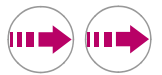


AIRBOATS

LEVEL OF DIFFICULTY



OUTLINE OF ACTIVITY

Airboats are very simple to make. Two long balloons are joined together and a fan, powered by a battery or a solar panel, is attached. Club members need to be shown how to join the propeller to the motor. Groups are then left to design a circuit and a stand so that the propeller blades can rotate. Crocodile clips can be used initially but should not be included in the final design.

EQUIPMENT

Quantities are based on a **make and take** approach to produce 20 airboats.

- | | |
|------------------------|----------------------------|
| • correx | • solar cells x 2 |
| • card cutters x5 | • solar motors x 2 |
| • batteries x40 | • motors x 20 |
| • battery holders x20 | • balloons x 40 |
| • crocodile leads x 60 | • propellers x 20 |
| • elastic bands x 60 | • insulated wire |
| • wire strippers | • paper clips/drawing pins |

SCIENCE CONTEXT

Electrical circuits, including batteries, solar cells and a range of switches to make electrical devices work.

Friction, including air resistance, as a force which slows moving objects down and may prevent objects from starting to move.

SCIENTIFIC EXPLANATION

Newton's Third Law of Motion states that for every action there is an opposite reaction. The turning propeller produces a current of air, which pushes the boat in the opposite direction.