



Flight Dynamics - Shoebox Glider Challenge Badge

Integrating Physics, Inquiry, and the Engineering Design Process

The earner of this badge has:

1. Participated in the Part 1 NASA challenge videoconference, which included discussing historic NASA flight vehicle designs, applying flight aerodynamics terminology, answering aerodynamics questions, and performing sample glide slope and aspect ratio calculations.
2. Designed and documented the construction and testing of a shoebox glider via data tables, pictures, and videos and describing at least two design modifications to the original design to improve the calculated glide slope and aspect ratios.
3. Exercised appropriate teamwork and time and materials management skills in testing, creating, and rehearsing a team results presentation.
4. Participated in the Part 2 NASA challenge videoconference, including showing the team glider to the NASA specialist, giving a formal presentation of the different design and testing phases, reporting the glide ratio for each model, and proposing possible future modifications.

Related Activities:

You might also want to try some of the activities at NASA Glenn Research Center -
The Beginner's Guide to Aeronautics: <http://www.grc.nasa.gov/WWW/K-12/airplane/index.html>

Current Activities:

NASA Flight Dynamics/Shoebox Glider Challenge Videoconference **Part 1:** <http://goo.gl/uOLWp>

NASA Flight Dynamics/Shoebox Glider Challenge Videoconference **Part 2:** <http://goo.gl/clrFJ>



This badge required a minimum of 10 hours of work.