**Using the Wind**

Anything that moves has a type of energy known as kinetic energy. Wind is moving air. We can catch its energy to use in many ways – from sails on boats and windsurfers, to windmills that work machines, and wind turbines that generate electricity.

**Project: Build a Landyacht**

1. **Cut the yacht’s base from stiff card. Tape a straw to the rear underside of the base for the back axle.**
2. **Straighten a paper cup, bend it in half, then bend the ends outwards to make a T. Glue it to the straw for the boom.**
3. **Tape the straight ends of the paper clip near one end of another straw, which will be the mast.**
4. **Make a small hole in the middle of the base. Insert the lower end of the mast. Fasten it underneath with another T-shaped paper clip.**
5. **Cut a triangle of paper for the sail. Glue one edge along the mast.**
6. **Glue or tape the sail’s lower corner to the boom end. Give the sail a slight curve.**

**Sail on Wheels**

The ‘wind’ from the fan pushes against the sail’s large surface. This gives the sail a force in the same direction as the wind. But the landyacht cannot roll easily in this direction due to its reel wheels. However, it can use part of the force to roll forwards. Experiment with different wind directions and varying the length of cotton thread to the boom’s end.

**Against the Wind**

The sail’s curved shape works like a plane wing (see next page). Wind passing over the sail creates lower air pressure in front of the sail and ‘sucks’ in this direction. Part of this force makes the yacht roll, even into the wind, which sailors call ‘tacking’.

**Try to ‘fack’ in a zig-zag upwind.**