



The engineering design process is a series of steps that engineers use to guide them as they solve problems. During the design process, engineers:

**1. ASK TO IDENTIFY THE NEED**

Engineers ask critical questions about what they want to create: What is the problem? What do we want to design? Who is it for? What do we want to accomplish? What are the project requirements and limitations? What is our Goal?

**2. RESEARCH THE PROBLEM**

Learn from the experiences of others – this can help you find out about solutions to similar problems and avoid mistakes that were made in the past. So, for an engineering design project, do background research by asking users or customer, and existing solutions.

**3. BRAINSTORM SOLUTIONS**

Work with a team to brainstorm and develop as many solutions as possible. Encourage wild ideas and defer judgment! Stay focused on topic, and have one conversation at a time. Good design is all about teamwork!

**4. CHOOSE THE BEST SOLUTION**

Look at whether each possible solution meets your design requirements. Some solutions probably meet more requirements than others. Revisit the needs, constraints and research from earlier steps, compare your best ideas, select one solution and make a plan to move forward.

**5. BUILD A PROTOTYPE**

Building a prototype makes your ideas real! Early versions of the design solution help your team verify whether the design meets the original challenge objectives. Push yourself for creativity.

**6. TEST THE PROTOTYPE**

Does it work? Does it solve the need? Communicate the result and get feedback. Analyse and talk about what works, what doesn't and what could be improved.

**7. IMPROVE AND REDESIGN**

Discuss how you could improve your solution. Make revisions. Iterate your design, continuously improving it, to make your product the best it can be within your design constraints.