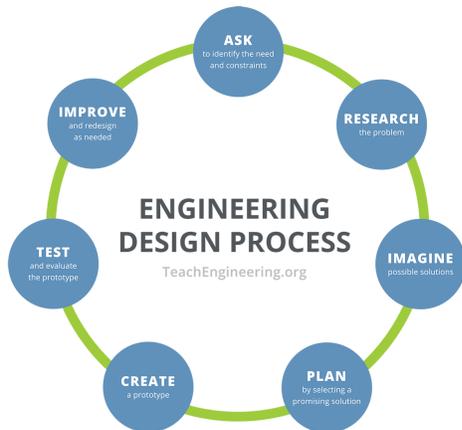
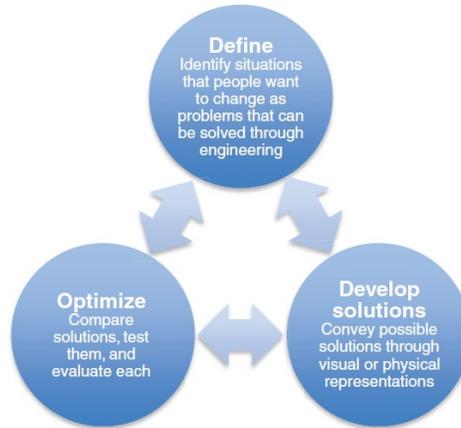


While there may be slight differences between the engineering design processes below, all of them serve as a guide to help find solutions to problems. Their presentation only differs in making it more visually appealing or user friendly. Some are very specific while others serve as a more general guide. Below I have compared the TeachEngineering.org model, the NGSS, and NASA's New BEST model. I have provided the original model images for reference.

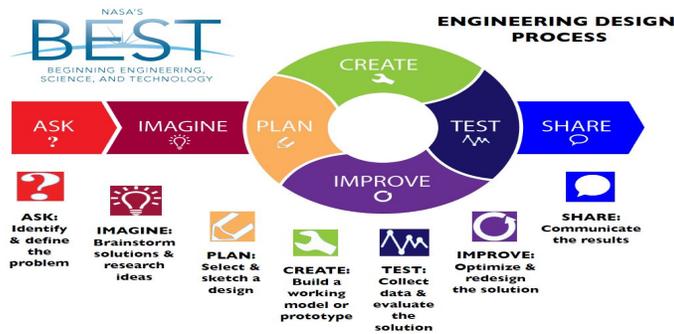
TeachEngineering



NGSS



NASA's New BEST Model



<u>Common Step</u> <u>Color Key</u>
Problem/Question
Hypothesize
Test
Analyze
Retest
Communicate

<u>TeachEngineering</u>	<u>NGSS</u>	<u>NASA New BEST</u>
Ask: Identify need and constraints	Define: ID Problem	Ask: Identify problem
Research the problem	Develop Solutions: Create models/prototypes	Imagine: Brainstorm possible solutions and research ideas
Imagine possible solutions	Optimize: Compare solutions, Test and Evaluate	Plan: Sketch possible solutions and select
Plan by selecting possible solutions		Create: Build the model/prototype
Create a prototype		Test: Collect data and evaluate it
Test & evaluate the prototype		Improve: Optimize and redesign solution
Improve and redesign as needed		Share: Communicate the results

TeachEngineering's model incorporates a research step that the NGSS does not but it does not have the step about sharing their findings or results at the end of the process like the BEST model. It also shows the entire process as cyclical and not just the redesign, test, optimize portion like the BEST model. The entire

NGSS model is laid out as a back and forth process and has less of a breakdown in steps. This is the least student friendly of the three models. It also does not specify the sharing of the results as a part of the process or the need for research to come up with the best possible solutions. It is extremely general and not a great guide for implementing the engineering design process. The BEST model is the most student friendly and clearly lays out the steps the students are going to take throughout the process. It is also partially cyclical in nature with the plan, create, test and improve steps before you reach the final step of sharing the results.