

# RUBBER-BAND POWERED CAR

## Lab Tech Notes



### Overview

Subject:	Science and Technology
Grade:	Years 7 – 9
Topics:	Conversion of energy (potential to kinetic) Relationship between speed, distance, and time Interaction between energy and materials

### Materials

Item/s Per Student	Where to Buy?
1 Milk carton	Supermarkets, recycle from canteens/cafes
2 Drinking straws	Supermarkets
6 Paddle pop sticks	Supermarkets, Officeworks, Craft stores
3 Bamboo skewers	Supermarkets, Officeworks
Rubber bands (multiple length and thickness variation where possible)	Officeworks
4 Toy truck wheels (multiple size variations)	Craft Stores
4 – 8 Machine washers 1/8" (or suitable size to fit bamboo skewers)	Bunnings
Textured tape (e.g. duct tape, cloth tape, electrical tape)	Bunnings, Officeworks
Various weights	Bunnings
Tape or Blu-tack	Officeworks

The items listed above are the minimum amount per student for the activity to work. Please ensure there are extra materials available for students in case of breakage, restarts etc.

### Tools

Item/s	Where to Buy?
Ruler or measuring tape	Officeworks
Scissors	Officeworks
Craft knife or blade	Officeworks
Hot glue gun	Officeworks, Bunnings, Craft store
Extra hot glue gun glue	Officeworks, Bunnings, Craft store
Stop watch	Rebel Sports
Safety glasses	Officeworks

## Risk Management/Hazards

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The main hazard is the hot glue gun, the front part of the gun can get quite hot and the glue itself can cause minor burns. Students are instructed to keep hands away from all hot surfaces/materials.

While cutting the bamboo skewers and paddle pop sticks, sections may fly off unexpectedly. Students must wear safety glasses to prevent any pieces from hitting them in the eyes.

## Difficulties

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Having little gap between the wheels and straw is important. A large gap will make the wheels wobble, causing the car to veer left or right and overall reducing the distance travelled. No gap the straw will impede the wheels turning. Extra washers may need to be added to reduce the gap. Be careful over winding the notch, especially when experimenting with a thicker rubber band as the skewers will break if exposed to too much stress.

Threading the rubber band between the chassis, axle, and frame can be difficult a long thin object (e.g. unfolded paperclip) may be required to help pull the band through.

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