

3rd Grade Wright Stuff – Darts Target on the Wall (30 Minutes - Based on Team Schedule)

Description: Teams will build two paper planes to try and accurately hit a target. This event may take place outside, inside, or both depending on site restrictions for events. If the event takes place outside it may be delayed or canceled if inclement weather with rain or lightning predicted, but not wind.



Participants per Team: 2

Spirit of the competition:

- It is a rules violation if coaches, parents, mentors, or spectators enter the competition area. Talking to the team members any time during the competition. Violation of this rule will place the team below all other teams.

Safety Requirements:

Safety glasses labeled ANSI Z87.1+ (impact rated)

- All competitors must wear their eye protection during any competitor's flight phase of the competition.
- If a team does not have the required eye protection, they will be given the opportunity to obtain it, time allowing, but will not receive extra time.
- If a team is unable to obtain eye protection, the team will not compete and will receive a no-show score.



Team members must bring:

Pencils, a ruler/straight edge, and/or scissors.

Materials Provided:

1 - 8 ½ x 11-inch 20-pound copy paper for each team member.

A timer accurate to the nearest 1/100 of a second.

The Competition:

Teams will be trying to hit the center of a target between 3- and 8-meters distance.

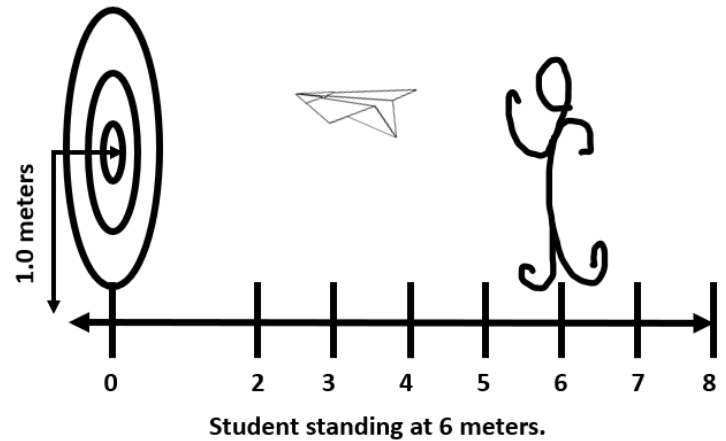
The estimated time to finish the written test and construction is 15 minutes and 45 minutes for the entire event.

Part 1 – Written Test and Construction Phase:

- The team members will take a test on the principles of glider flight.
- As a part of the written test the team will estimate the distance their “airplanes” will hit from the center of the target.
- The team will provide a chart showing testing results for the launching for a practice plane. The chart must contain a minimum of 5 practice launches and estimated flight times.
- The team members may use any type of plane design they desire except a wadded paper ball.
- The plane must have a wingspan of at least 10 cm.
- Team members must write their team designator on their plane.
- Team members may take practice up to 3 flights to adjust their plane.
- Practice flights will not count as an official flight.
- Team members must inform the Event Supervisor when they are ready for their official flight.

Part 2 – Flight Phase:

- All flights will start from a flat-footed position with both feet on the ground; No running or fast walking starts.
- Each team member will have 1 official launch.
- They will launch their planes at a target with a center point located 1 meter above the floor on a wall from their chosen start point between 2 and 8 meters from the wall.
- Each team member may choose a different start distance.
- Students may not artificially launch the plane.
- For tiebreaking purposes, the Event Supervisor will time the flight and timing will start when they see the plane leave the hand of a team member.
- During an official flight, time will continue if the plane bounces off an object but will stop when the plane gets stuck or comes to a complete rest.
- Team members will retrieve their plane only when prompted by the Event Supervisor after their official flight.



Scoring:

Teams will receive two weighted rankings. These rankings will be added to find the final placements. The team with the lowest sum will place first.

- 25% of team score: Teams receive a ranking based on their written test score.
- 75% of team score: Teams receive a ranking based on their distance to target. Teams with the smallest distance will rank ahead of all others measured to the nearest millimeter by the Event Supervisor or appointed judge.
 - Distance to target measurements will be the average of the two team members.
 - All teams will be ranked by their starting point, with teams starting further from the target receiving a better ranking. Team members may have different starting points.

Tiebreakers:

- Tiebreaker No. 1: The team with the closest measurement between their estimate and their distance to the center of the target for their first flight.
- Tiebreaker No. 2: Completeness of the team chart showing testing. Team members showing more testing details will be ranked above others. (Minimum requirement: 5 distance launches and 5 timed launches)

Scoring Example:

Equation: (written test ranking x 0.25) + (building ranking x 0.75) = final ranking

- Team A ranks 6th on the written test. This scores 1.5 ranking points. The team also scores 5th on their tower build. This scores 3.75 ranking points. The team's final ranking score is 5.25.
- Team B ranks 2nd on the written test. This scores 0.5 ranking points. The team also scores 7th on their tower build. This scores 5.25 ranking points. The team's final ranking score is 5.75.
- Team A is placed first in the rankings.

Possible Resources

Division A will not release previous tests, or the exact resources used by the Event Supervisor or test writer for any events. The listed resources are meant as a starting point. It is up to the competitor to research further.

- [Basic dart, Flying Wing](#)
- [Dart Paper Airplane](#)