Engineering Design Process

What is the EDP?

- Ask
- Brainstorm
- Plan
- Approval
- Create
- Improve

Step 1: Ask

- What is the problem you are trying to solve?
  - What materials do you have?
  - What is your time frame?

- How will you test your design?

Step 2: Brainstorm

- What are some solutions to your problem?

- Take all group members ideas into account! Every member of a team has valuable input, so it is to your advantage to listen to everybody.

Step 3: Plan

- Make a sketch of your idea.

- Engineers use software such as SolidWorks and COMSOL to model their designs.

- In a sketch it is important to specify dimensions and materials.

Step 4: Approval

- Get approval to make a prototype from your client.

- Make a pitch for why your design is the best solution to the problem!

Step 5: Create

- Build and test a prototype of your design.

  › Engineers will often test their prototype in a test environment.

- Record the results of your test.

Step 6: Improve

- Did your design fail or succeed?

- What worked, what didn't?

- What would you do differently

- Should you try a new design, or improve on your original design?

Continue

- Engineers go through many cycles of the EDP before they come out with a finished product that they can pitch to investors or clients

- In the EDP you are always jumping back to previous steps to rework things that are not working out.

YOUR CHALLENGE

- HELP! Your wonderful Artemis coordinators are stuck at the top of a cliff. They will be eaten by wolves within the hour.

- There is a zipline leading off the cliff. However there is nothing for them to ride down on.

- You must follow the EDP to make a 'cart' that your coordinators can ride to safety on.