

## Delta Dart

Grades 6+ | Students Served: 35

MIDDLE LEVEL

HIGH SCHOOL



### Essential Questions

What are the differences in flight time across three launches?

How can the wings be modified to improve the distance traveled?

How do different sizes of propellers affect a plane's movement?

### Career Connections:

- Aeronautical Engineer
- Aircraft Technician
- Air Traffic Controller
- Pilot

### STEM Connections

#### Science

- Forces of flight
- Energy transformations
- Newton's laws

#### Technology

- Historical perspectives
- Testing and evaluating
- Materials science

#### Engineering

- Technological design
- Problem solving
- Modeling

#### Math

- Geometric shapes
- Symmetry
- Measurements



## Sample Activity

### Delta Dart Competition

#### Challenge

Students construct the Delta Dart Model Airplane and observe, test, record, and change it as needed to obtain the longest possible flight.

- Students create a flight log for each flight of their Delta Dart, recording the flight paths and flight times as well as the changes made to the plane between flights.
- Students can alter the wings by trimming the airplane or by adding sticky notes to the wings to determine how changing the airplane affects its flight.
- Discussion
- What is the optimal combination of variables for the longest flight?