

<b>ES</b>	<b>TECHNOLOGY</b>	<b>Knowledge &amp; understanding</b>	<b>Needs</b>	<b>Resources</b>	<b>Processes</b>
	<b>TECHNOLOGY</b>	<b>Skills in designing &amp; making</b>	<b>Preparing</b>	<b>Carrying out</b>	<b>Reviewing</b>
	<b>SCIENCE</b>	<b>K &amp; U - Energy and forces</b>	<b>Properties of energy</b> <i>simple battery-operated circuits</i>	<b>Conversion of energy</b> <i>components of electrical circuit</i>	<b>Forces</b> <i>push/pull friction, air resistance</i>
	<b>SCIENCE</b>	<b>K &amp; U - Earth &amp; space</b>	<b>Materials from Earth</b>	<b>Changing materials</b>	

Our landyacht uses the energy of moving air to move from one place to another. If the air isn't moving, ie. there is no wind, then the vehicle remains stationary. We could, of course, move the air ourselves - we may have done that already using a fan to blow our model along.

We could fill a balloon with air and use that to push it along, or we could drive a propeller which would push, or pull, a vehicle. (A propeller is known also as an airscrew).

We would then need a source of energy to turn our airscrew. We could use electricity, as stored in a dry cell battery, or we may use the energy stored in a wound up rubber band.

Our brief is to use electricity to turn a propeller to drive a land vehicle across the ground.

**STAGE ONE**

Planning, what is needed - what information do you require? Can you build an electrical circuit that will turn a propeller? You will need at least: a battery and a plastic propeller, and, I guess, an electric motor to fit somewhere in between, and you'll need something to connect them together. Will you need a switch?

What about the vehicle itself? Will the chassis and wheels of the landyacht work? How would you fit the motor, etc.?

Should the vehicle be light in weight, or heavy, or doesn't it matter?

Would it be a good idea if it went round in circles instead of disappearing down the corridor? Steering then?

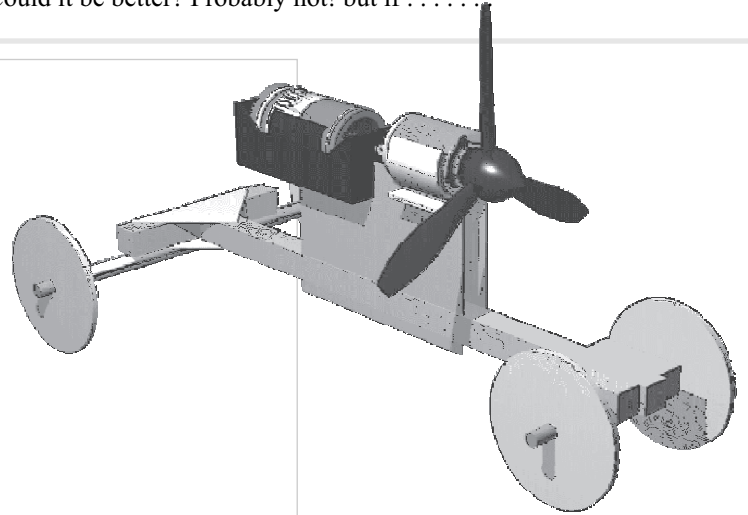
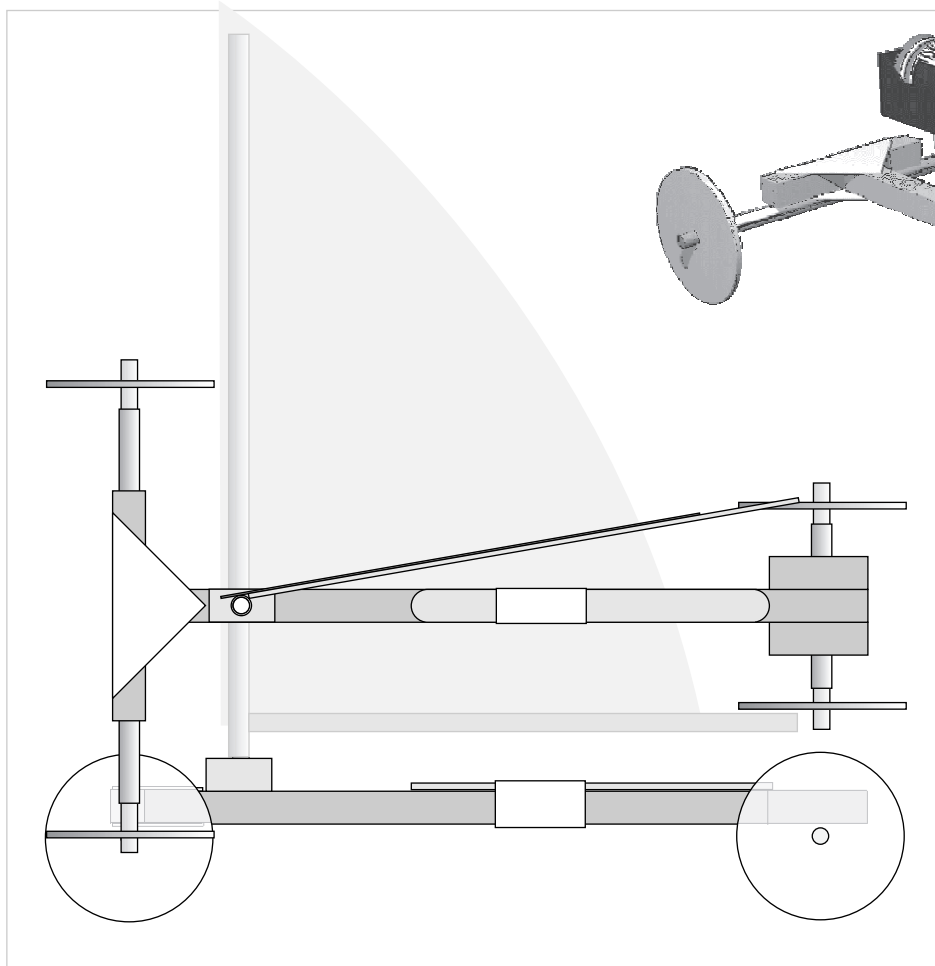
**STAGE TWO**

Design and construct your propellor driven vehicle. Be prepared to change anything if it doesn't seem to be right.

Perhaps build the 'works' and strap them onto a ready-made vehicle to see how much power you have, before committing yourself to the final design.

**STAGE THREE**

Basically . . . play with your new toy! Do you like it? Could it be better? Probably not! but if . . . . .



The vehicle in the drawing above doesn't work - in fact it doesn't exist, and never has. So don't try to copy it.

Balancing a motor on the edge of a card doesn't seem a good idea, and where are the wires?

Still it might work in a way, because it may give you some ideas of your own that will work.