



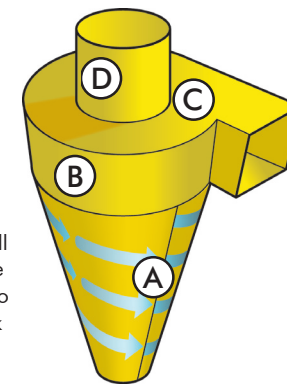
The Dyson Cyclonic Vacuum Cleaner

The Dyson vacuum cleaner was born out of James Dyson's frustration with inefficient vacuum cleaners that relied on bags and lost suction. Having realised that the centrifugal force of cyclones might be the technology needed to solve this problem, James set about building literally thousands of prototypes to develop the first no loss of suction vacuum cleaner: 5,127 in total. Cardboard models are a great way of creating working prototypes: they are quick to build and inexpensive. Crucially they allow you to test out your design in 3D. Why not try this one?

Instructions

You will need thin cardboard or acetate, scissors and a glue gun.

1. Photocopy the templates on to a sheet of A3 acetate or thin cardboard.
2. Cut out shape A along black dotted lines. Score along the white dotted lines and fold. Glue the edge (as indicated) and stick to the opposite edge, creating a cone-like shape.
3. Cut out shape B along black dotted lines. The curve at the bottom right of shape B will create the cyclone's inlet pipe. Score along the white dotted lines and fold. Apply glue to the tabs on the top edge of shape A and attach the long straight edge of shape B to these tabs. The tab on the curved area of B should be glued and attached to the back of the folded edge, thereby making the inlet pipe.



4. Cut out shape C along black dotted lines.
5. Cut out shape D along black dotted lines. Roll into a tube along its width. Glue.
6. Apply glue to the tabs in the centre of shape C.
7. Slot the tube (D) into the hole in the centre of shape C. Half of the tube should protrude from the hole. Fix into place.
8. Apply glue to the tabs at the top of shape B. Sit shape C on top of these tabs and fix in place.
9. Now you can try out your very own cyclone! Attach the hose of a vacuum cleaner to the tube at the top of the cyclone (shape D) and turn on the cleaner. Hold some dirt or shredded paper to the inlet on the side of the cyclone. Now see how the cyclone separates the dirt from the air, spinning the heavier dirt to the edge of the cyclone.

