

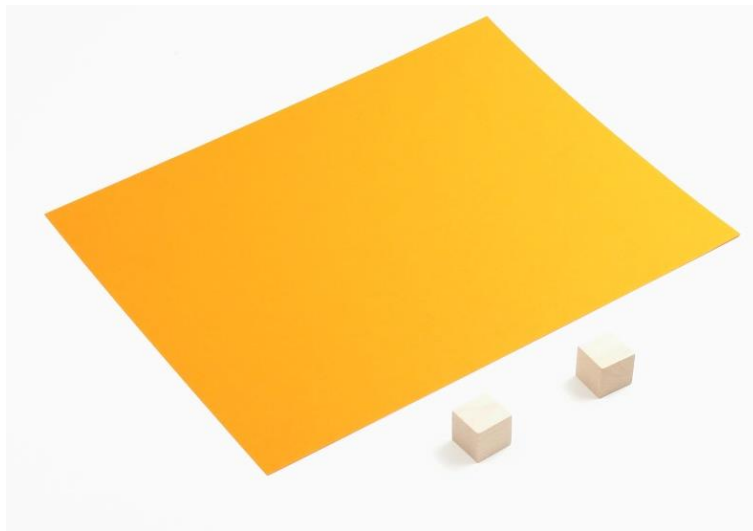
Name: _____

D.D.P

Activity 3.2 Instant Challenge: Paper Bridge

Introduction

Solving a problem is an amazingly creative process. Creativity can be messy. However, creativity can be channeled into a meaningful solution by using a structured design process. In this activity your team will design a solution to a problem using an engineering design process. You will document the process in your engineering notebook.

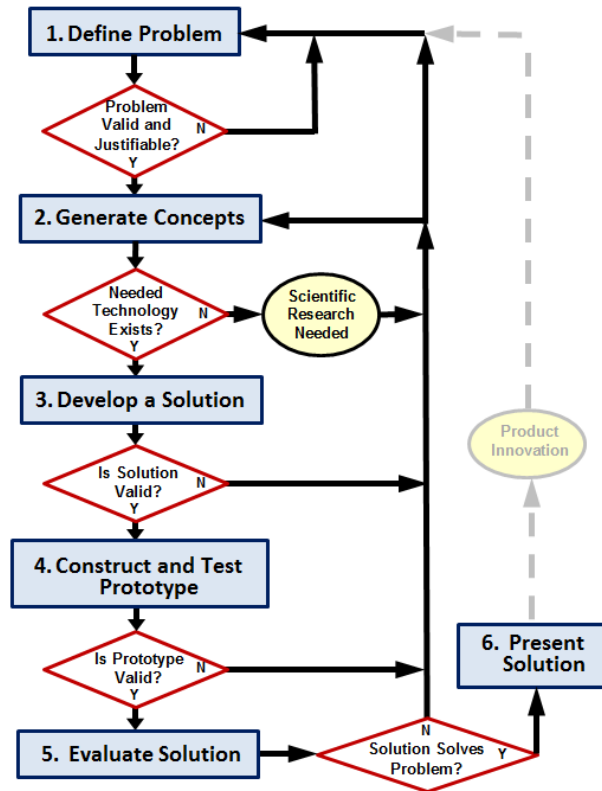


Equipment

- Engineering notebook
- Pencil
- $\frac{3}{4}$ in. wooden blocks (2)
- 1 sheet of $8 \frac{1}{2}$ x 11 in. cardstock
- Assorted construction tools such as scissors

Procedure

1. Follow the direction of the teacher while completing this activity.
2. Use the design process learned earlier in this lesson. Document each step in your engineering notebook.



3. Design and build a product that maximizes the distance between two blocks which are connected by a continuous route of paper. The product must meet the constraints below.
 - a. The paper must form a continuous chain of connectivity from one block to another without touching the tabletop.
 - b. Paper-to-paper linkage will be considered continuous.
 - c. The two wooden blocks are $\frac{3}{4}$ in. wooden blocks.
 - d. Both blocks are at table height.
 - e. Card stock can be modified.
 - f. Additional material can be used during construction, but not on the final product.
4. The winning design meets the constraints above with the blocks farthest apart.

Conclusion

1. Why do you think brainstorming is helpful when solving a problem?
2. How did testing improve your design?
3. With respect to designing the solution of a problem, what are some important characteristics of a successful team?