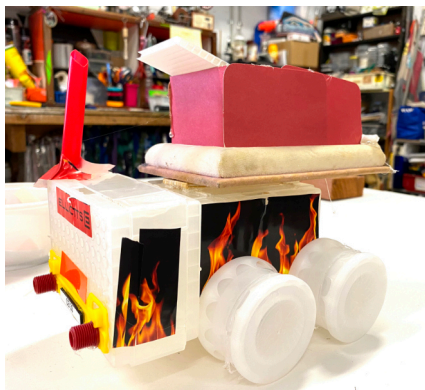


REUSE RECIPE



DESIGN AND MAKE a push-pull toy

*This activity is suitable for children in grades **Prep to Yr 4** as it is aligned to the [Australian Curriculum](#) standards for *Physical Sciences* as well as *Outcome 4* of the *EYL Framework*.*

Whether you're exploring space or the science principles of push and pull, our Moving Toys box contains the appropriate parts for your students to create moving vehicles for land, water or air. Our boxes contain enough variety for children to experiment with size, shape and weight plus enough variety to trigger their imagination to create moveable parts from out of this world.

- **Why do we build vehicles?**
- **What is the fastest vehicle you have travelled in?**
- **How are vehicles powered?**
- **Why do cars have indicators?**
- **What will your vehicle transport: people, 1 person, animals or cargo?**
- **How many wheels will you have?**

Thank you for helping RGQ to save approximately 2 tonnes (2,000kg) of industrial discards from landfill every week.



Tools:

- Scissors
- Staplers
- Pencil, pen & ruler
- PVA, craft glue or water-based paste
- Hole puncher
- Sticky Tape (but challenge yourself to find alternatives)

Optional tools:

- Box cutter
- Cutting mat
- Hot glue gun
- Needle & thread
- Awl

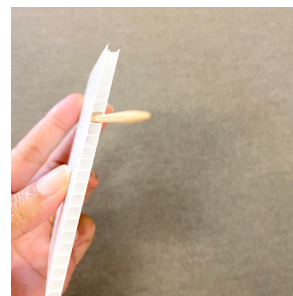
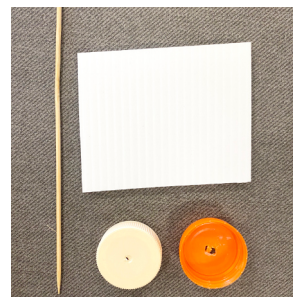
FUN FACT! The first combustion engine car only had **3 WHEELS!** Two at the back and one at the front. **COOL!**



5 STEPS TO A PUSH-PULL TOY

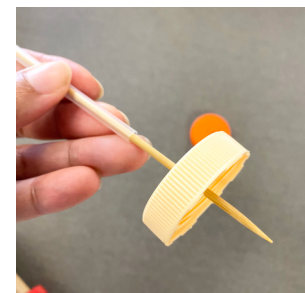
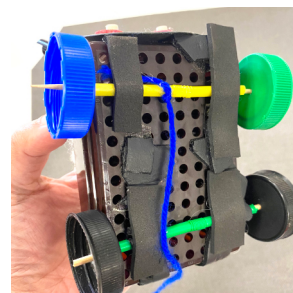
- 1. Choose a body shape:** A container, wooden block, reel or metal tray can create a strong body.
- 2. Wheels or Wings.** How many wheels do you need? Where will they attach? How will they roll?
- 3. Windows.** Where will the driver sit? Add a windscreen and doors using clear plastic, stickers or drawing on the body.
- 4. Lights.** Do you have headlights and indicators? Use stickers, electrical parts or shiny fabric to add them.
- 5. Personalise it.** Cut shapes from sticky foam, stickers or fabric.

How to build a functional axle



To build an axle all you need is a skewer, bottle caps with a hole drilled through the centre and a core flute rectangle (white plastic sheet with a waffle-like centre). If you don't find core flute in your materials box, you can substitute it with a pair of straws.

Did you know?... Very fast cars have wings to provide down-force (grip support). They are an upside-down plane wing!



Before we begin, we recommend watching our [RGQ TV](#) virtual workshop on how to build your own robot.

NOTES TO FACILITATORS



It may be necessary to pre-prepare the materials for your participants depending on the age group and time constraints.

Some of the materials that have been provided will require the use of moderately strong adhesive.

You may need to supply, operate or help facilitate the use of a hot glue gun or a moderately strong adhesive.

Please check the contents of the box for suitability for your group. We may include small pieces, items with pointy ends and heavy items.

Reduce, Re-use, Recycle

By using excess material and products from RGQ you are helping to reduce the demand for new products and re-using existing materials.

To complete the loop we ask you to recycle any materials possible when you are finished enjoying your creations.