

DRONE-A-TEER COMPETITION

BettyFlies

THE RULES

A 'playing field' is established over a square mile course

Numbered discs are placed on the ground visible only from the air

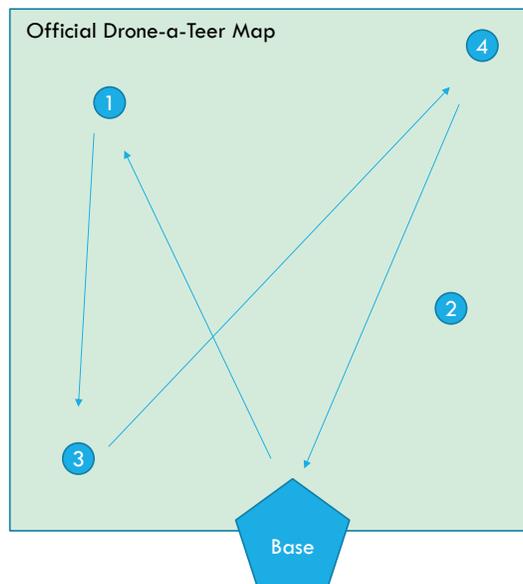
Teams are comprised of one male and one female

One student flies the drone the other is the navigator

The organizer establishes the sequence to be flown provides the team with the official course map, and starts the "race" sequencing each team

Each team finds the target disc in the assigned sequence and takes a photograph

Once the final disc has been photographed, the drone returns to base and the time is recorded



THE COMPETITION



For the Navigator

Quickly calculate optimum courses

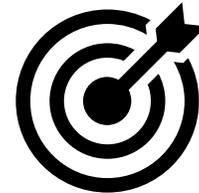
- Provide the pilot with the heading, the speed and time to target
- Monitor pilot speed and heading to make adjustments for variations
- Once Near target - assist in visual search
- If the disc is not spotted - develop a new strategy to return to target area
 - Either return to base and repeat or fly to an established visual reference and provide new course and time guidance

For the Pilot

Accurately fly the aircraft

- Hold a steady heading
- Hold a consistent speed
- Hold a consistent altitude
- Near target - Optimize search pattern to spot the disc
- Photograph the disc
- Repeat until all discs photographed in sequence

WINNING EXECUTION



The navigators STEM skills will provide a key competitive advantage

- Accurate calculation of heading and time will better position the team for finding each target disc
- Because the maps will not contain any GPS coordinates, more advanced STEM skills will allow a navigator to calculate the coordinates using sophisticated math skills and take advantage of the drones GPS to speed target identification
- These calculations will be accomplished under the time pressures of the race adding excitement and encouraging practicing the STEM skills before the race

Team coordination and strategy

- Team accuracy will determine how long it will take to visually identify and photograph each target disc
- Once near the target, each team will need to decide how long to look before returning to a reference point and make another attempt at positioning
- Variable team strategies will evolve to determine the best altitude, speed and search patterns for finding target discs