Engineering Design Process

Right click hyperlinks to open in a new tab.

Definition/Purpose

The Engineering Design Process is a practical approach to problem solving that applies to all subjects, not just engineering and computer science! Engineers and computer scientists often start in the middle or end of the process, and they may repeat steps as they design a technology. Failure is part of the process. And, learning from failure is an integral part of making successful engineering designs and computer programs.

As children try different solutions to STEM challenges guided by the Engineering Design Process, they develop collaboration, communication, and critical thinking skills.

Equity: Engineering and Computer Science create the space for equity in your classroom—naturally. Hands-on design challenges all with multiple, unique solutions, and a "teacher as facilitator" model, level the playing field for all learners.
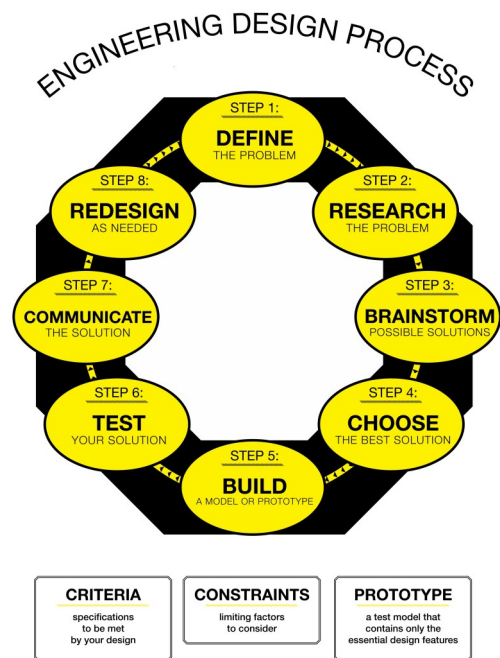
From: https://www.eie.org/why-eie

Resources and Tools

8 great videos to teach the Engineering Design Process

Middle school students get to design and test solutions to actual safety problems (complete with free teacher guides and investigator notebooks):

https://ulxplorlabs.org/

Examples

This site includes a collection of free hands-on activities, by grade band, exemplifying the engineering design process.