

## Helicopter Competition STEM Engineering Strand

Goal: design, construct, and fly a helicopter that remains aloft for a maximum time

Team size: 1-2

### Construction Parameters:

1. Helicopters may be made from a student's own design or published plans.
2. No pre-glued joints or pre-covered surfaces are allowed.
3. No Boron filaments
4. A flat disc, large enough to cover a dime, must be the uppermost part of the helicopter – the part that would touch a flat ceiling first during flight.
5. You must make your own rotors. No pre-made rotors or rotor parts.
6. Sole power source = rubber bands. No mass restrictions on rubber bands.
7. Helicopters must be labeled with team identification or easily identified.

### Competition and Scoring

1. Competition will take place in the gym (probably).
2. Score is based on longest single flight.
3. On competition day, each team will be allowed \_\_\_\_\_ attempts.

### Some Available Equipment/Materials

- 3D Printers (library and D104)
- Laser Cutter (D104)
- Carvey mill (library)
- Scroll Saw
- Wood (various)
- Shrink wrap film and L-bar sealer
- CAD Software
  - Open Office
  - Rhino
  - Solidworks (CTE computers)
- Hot glue
- Cardboard
- Rubber bands
- Need something else? Just ask.