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!

This kit generously sponsored by:

This material is based upon work supported by the National Science Foundation under Grant Number DRL-1657593. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Gecko Robot

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

What to know about this kit:

Build a wall-climbing robot and other projects with a battery motor and air suction system. You will learn physics and engineering and conduct experiments and practice model building.

The robot walks up perfectly smooth surfaces like glass.

Please note: This kit must be returned to a staff member at an Anchorage Public Library location.
# Kit Contents & Replacement Costs

<table>
<thead>
<tr>
<th>Item Type</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object</td>
<td><em>Thames &amp; Kosmos</em> Geckobot kit (176 pieces)</td>
<td>$50</td>
</tr>
<tr>
<td>Leaflet</td>
<td><em>Thames &amp; Kosmos</em> instruction booklet</td>
<td>n/a</td>
</tr>
<tr>
<td>Book</td>
<td><em>Robot by DK</em></td>
<td>$20</td>
</tr>
<tr>
<td>Book</td>
<td><em>Make: Making Simple Robots</em></td>
<td>$25</td>
</tr>
<tr>
<td>Packaging &amp; Processing Fee:</td>
<td></td>
<td>$25</td>
</tr>
<tr>
<td><strong>Total Kit Replacement Cost:</strong></td>
<td></td>
<td><strong>$120</strong></td>
</tr>
</tbody>
</table>

Please verify all parts are present before returning.