

# Engineering Explored Kit

## What is it?

This kit excites and engages students in the fascinating world of engineering. A career in engineering is often overlooked by students as they don't understand or appreciate how interesting and varied it can be. CreoKit aims to change that with this kit. We introduce students to civil, mechanical, electrical and biomedical engineering through hands-on projects and guide them in a range of design challenges aimed at tapping into their creativity and problem solving abilities. The kits are hands on, inquiry based projects that give the children a love of STEAM.

## What is the aim of the kit?

To get students thinking like an engineer. To solve problems, think creatively and to design solutions that are unique. We want to inspire students to go into STEM fields and to be excited and knowledgeable about those fields, in this case engineering.

## What age/year level is it for?

The kit can be introduced to children from 10 years old. Lesson plans are included for Levels 3-5 of the curriculum.

## Skills learnt?

1. Engineering concepts in civil, mechanical, electrical and biomedical engineering
2. Using a range of materials to solve problems
3. Problem solving and engineer thinking
4. Learning about and using the engineering design process
5. Gain an understanding of what engineers do
6. Learn what engineers have given to society
7. Design creation, drawing and concept development
8. Creative, design thinking to solve real life problems with technology
9. Learn about gears, pulleys, hydraulics, levers and other simple machines to solve challenges and design their own projects.

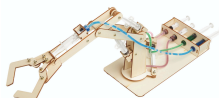







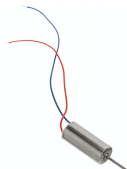





## Some of the projects they can make?

Robots, furniture, aircraft, lift systems, bridges, cars, hydraulic machines. The list is endless and dependant on the students imagination.

## **What are the benefits of the kit?**

1. The kits teach various skills to the children but there is no defined start or end point. The kit is entirely child led and the outcomes are unique to each child. One set of materials, 30 students, 30 different outcomes and projects. However all students will have gained the same skills and knowledge at the end.
2. A monster kit, our biggest yet! There are over 20 sessions in this kit with challenge cards, projects and activities.
3. The kits tap into the child's interests making it relevant and engaging
4. Can be used for a wide range of ages.
5. Unique to the market.
6. Supported with project ideas and videos
7. The small number of consumables in the kit can be repurchased through OfficeMax for future use.
8. Designed and tested in New Zealand classrooms to support our curriculum.
9. Lesson plans and project sheets in English and Te Reo.

# Engineering Explored Parts List

Part	Name	12 Student Kit	24 Student kit	Part	Name	12 Student Kit	24 Student Kit
	Hydraulic Arm Kit	1 pack	2 packs		Syringe 10ml	6	12
	Gear Set 109 piece set	1 set	2 sets		Rocker Switch	6	12
	Engineering building set	1	2		AA battery holders	6	12
	3V motors	6	12		Adhesive Foam Squares	20	40
	High Speed Motor	6	12		5mm LED	24	48
	Cable Ties	15	30		10mm LED	12	24
	Plastic Tubing	2m	4m		Wire	3m	6m
All kits come in a sturdy storage container.	All Kits come with full lesson plans linked to the NZ curriculum in English and Te Reo.			All kits have access to our online portal with project sheets, instructions	and videos to support the lessons and extend learning		