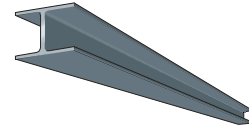
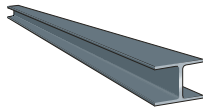


PAPER CELL/FOUNDATION

(Structures Activity)



A foundation is the most important part of a building. If it fails or is not constructed properly, the building will fall when the base fails. The former World Trade Center in New York survived a bomb blast on Feb. 26th, 1993 that created a crater 22 feet wide and five stories (approx 50') deep, it never effected the structure of the building. In fact, the building foundation was repaired and opened for use in less than a month.

Objective: Your goal today is to design a foundation capable of supporting as much weight as possible from a single sheet of paper and 20" of tape.

Time: 30 minutes construction

Parameters:

- * One sheet of 8 ½" X 11" paper
- * 20" cellophane tape
- * Maximum height of foundation (1")
- * Paper may not exceed two layers of thickness including points of contact from one piece to next.
- * Sketches must be produced before beginning and approved by teacher before beginning construction time.
- * Must be constructed by **groups of (2)** or (3) if uneven numbers in room.
- * All pieces must be connected so whole cell/foundation can be picked up with two fingers and moved.

Materials: One sheet of 8 ½" X 11" paper
20" cellophane (scotch) tape

Hints:

- * Paper is strongest when placed on its edge
- * Geometric shapes are best (think of beams and how they appear from the end view)
- * Use a ruler to measure and cut your strips. If uneven, the weight when placed will shift and cause shearing and faster collapse of foundation.