Suzy's World

Aerodynamics - What makes things fly?

Fact

- An aeroplane wing is designed so that the air flows over its upper surface faster than its lower surface.
- The shape is called a wind foil and it gets very little wind resistance.
- Wind resistance slows things down – it's a type of friction.
- Aeroplane wings are aerodynamic – they move through air very easily.

Do you know

- Aeroplanes aren't the only things that can be aerodynamic – your family's car, van or truck can be built aerodynamically.
- Car manufacturers often put vehicles through a wind tunnel test with lots of ribbons stuck to the vehicle to see how aerodynamic they are.

Experiments you can do

- Hold a strip of paper between your fingers and thumbs just in front of your mouth. You may have to change the position until you get it right. Gently blow over the top of the paper. The paper should rise up in front of you. Can you get it to work? It's pretty tricky.
- Test for wind resistance by feeling the friction of air bits
  Find a place with plenty of room because you're going to need to spin around or run around with the objects.
  Hold a large piece of cardboard – the side of a cardboard box is fine – in one hand and start spinning around on the spot.
  Hold a tennis ball in one hand and spin around on the spot.
  Which one is harder to spin with? Which one seems to drag? That is because of wind resistance. You have to work harder to get the large flat surface to move through the air.
  Test some other objects.

Other Investigations

How aerodynamic are you? You can try the same test I did on TV. I used ribbon and sellotape, but you could use anything that will fly about in the wind. Attach the ribbon or paper, or wool etc to your body then run around. The parts of you that are aerodynamic will have the ribbon or paper or wool etc flying gently over them. What happens to the ribbon that is not on an aerodynamic part?