

Design Brief: Paper Platform

Background: Engineers solve problems using an [Engineering Design Loop](#). You will use that process to solve this problem.

Challenge: Design, build, and test a paper platform structure that supports as much weight as possible. Redesign, rebuild, and retest to improve the platform design.

Constraints/ Criteria:

- You are limited to materials list.
- Document your process.
- no clamping devices to aid construction
- platform must be 3" +/- 1/8" tall
- limited to the time allowed for construction
- Weight must be held for 15 seconds

Materials:

- 1 sheet of 8.5"x11" plain white paper
- 10 cm of tape

Tools:

- scissors
- rulers
- rubber bands
- pencils
- writing paper
- graph paper

Testing Procedures:

- You will place your platform on the table and test the height with the provided measuring device.
- Place a load on the structure as instructed.
- Record the highest weight held for at least 15 seconds.

Documentation Requirements:

_____ / 10 points - Orthographic Projection Sketches

_____ / 40 points - List each step of the engineering design method and describe your process

_____ / 20 points - Meets size requirements

_____ / 20 points - Tested in the prescribed manner

_____ / 10 points - Student Work Log

Main Unit Objective:

Students will use the [Engineering Design Loop](#).
Students will create a set of orthographic projection.
Students will identify example of biomimicry in their design.

VA Science SOLs:

LS.1

Introduction to Technology CTE Tasks/Competencies:

7, 10, 31-33, 46

Resources:

[Presentation on Engineering Design Loop](#)