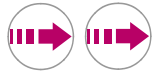




BALLOON BUGGIES

LEVEL OF DIFFICULTY



OUTLINE OF ACTIVITY

A wide variety of buggies can be constructed and powered by a jet of air escaping from a balloon. Such a vehicle may run for a distance of 20 to 30 metres. Club members can alter the size or type of wheels, shape of buggy and investigate the effect on speed and/or distance travelled.

EQUIPMENT

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

- variety pack of wooden and plastic wheels
- square section wood (40cm lengths) x 20
- drinking straws x 20
- balloons x 20 (plus spares)
- correx
- craft knives x 5 (for adult use only)
- junior hacksaws x 5
- bench hooks x 5
- safety rulers x 5
- glue sticks x 5
- card triangles x 40
- wooden dowel (4mm)

SCIENCE CONTEXT

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. This is why guns recoil when fired. The force that propels the bullet forward is equal by magnitude but opposite in direction to the force of the gun. Therefore the buggy moves in the opposite direction to the air being passed out of the balloon.