CAREER READINESS CHALLENGE

TEAM 6521E

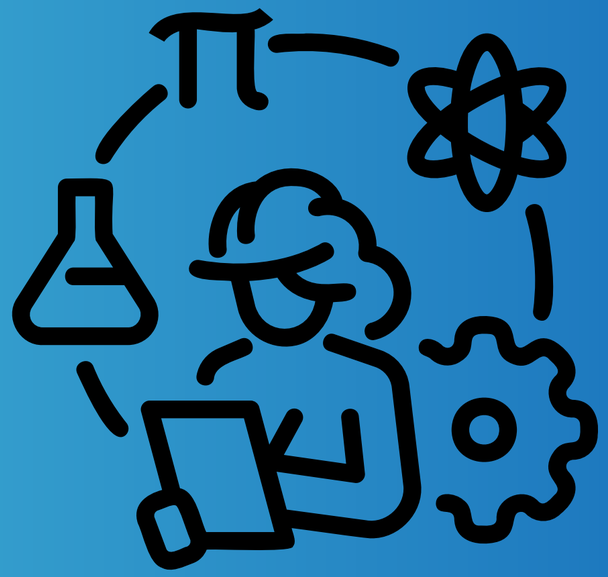
ELECTRIC EELS

NORTH HILLS, CALIFORNIA

BY: ABBY, EMELY, ISABELLA, KALI, MIA, ZHOEE

INTRO

Did you know, the engineering design process used by VEX robotics, can prepare you for later careers? It certainly can! VEX Robotics and the engineering process can introduce and prepare you for future STEM careers. Many skills can develop from this, and these skills are very similar to what professionals use, including NASA, preparing students such as our team for the future.



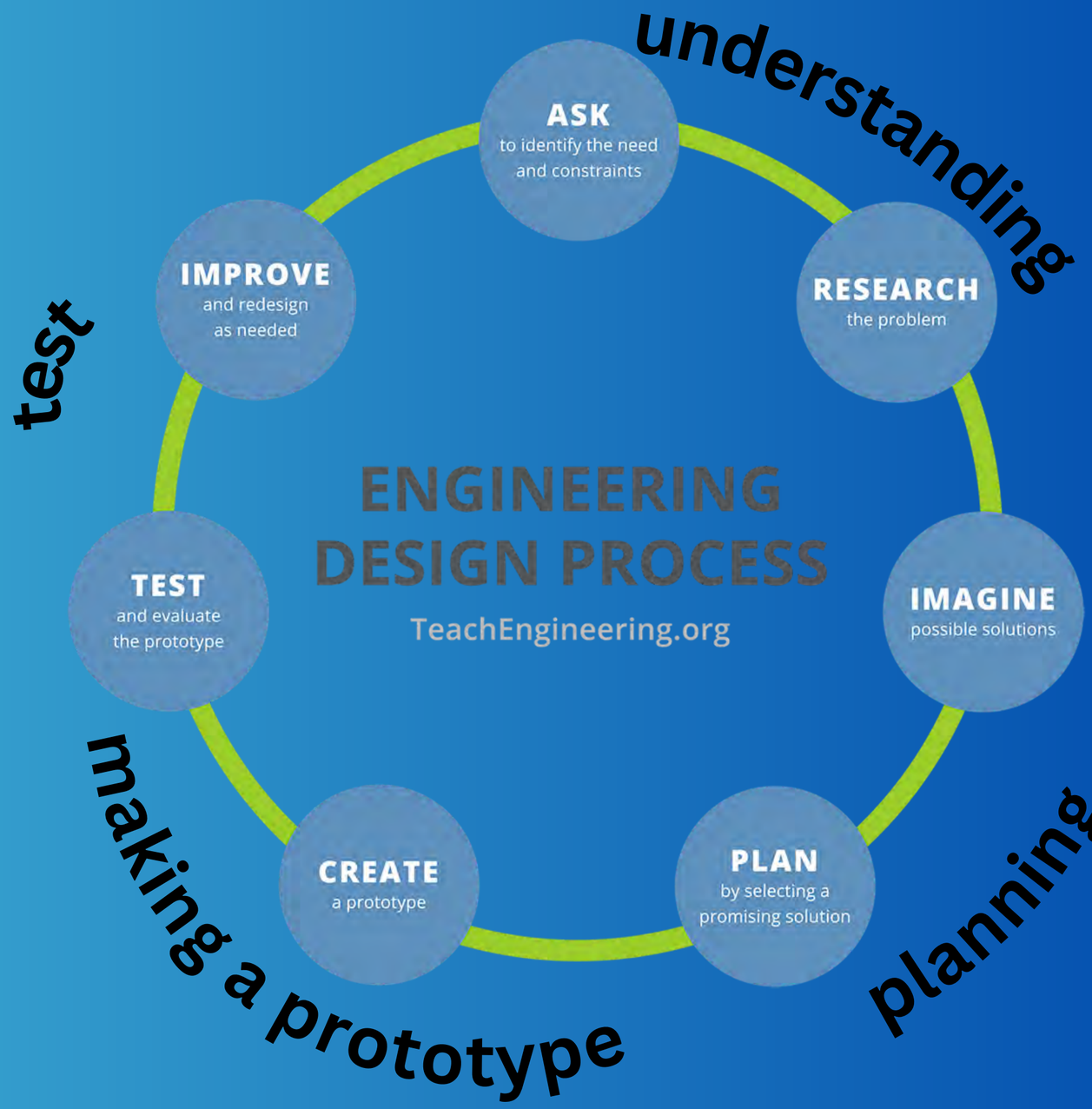
VEX ROBOTICS

WHO AND WHY NASA?

We went with NASA, a space agency in charge of everything science, technology, engineering, and mathematics related to air and space because they have a similar design process to ours, which can help us in future careers in STEM and beyond.

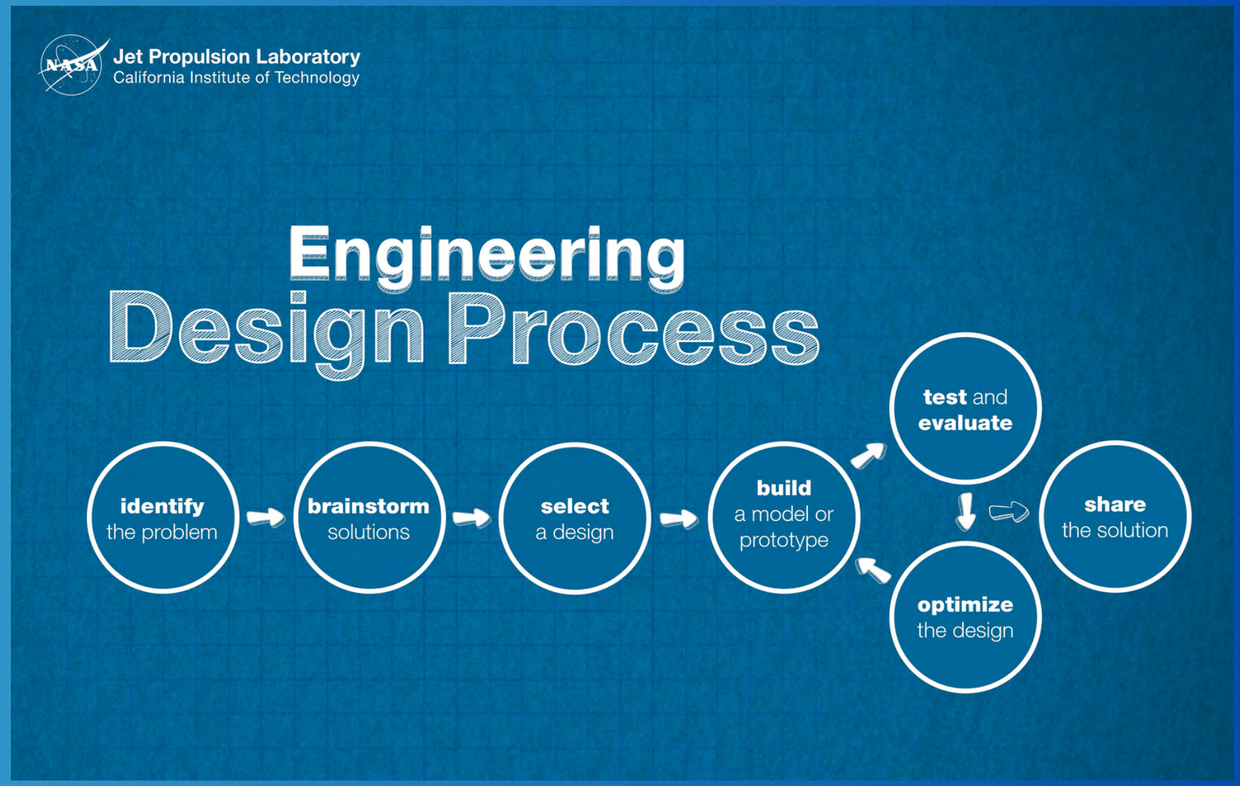
WHAT IS THE ENGINEERING DESIGN PROCESS?

The engineering design process is a series of steps that engineers use to create new solutions to problems. The engineering design process has many various steps but can be simplified into 4 steps: understanding, planning, making a prototype, and testing it. Our team and NASA use a similar process to create a solution to problems.



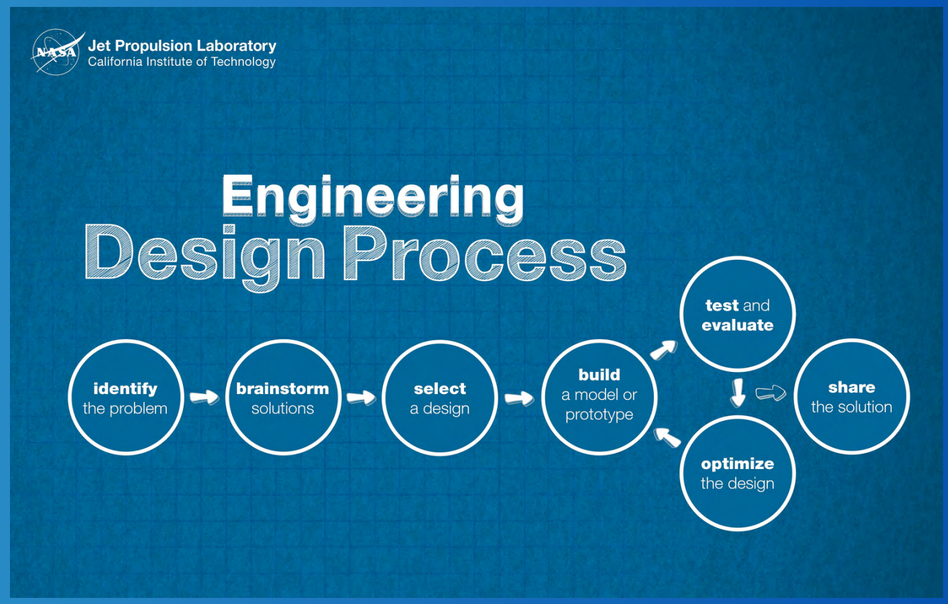
What is NASA's Engineering Design Process?

NASA uses a method called the system design process to design things. There are four types of system design processes: developing requirements, expectations, technical requirements, logical decompositions, and design solutions. NASA uses the four main steps that we take, understanding, planning, making a prototype, and testing it. NASA uses this in creating all types of system design processes to develop new designs, models, rockets, rovers, launching pads, satellites, spacesuits, and more. They all start with a study team collecting and clarifying information. The set of information and requirements can help drive a design for a prototype design, concept of operations, and obtained requirements, which are developed, similar to the step of understanding, and planning. Afterward, they have people analyze and test the project or prototype to see if anything doesn't fit the requirements, or if anything is wrong, which is similar to creating a prototype and testing it. If anything is wrong or doesn't fit the requirements, they will revise the prototype, and the process will start again, if it fits, then they will pick the best design and settle with it.



NASA'S AND OUR IDEAS

NASA's approach and our team's approach to the design process are very similar, but our engineering design process has a language that is age-appropriate for students. Our team uses the design process when we are creating a robot model or designing it, just like NASA uses the design process to create rocket ships or more. Both of our processes start with defining the problem and researching the topic and can help develop a design for models. Then, both come up with prototypes and afterward, we test them to see what we can improve, and document through this process.



PREPARING FOR THE FUTURE

PARTICIPATING IN VEX ROBOTICS GIVES ME EXPERIENCE IN USING THE ENGINEERING DESIGN PROCESS AND COLLABORATING WITH OTHERS TO PREPARE ME FOR FUTURE CAREERS. — ZHOEE

ROBOTICS HAVE PREPARED ME FOR MY FUTURE CAREER AND WILL GET ME INTO GOOD COLLEGES TO BE SUCCESSFUL IN LIFE. —MIA

ROBOTICS HAS HELPED ME FIGURE OUT SOLUTIONS TO PROBLEMS AND HELPED ME TO BE ORGANIZED. HAVING THE OPPORTUNITY TO BE PART OF ROBOTICS CAN LEAD ME TO GREAT SCHOOLS IN THE FUTURE AND HAVE A GOOD CAREER WHERE I CAN USE THE SKILLS I LEARNED IN ROBOTICS — EMELY

ROBOTICS WILL HELP ME IN THE FUTURE TO GET SCHOLARSHIPS AND TO GET A BETTER EDUCATION. BEING IN ROBOTICS WILL ALLOW ME TO LEARN NEW SKILLS THAT WILL ALSO IMPROVE MY RESUME FOR MY FUTURE CAREER. BEING PART OF THIS TEAM WILL PROVIDE ME WITH AN EXPERIENCE THAT ALLOWS ME TO HAVE MANY CAREER CHOICES — ISABELLA

PARTICIPATING IN ROBOTICS WILL HELP MY CAREER, IT IS ALSO GOOD FOR MY RESUME AND IT CAN OPEN UP MANY CAREER OPPORTUNITIES FOR ME. THE EXPERIENCE AND OPPORTUNITY TO BE PART OF ROBOTICS WILL HELP ME HAVE A BETTER CHANCE AT ENGINEERING AND TECHNOLOGY CAREERS IN THE FUTURE — ABBY

PARTICIPATING IN ROBOTICS WILL PREPARE ME TO DEVELOP ENGINEERING AND DESIGN SKILLS THAT CAN HELP ME WITH MULTIPLE CAREERS WHERE I CAN THRIVE IN THE SKILLS I LEARNED IN ROBOTICS —KALI

CREDITS

Team 6521E

ABBY, EMELY, ISABELLA, KALI, MIA, ZHOEE

RESOURCES

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PICTURES

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https://www.teachengineering.org/populartopics/designprocess

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THANK YOU!