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## J-KIT STEM

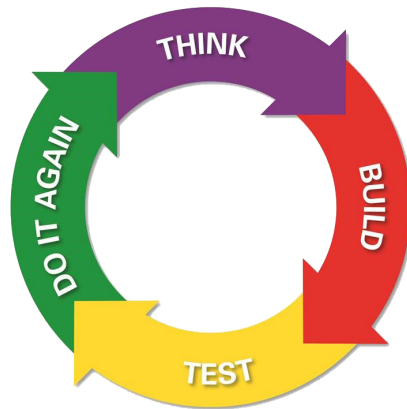
# Gears

### 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.



#### 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: Energy, simple machines

Recommended Ages: 4 to 9

Scientific Practice: Engineering

### What to know about this kit:

Create, arrange and explore the motion of gears with these builders. They will help you learn engineering as you transfer motion across several gears in a 3D structure. Explore engineering, physics, and simple machines in a simple introductory way.

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



| Kit Contents & Replacement Costs   |  |             |
|------------------------------------|--|-------------|
| Item Type                          | Description                                      | Cost        |
| Object                             | Lakeshore Gear Builders (95 pieces)              | \$30        |
| Sheet                              | Gear Instruction sheet                           | n/a         |
| Book                               | <i>Simple Machines (Let's Read and Find Out)</i> | \$7         |
| Book                               | <i>Forces Make Things Move</i>                   | \$6         |
| Packaging & Processing Fee:        |  | \$25        |
| <b>Total Kit Replacement Cost:</b> |  | <b>\$68</b> |



Please verify all parts are present before returning.