

STEM Engineering Design Process



We use the four fields of STEM (science, math, engineering, and technology) to solve real-world problems, or challenges. STEM challenges have a **challenge** to solve, a **constraint** to follow, and a **criteria** to improve. This process is known as the **Engineering Design Process (EDP)**. It acts as a cycle. Once you build a solution, you will find ways to improve it, create a new plan, build a new model, and retest it until you find a solution that works.

REVIEW ONLY

School Datebooks

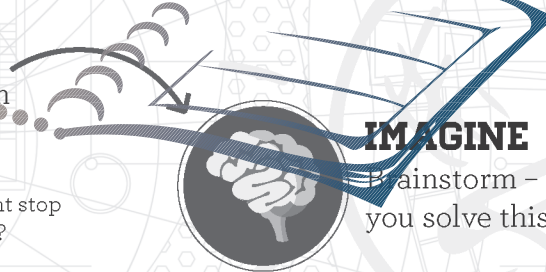
Practice going through the EDP steps yourself! Get a deck of cards and a roll of tape. Find a way to build a house that stands up to strong winds.



ASK

Define the problem and constraints.

Practice: What is the problem? What might stop you from coming up with the best solution?



IMAGINE

Brainstorm - how can you solve this problem?

Practice: Write down all your possible ideas for how to use the cards and tape to build the house. Sketch these ideas.

DO NOT SUBMIT FOR PRINT



IMPROVE

Find a way to make your plan even better.

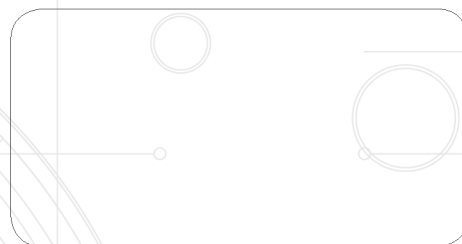
Practice: Test it by either blowing air onto the card house or putting a fan up to it. How will you change it in the future to help it stand longer?



PLAN

Pick your best idea & plan your solution.

Practice: Use a detailed drawing to show your plan.



CREATE

Build a model of your solution.

Practice: Build your card house!