1. Define a problem or need
Identify criteria (specifications) and constraints
Identify deliverables

2. Investigate related engineering/science
Brainstorming, sketches, mockups, models (scale) simulations, consider systems & trade-offs

3. Create possible solutions
Select one to test

4. Test and evaluate a prototype
Anticipate failures

5. Redesign to optimize a solution
Cycle through 4 and 5 until the desired results are reached

6. Communicate the solution

7. Develop production and analyze consumer use

Four possible outcomes:
• Expected and desired
• Expected and undesired
• Unexpected and desired
• Unexpected and undesired

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B. Skills and Traits of Technological Design
B2. Students use a systematic process, tools and techniques and a variety of materials to design and produce a solution or product that meets new needs or improves existing designs.

Engineering Design Process

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Model development facilitated by the Maine Mathematics and Science Alliance www.mmsa.org/scitec
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