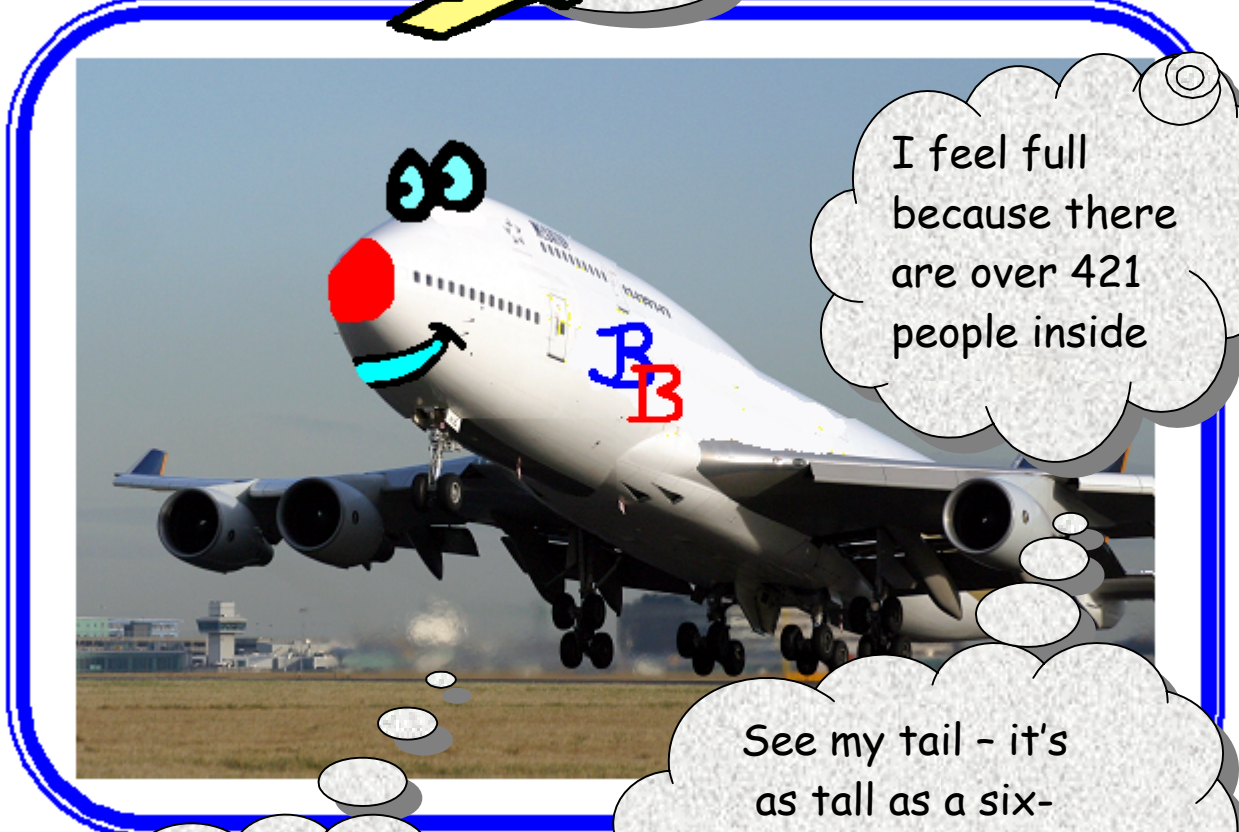
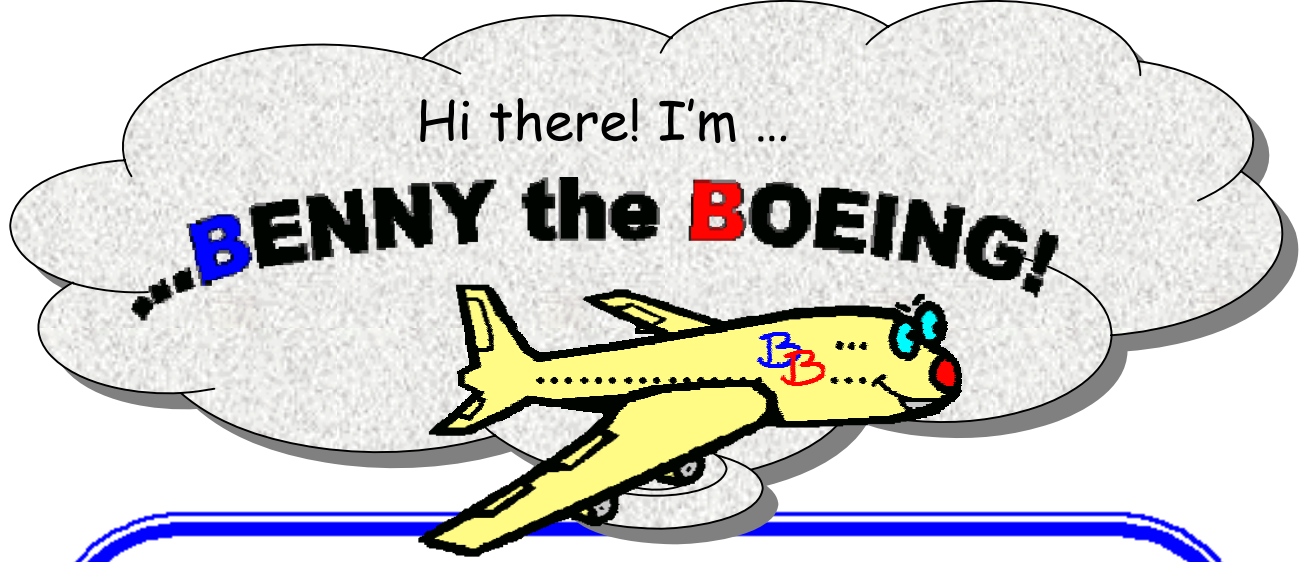
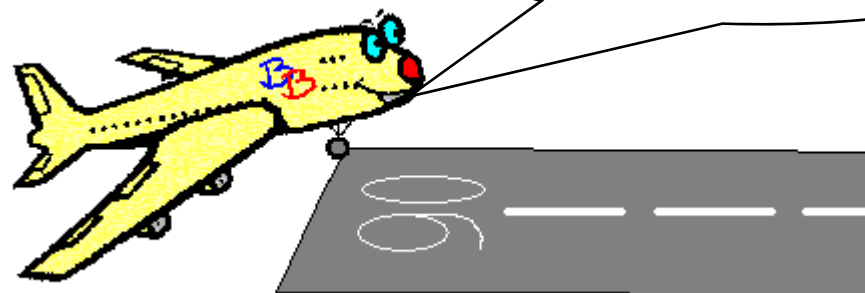


Now fold it in half the lengthwise again. Fold the wings down like this.



Then fold the tips of the wings up like this. Next, place a paperclip under the plane, about an inch from the front. Now you're ready to soar!

I'm just about to land—I hope you enjoyed learning how to fly. Why not try and get your Frantic Flyers to land on the Runway or target?



I feel full because there are over 421 people inside

90 cars could park on my wings!

See my tail - it's as tall as a six-storey building!

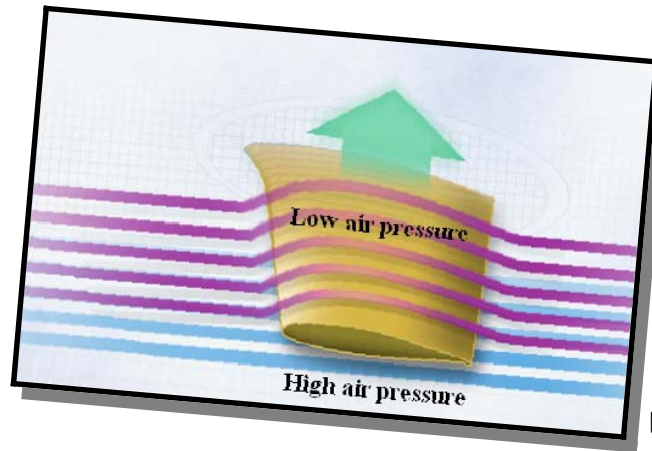
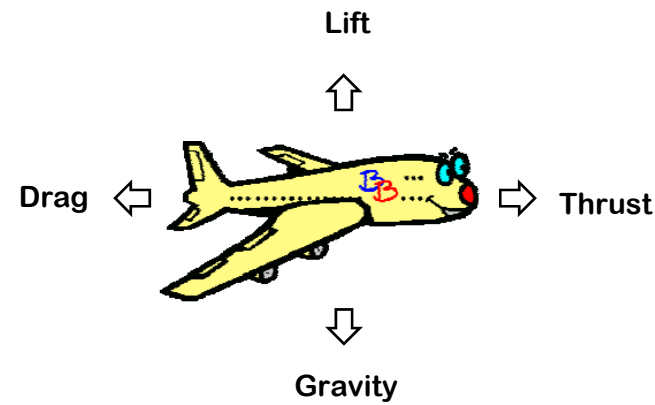
Want to know how to fly? Then look inside For Benny's science jive!

Use the force, of course!

Four forces push and pull me as I move.

My wings produce **LIFT** whilst **GRAVITY** tries to pull me down.

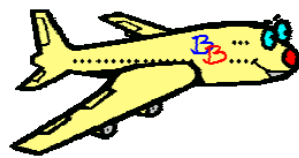
My engines produce **THRUST** that propels me forward and fights the **DRAG** caused by the air I fly through.



My wings are a special shape called an **AEROFOIL**. As I move, the air passes above and below my wings. Because of the aerofoil shape, the air above my wings gets faster and the pressure drops, whilst the air below my wings stays at the same speed and pressure.

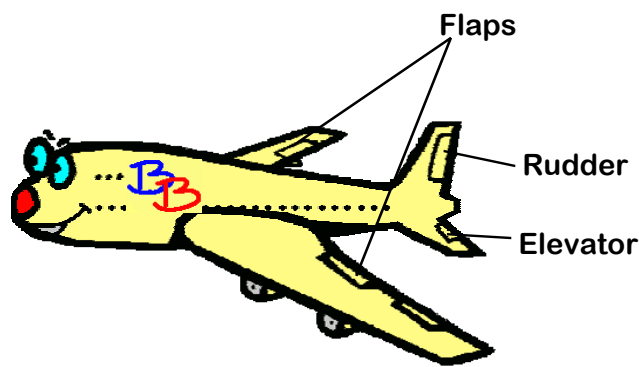
Higher air pressure always moves towards lower air pressure so the air below my wings pushes upwards and **GUESS WHAT HAPPENS...**

... I start to move upwards (this is that force called **LIFT**!)!



YIPPPPEEEEEEE! I'm flying!

Right or left, which is best?

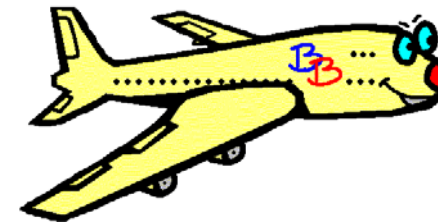
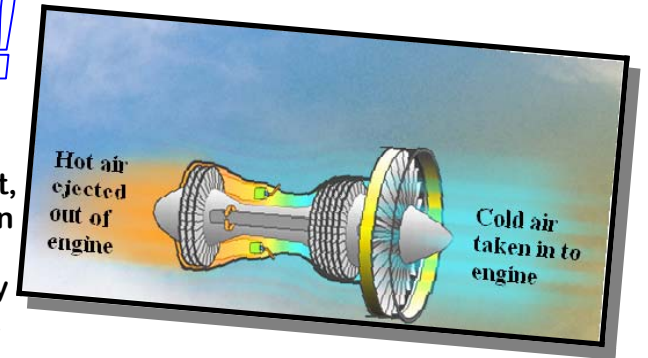


To turn left or right, the pilot uses the **RUDDER** at the back of my tail and the **FLAPS** on my wings.

To help me climb or fly lower, the pilot uses the **FLAPS** on both of my wings and small flaps called **ELEVATORS** on my tail.

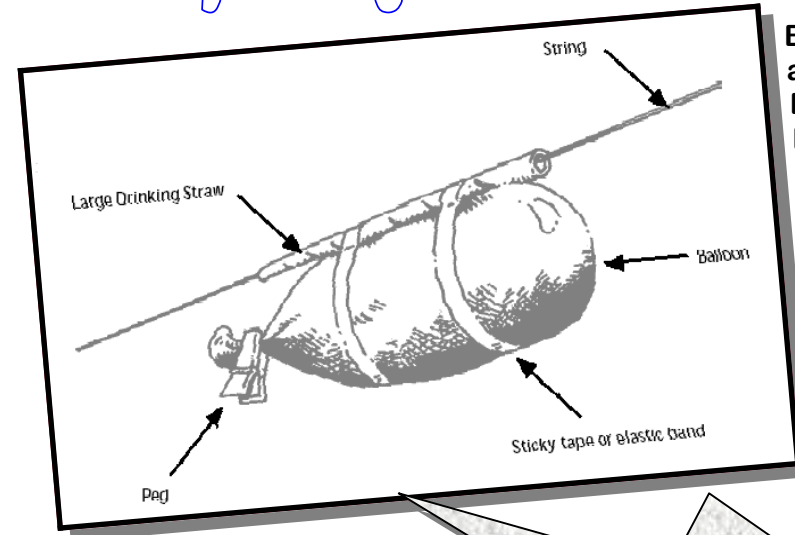
Giant hair dryers!

My jet engines suck in air at the front, mix the air with burning fuel and then blast the mixture out of the back. As the mixture streams backward, my engines (and me!) are forced forwards.



It's just like a hairdryer - air gets sucked in, heated up and blown out - only much much noisier and a lot bigger!

Benny's Big Bertha Balloon Rocket!



Become an engineer and build Benny's Big Bertha Balloon Rocket! Let Big Bertha show you what happens when air is blown backwards (just like in a jet engine!).

TOP TIP = use a long balloon for a better Bertha!

