# ENGINEERING DESIGN PROCESS

takeTECH

OCTE | ONTARIO COUNCIL FOR TECHNOLOGY EDUCATION

## 1 UNDERSTAND THE PROBLEM/CHALLENGE

- Ask questions to clearly define the design challenge and constraints. Research similar products to gain understanding and knowledge.
- Ask questions to people who might use the product or service to understand their needs.

## 2 GENERATE POTENTIAL SOLUTIONS

- Create a variety of possible solutions to meet the outlined constraints and fundamental concepts
- Analyse the solutions to choose the most appropriate one to develop further by using the end-users needs as consideration.

## 3 PLAN THE PROTOTYPE DETAILS

- Add details such as; parts list, materials and tools required, process, overall dimensions and safety considerations.
- Create a schedule to manage each activity and your time for success.

## 4 CREATE A PROTOTYPE

- Build a prototype of your solution to make your ideas real and to validate the concept.
- Record any issues or changes necessary.

## 5 TEST & ANALYZE THE PROTOTYPE

- Evaluate by testing,
- Get end-user feedback
- Assess if the criteria was met
- Record all data, observations and feedback

## 6 REFINE AND IMPROVE

- Review feedback and analyze data to make improvement.
- Iterate your first chosen solution to incorporate the observations and evidence gathered.