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Flight Unit Plan

Days	Objectives	Assessments	Activities	Resources
2	Students will be able to: ❑ Identify trends in the historical development of aircraft.	o Rubric and discussion	1. Teacher delivers lesson on the history of flight.	**Materials** **Handouts** **Software** History of Aviation PowerPoint **Print** **Online** http://www.allstar.fiu.edu/aerojava/history3.htm **Video**
3-5	Students will be able to: ❑ Identify concepts and controls for piloting a powered aircraft ❑ Simulate concepts of navigation using a flight simulator.	o Rubric for successful takeoff, navigation, and landing	2. Students use flight simulation software to demonstrate takeoff, navigation, and flight.	**Materials** **Handouts** Simulation Controls **Software** Flight Simulator **Print** **Online**

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				Video
3	Students will be able to: ❑ Identify lift, weight, thrust, and drag as desired or undesired forces that act on an aircraft in flight. ❑ Explain how lift can be produced using an airfoil shape.	o Quiz labeling four forces, desired and undesired o FoilSim software printout and rubric	3. Teacher delivers lesson on four forces of flight. 4. Students construct small paper airfoils to demonstrate lift. 5. Students engage in FoilSim tutorials.	**Materials** Paper, tape and a pencil for each student **Handouts** Forces acting on an aircraft **Software** **Print** **Online** FoilSim Software available from: http://www.grc.nasa.gov/WWW/K-12/FoilSim/index.html **Video** Futures: Aircraft Design and Automotive Design from PBS
20-25	Students will be able to: ❑ Design a powered aircraft.	o Rubrics for device and documentation for Powered Flight activity	6. Students participate in the Powered Flight design activity.	**Materials** As per design activity Motors and propellers available at www.kelvin.com Power Supply **Handouts** Powered Flight Design Activity **Software** FoilSim **Print**

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				Online http://www.dfrc.nasa.gov/gallery/photo/index.html **Video**
5-7	Students will be able to: ❑ Complete a short technical report ❑ Complete a technical presentation.	o Rubric for technical report content o Rubric for presentation	7. Students prepare a one page technical specifications sheet about their design. 8. Students prepare a PowerPoint presentation about their aircraft. 9. Students deliver presentations to the class.	**Materials** **Handouts** Aircraft Specifications Sheet **Software** Microsoft Word PowerPoint **Print** **Online** **Video**
5	Students will be able to: ❑ Prepare for "Flight Day" production	o Rubric for flight day contribution	10. Students will each prepare a contribution to the "Flight Day" event. 11. Students will participate in "Flight Day".	**Materials** As necessary for student contributions **Handouts** **Software** **Print** **Online** **Video** Previous year Flight Day