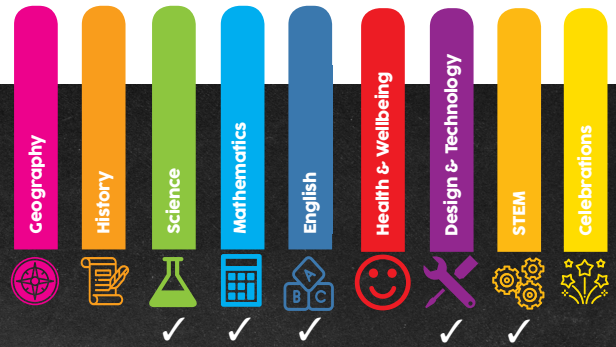


# Supreme Incursions

## Pressure Car



### The Aim



Parental help



30 - 60 minutes



Grade 3 - 6

*This is a great hands-on activity for observing how air pressure can push objects.*

### What you will need

1.25 litre soft drink bottle with lid

Thick cardboard

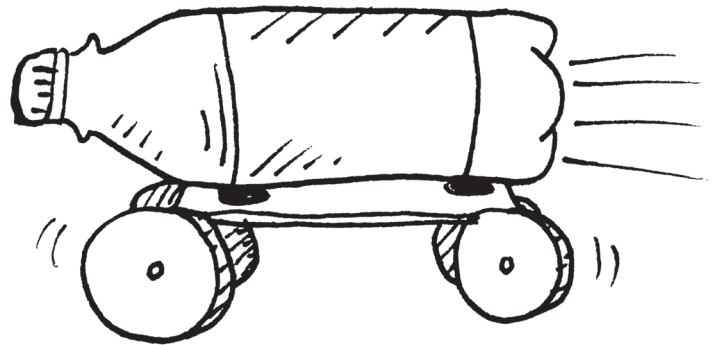
Velcro dots (or masking tape)

2 wooden skewers

4 bottle caps (milk bottle caps are best)

Small phillips head screwdriver

Ball pump with needle



### Follow these steps

- Step 1** Take the cardboard and cut a rectangle approximately 20cm long and 6cm wide.
- Step 2** Cut the straw into 4 pieces and stick two down each end with a gap in the middle. Use tape, blu tak or glue to stick the straws down.
- Step 3** Take the first skewer and push through the two straws to create an axle. Repeat with the other end.
- Step 4** Place the four bottle caps upside down on a table. Using the small Phillips head screwdriver, carefully push down in the centre to make a hole (supervision may be required). Repeat for each cap.
- Step 5** Take these bottle caps and push them onto the wooden skewers. They should sit firmly, if needed use blu-tac or hot glue gun to fix them into place.
- Step 6** Place the soft drink bottle lid upside down on a table. Using the small Phillips head screwdriver, carefully push down in the centre to make a hole (supervision may be required). This hole should just be wide enough to fit the needle from the ball pump snugly. Ensure that the lid is tightly screwed onto the bottle.
- Step 7** Take the Velcro dots (or masking tape) and secure the soft drink bottle to the cardboard. Ensure the bottle is positioned so that it doesn't touch the wheels.
- Step 8** Carefully insert the ball pump needle into the hole at the top of the bottle. With one hand hold the bottle and with the other pump 15-20 times. Release the bottle.



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# Supreme Incursions

## Pressure Car

Take it one step further...

*How far does the pressure car travel?*

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*Try experimenting with pumping technique. Does the amount of pumps affect how far the car will travel?*

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*Does the way you pump (fast or slow) affect how far the car will travel?*

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*What do different floor surfaces do to the distance the car can travel?*

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**FUN FACT** Pressure cars use air pressure to push themselves forward. As you pump air into the bottle, it compresses the air already inside and begins to fill till it can't fit any more. When this pressure builds up and the needle is removed from the lid, the air starts to escape out of the little hole, pushing the car forward. Once all the air has escaped, the car has run out of the force that pushes it and will come to a stop.



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