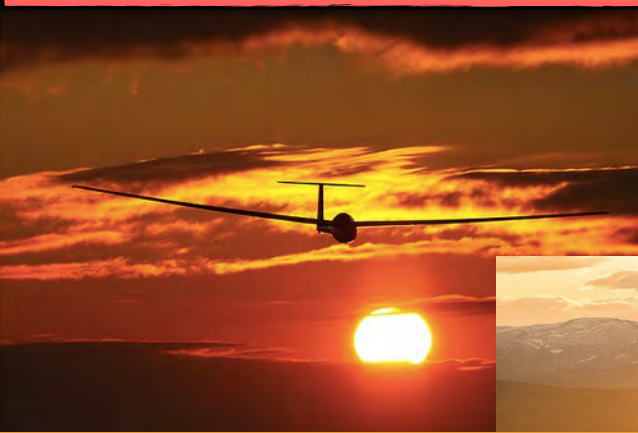


Soaring Over the Desert

8th
Grade
Glider Project



Southern California Soaring Academy



Crystallaire Airport



Llano, California

What are the forces in our world and how do they affect us?

In what ways has our ability to fly changed the world?

How can I investigate dynamics of flight using historic flying machines, current aircraft, and birds?

Learning Goals:

Learners will work in groups of 2 or 3 to show their understanding of:

- Newton's Laws of Motion
- Balanced & Unbalanced Forces
- Progression of Wing Design
- The Three Forces of Flight
- Understanding of the Engineering Design Process
- Two Research Papers
- Principles of Lift
 - Bernoulli vs Coanda vs Angle of Attack
 - Natural elements of Lift

Check Points:

Each learner will be responsible for the following: (these will be discussed in detail: rubric and check-ins)

1. Turning in a detailed understanding of the "learning goals" objectives.
2. Detailed Aviation Log (weekly check-ins)
3. Paper Airplane activities and contest to understand flight principles. Must be diagramed and logged.
4. Individual Rough Drafts and Final Model Required from Each Learner
5. Weekly Peer Edit Stations for Essay Refinement and Revision.
6. Daily Reflections

Product:

1. You and your group must each create a Three-Dimensional Glider that displays and teaches the key principles of forces, motion, and aeronautics. [These exhibits will be on display and are going to be viewed by professionals in the Aviation Industry.](#)
2. Personal Extension: (Voice and Choice)
You will choose from the below list of facilitator lead extensions or be given the opportunity to choose your own personal extension.
[Wall Mosaic, Jewelry, ArduSat, Flight Simulator, Prandle Wing Replication, Interactive Experiment Tables.](#)
3. Two Research Papers MLA Formatted with Cited Sources.

