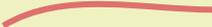
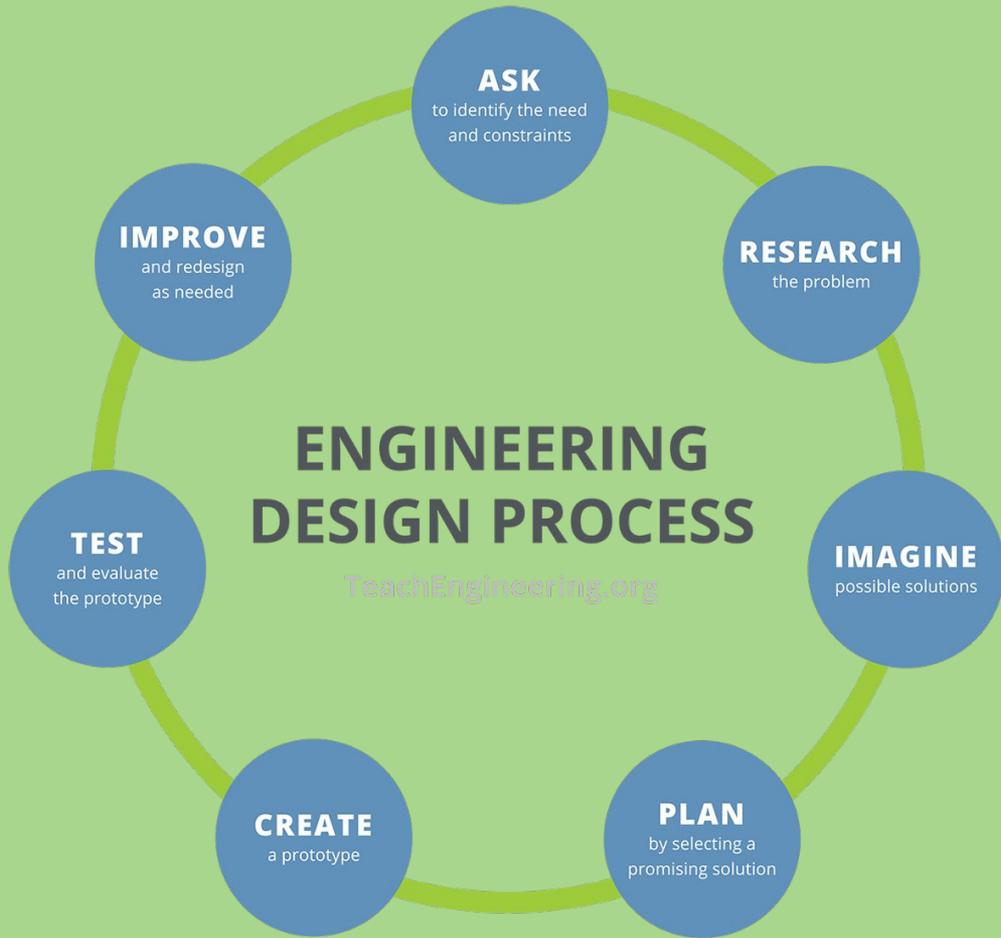
A spiral-bound notebook with a white cover and lined pages is set against a green background. The notebook is decorated with several elements: a yellow sticky note at the top left, a yellow sticky note at the bottom left with the text "Skill Builder 4!" and a red underline, a red and orange bar on the right side, and a yellow bar below it. The title "Engineering Design Process" is written in large, bold, red letters across the center of the page, flanked by yellow horizontal lines.

# Engineering Design Process

Skill  
Builder 4!



**What is the  
Engineering  
Design  
Process?**



# Summary!



## Ask

Are you being asked to solve a specific problem?

## Research/Imagine

Who is your project for? What does it need to do?



## Plan

Where will you write down your design ideas?

## Create

Take your designs and build!

## Test/Improve

Does your design need to be improved upon?  
How will you test this?

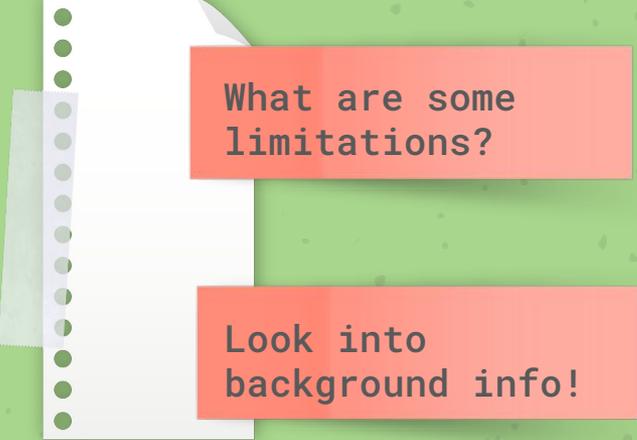
# Ask

A problem you see and want to solve or problems others are asking you to solve!

A question posted by Dr. E's Challenges!

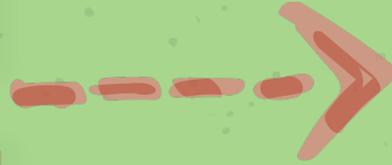
A question posted by Dr. E's Challenges!

# Research/Imagine



What are some  
limitations?

Look into  
background info!



These are done during Research!  
Research is where you learn  
background information on the  
project as well as your minimum  
requirements (limitations or  
constraints) and begin thinking  
about solutions.

## Plan

Use your engineering portfolio design page to plan out your designs and to write down ideas and background research that you think would be helpful for your project. You can write or draw but always remember to use labels when drawing so anyone that looks at your design can understand what you are building!

## Create



Use your resources and your plans to create a solution to your problem!

## Test

Does your creation  
work like you wanted  
it to?

Does it fit within the  
limitations of the  
problem?

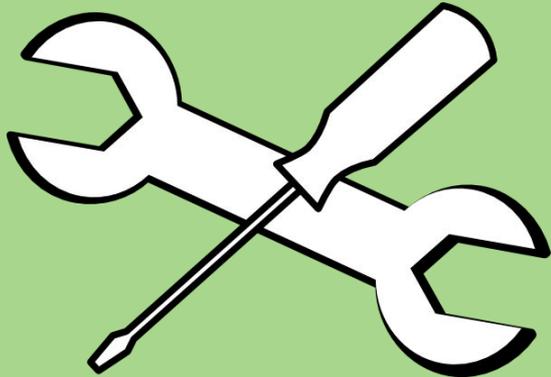
Is it easy for others  
to understand or use?

## Improve

Go back and **PLAN** and  
**CREATE** again! Ask yourself  
your questions as many  
time as possible to get it  
how you understand it.

Download Dr. E's Engineering Portfolio Pages found on the Dr.E's Challenges homepage. There is:

- 1) A front page open for you to design!
- 2) A design page for you to brainstorm and develop ideas and solutions
- 3) A reflection page for you to reflect on your solution.



Compile all of your portfolio pages from this series of Dr.E's Skill Builders and create a book!

If this is your first time at Dr. E's Challenges, take any of the previous three skillbuilders or summer Dr.E's Challenges and start building your engineering portfolio!

## Skill Builder Challenge