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The Solar airship

Climbs in the sky using the suns energy

Length 3metres, diameter 60cm

How does the Solar airship work?

It works simply because black objects attract and absorb the heat from the sun much quicker than those of a lighter colour. In the same way the black foil of the Solar airship warms up quickly and heats up the mass of air trapped inside. This in turn expands and being warmer than the surrounding air causes the airship to rise. It operates on the same principle as a hot air balloon in which the air inside the envelope is heated by a gas flame to make it hotter than the surrounding atmosphere

Important Notes

This is a flying model and is not really suitable for children under the age of 6 years without parental supervision, also remember it can climb really high (The maximum flying height allowed by law 100 metres) and should not be used in the vicinity of an airport or an overhead electricity pylon. Do not fly it during thunder storms as it is possible for lightning to travel down the line.

Flying instructions

The Solar airship can be used any time of the year, all that is necessary, is that it is a sunny day and there is very little wind. It will also climb in minus temperatures providing that the sun is shining.

Step 1

Carefully unfold the envelope of the Solar airship. As it is very thin it must be treated with care. However, any small tears that occur can be quickly repaired with sellotape.

Step 2

Tie one end of the envelope together with a short length of the thread that is provided so that no air can escape.

Step 3

Leave the other end open so that the air can flow freely inside. The easiest way is if you walk with the airship and use it as a kind of scoop to drive the air inside. The airship will then fill up into the shape of a big sausage. If necessary you can always blow some extra air inside.

Step 4

Now close this end with the remaining thread. The Solar airship should not be over filled, otherwise it will burst when the air inside expands . It is important not to let it go at this stage otherwise it will fly away never to be found again. As a precaution tie a long line to one end and fix it to the ground.

Step 5

The airship can now be laid in the sun where it soon start to rise. Once you have finished flying your airship, undo the binding thread at one end and squeeze the air out. Carefully fold it up and store the deflated airship in a plastic carrier bag , then it is ready to fly again on another day.