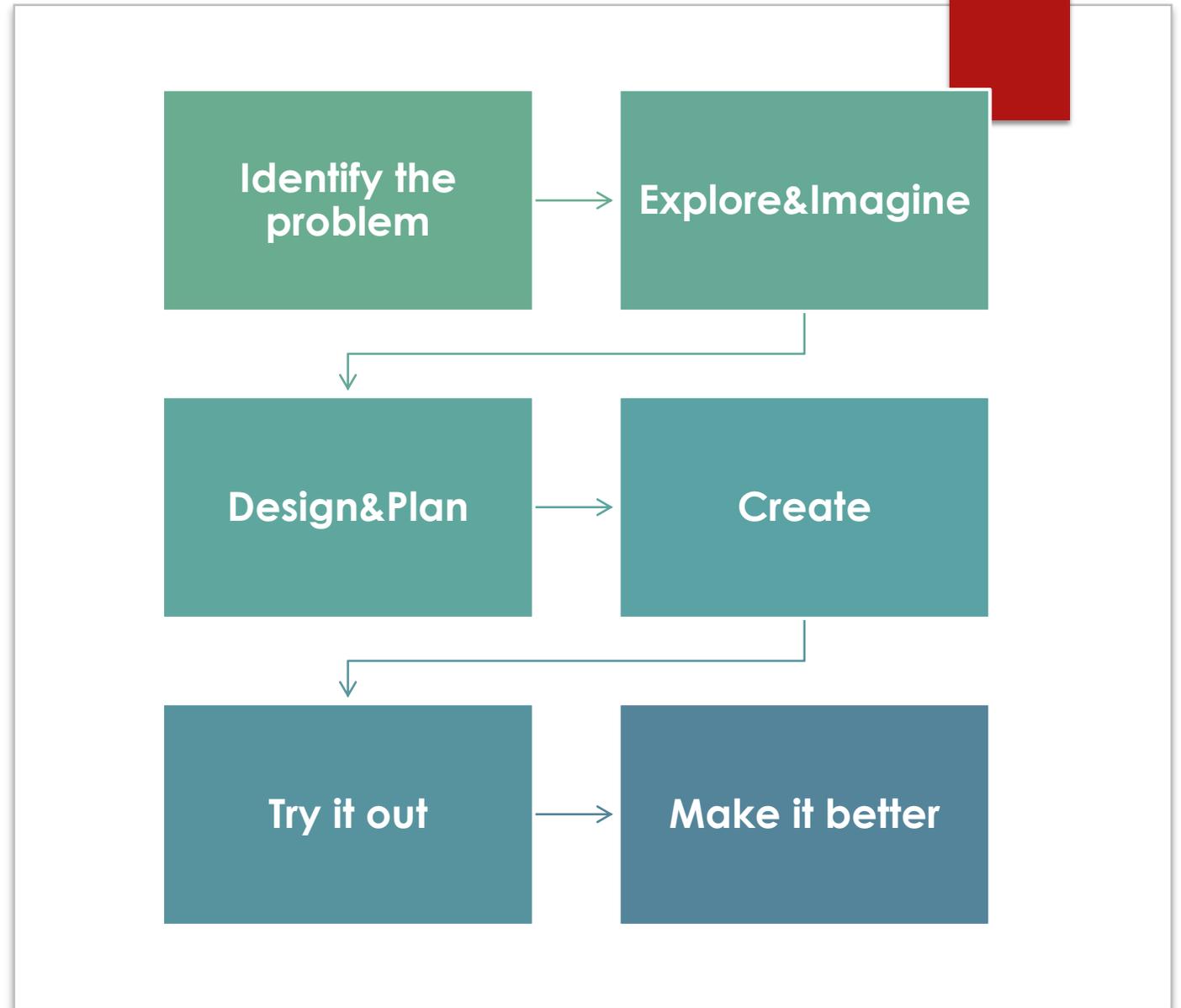


# Project Planning

NOT JUST FOR ENGINEERS

# The process

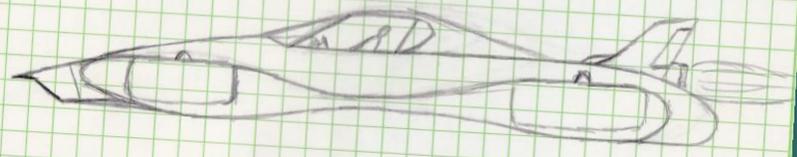


# Identify the problem

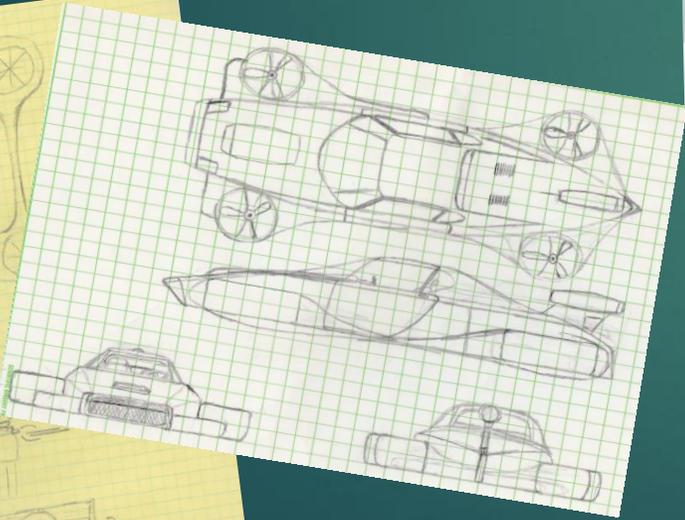
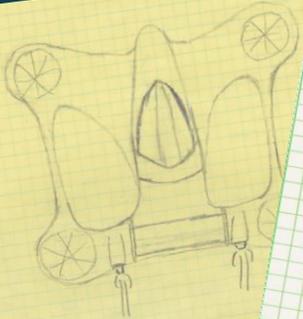
- ▶ Be given or delivered to you
  - ▶ Eagle Project
  - ▶ Customer
- ▶ Observed
  - ▶ Glass is always half full
  - ▶ Never any seating
- ▶ Something to improve
- ▶ Something Looked for

# Identify the problem

- ▶ Critical Questions asked
  - ▶ What is the problem to solve?
  - ▶ What do we want to design?
  - ▶ Who is it for?
  - ▶ What do we want to accomplish?
  - ▶ What are the project requirements?
  - ▶ What are the limitations?
  - ▶ What is our goal?



# Explore/ Imagine



- ▶ Talking to people from different backgrounds and specialties to assist with researching what products or solutions already exist, or what technologies might be adaptable to your needs.
  - ▶ Has it been done before?
  - ▶ Are there parts of what I need already available?
  - ▶ Are there constraints or hurdles to a solution.
- ▶ You work with a team to brainstorm ideas and develop as many solutions as possible. This is the time for wild ideas and defer judgment! Build on the ideas of others! Stay focused on topic, and have one conversation at a time! Remember: good design is all about teamwork!

# Design & Plan

## Design:

Revisit the needs, constraints and research from the earlier steps, compare your best ideas, select one solution

## Make a plan

Planning Should include:

- Design
- Schedule
- Needs (people, time, tools.....)
- Communication plan
- Risks (what could go wrong or impediments)

The TED logo is displayed in a bold, white, sans-serif font. The letters are closely spaced, with the 'E' having a distinctive shape. The logo is centered horizontally in the upper portion of the slide. The background behind the logo is a dark teal color that transitions into a white background below a wavy horizontal line. A solid red vertical bar is visible in the top right corner of the slide.

# TED

[https://www.ted.com/talks/tom\\_wujec\\_got\\_a\\_wicked\\_problem\\_first\\_tell\\_me\\_how\\_you\\_make\\_toast](https://www.ted.com/talks/tom_wujec_got_a_wicked_problem_first_tell_me_how_you_make_toast)

# Create!

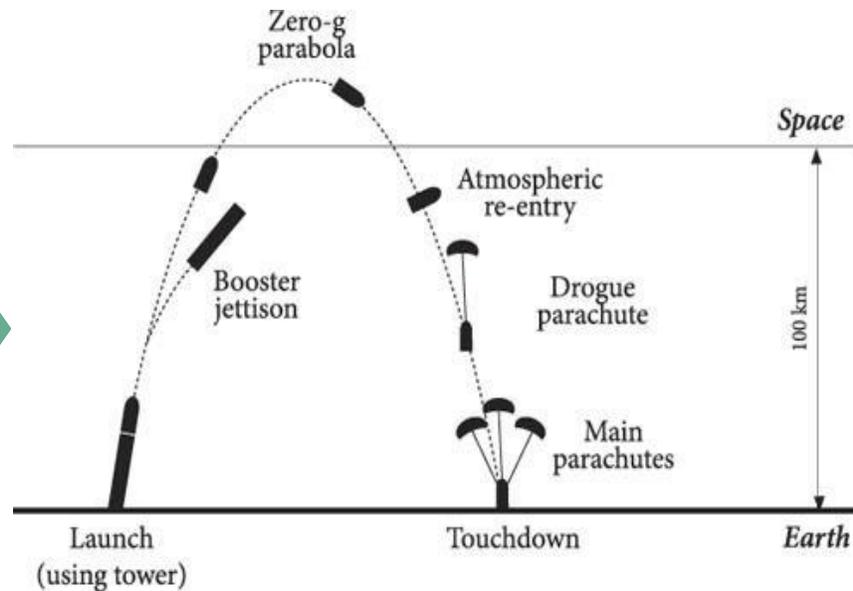


- ▶ Prototype your solution
  - ▶ Prototype (my favorite)
    - ▶ Prototyping makes your ideas real! These early versions of the design solution help your team verify whether the design meets the original challenge objectives. Push yourself for creativity, imagination and excellence in design.
    - ▶ They can be simulated, scaled, Doesn't have to use the exact materials like using a 3D printer or heck make it out of Lego's....

# Test & Evaluate

Validate it meets the requirements

- Does it solve the problem or need?



Evaluate

- Does it Work expectedly?
- Did it do anything unexpected?
- Is performance satisfactory?
- Could it be improved?

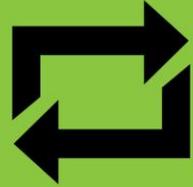
TRY



RINSE



REPEAT



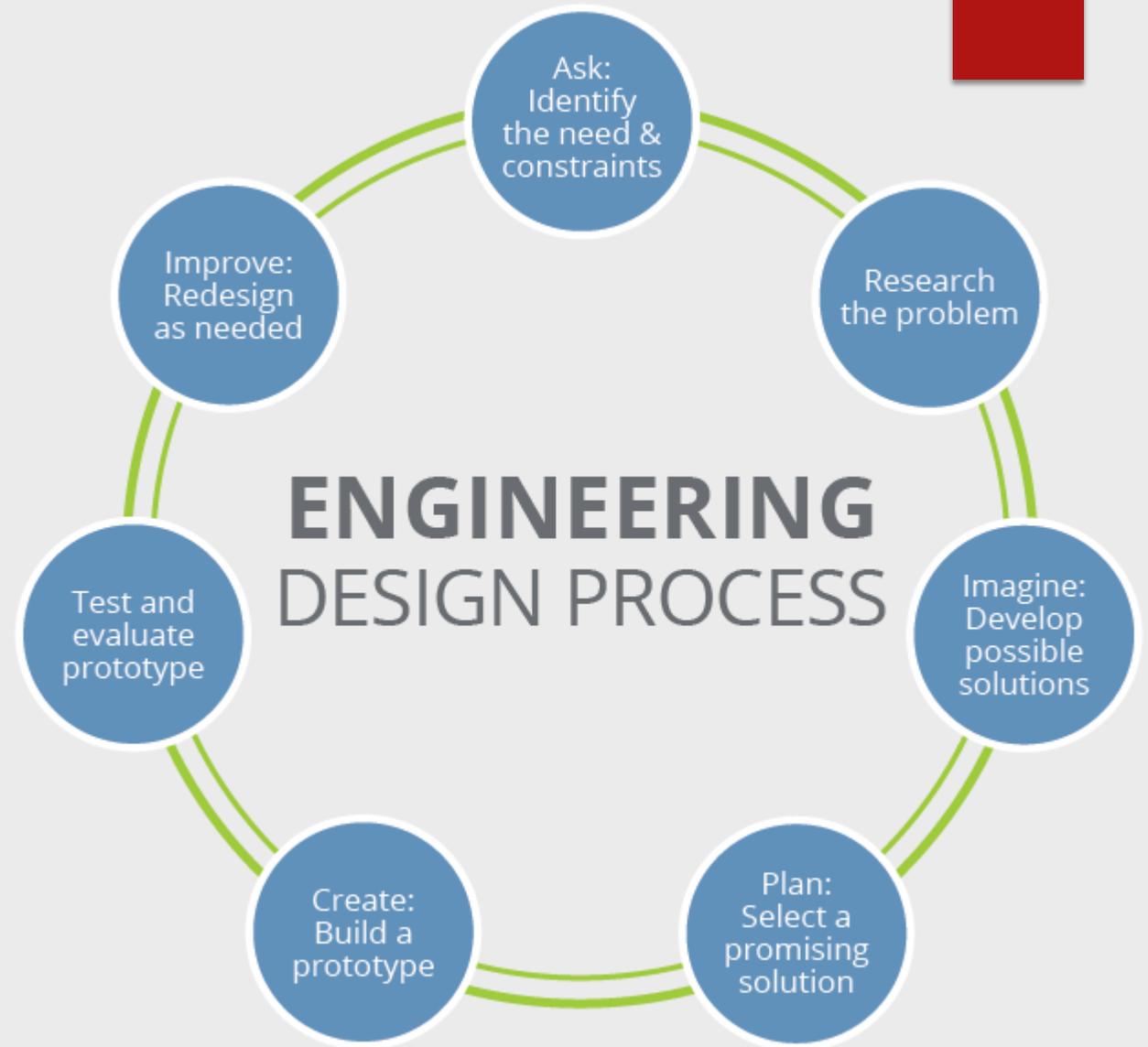
**No eating the Tide pods!!**

Back to the drawing board?

Just a few tweaks?

Now is the time to discuss how you could improve your solution. Make revisions. Draw new designs. Iterate your design to make your product the best it can be. And now, REPEAT!

lets try  
one



# Patrol Challenge

- ▶ Safe and less physically challenging way to move bamboo in and out of the shed.
  - ▶ Storable in the shed
  - ▶ Cost effective (if you like a more expensive solution have a plan as to how you will acquire the funds like donations, crowd source etc.)
  - ▶ Use existing door(s)
  - ▶ Safe and manageable by first year boys
- ▶ You have 2 weeks to finalize solution and plan and ready to present to troop (3/27).