



Engineering Day 2019

Simple Machine Challenge

Goal:

Using the provided jig and miscellaneous equipment, your team is to lift the 50lb weight a height of 24" from the ground with as little effort as possible.

Rules/Judging:

1. Teams are to provide one 50ft section of 550 Paracord.
2. Students will work in groups of 2 or 3 and use only their rope and the available jigs and parts provided.
3. Students are encouraged to research and practice mechanical advantage techniques prior to Engineering Day.
4. Provided materials may or may not include: small pulleys, wheels, carabiner clips, bow shackles, wood dowels, spreader bars, additional rope, and similar equipment.
5. Measurements will be taken at a constant load at required lift height.
6. There is no limit to the amount or method of mechanical advantage used.
7. Teams will be required to attach weight and load scale with a 'bowline' style knot.
8. Teams will be limited to 15 minutes to design and assemble their simple machine.

Score:

Score will be recorded off of the load scale when minimum height of 24" is reached. Score will be shown in pounds and ounces.