Paper Tower

SKILLS AND ENGINEERING CONCEPTS DEVELOPED.

Involves designing and constructing a free standing tower from a single sheet of 8 ¹/₂ by 11 paper. Involves creative design, analysis of structural concepts, construction skills and concepts of stability.

OBJECTIVE

The objective of this project is to build the tallest free standing tower using only one sheet of 8 ¹/₂ by 11 paper and 6 inches of scotch tape. The tower may not be taped to the floor.

PROJECT DESCRIPTION

The challenge of this project is to design the tower to make optimum use of the single sheet of paper in order to achieve the greatest tower height. The design of the base will also be challenging as the tower must be free standing.

CONSTRUCTION

Each student will be provided with one 8 $\frac{1}{2}$ by 11 sheet of graph paper, scissors and 6 inches of scotch tape. The tape is to be used only to fasten the pieces of paper together and may not be used to provide extra height or as a structural member.

Each student should experiment, and several towers may be built prior to the development of a final design to be used for final testing. There is no limit to the number of towers that may be built prior to final testing, and students can request additional supplies.

PROJECT CONSTRAINTS

The towers constructed for testing must:

- Be constructed from a single sheet of 8 ¹/₂ by 11 paper.
- Not be taped to the floor.
- Be free standing for at least 5 seconds.

TESTING

- Each tower must be freestanding for at least 5 seconds.
- The height of each tower that stands for at least 5 seconds will be measured.
- Each student will be given 3 chances to have their tower stand for 5 seconds.