# Robotic Arms

Engineering Design Process

Think, Build, Test, Do It Again

That's the process engineers use when they tackle a problem. Engineers don't have official rules telling them to follow this set of steps. But, over time they've learned that **they get the best results this way**.

They **think** and brainstorm about a problem and factors they have to consider to solve it. They come up with an idea and **build** a prototype. They **test** the prototype. And, then they **repeat** the process to improve their results.

THINK · BUILD · TEST · DO IT AGAIN
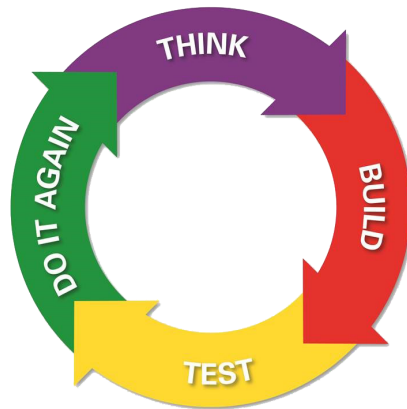
It Takes a Lot of Back and Forth

Engineers often **move back and forth within the loop**, repeating two steps over and over again before moving forward. It's a key to engineering success. Sometimes, engineers will focus on one specific step, and when complete, pass the project off to another team with a different skill set.

Engineers are creative problem solvers!

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Scientific Concept:	Physics, force
Recommended Ages:	8 to 12
Scientific Practice:	Engineering

What to know about this kit:

Learn how robotic arms work by building six different models that use a pneumatic system and air pressure to power the arms around. Perform experiments to see how well your mechanical engineering works!

Please note: This kit must be returned to a **staff member** at an **Anchorage Public Library** location.

ANCHORAGE PUBLIC LIBRARY

Kit Contents & Replacement Costs

Item Type	Description	Cost
Object	Thames & Kosmos Mechanical Engineering Robotic Arms (204 pieces)	$50
Leaflet	Mechanical Engineering Robotic Arms Experiment Manual	n/a
Book	*Everything Robotics* (National Geographic)	$13
Book	*Robotics Engineering: Learn It, Try It!*	$10
Packaging & Processing Fee:		$25
Total Kit Replacement Cost:		$98
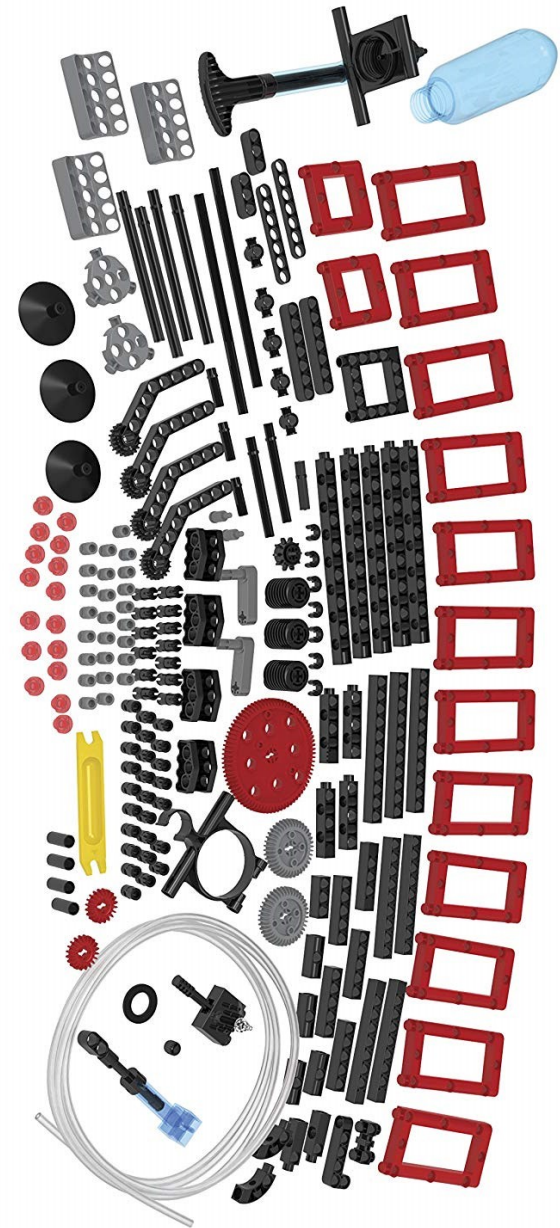
Please verify all parts are present before returning.