

Future Flight Design			
1999 Science			
Core Curriculum			
New York Science			
Grades 5-8			
Activity/Lesson	State	Standards	
Air Transportation Problem	NY	SCI.5-8.1.M2.1a	Use inductive reasoning to construct, evaluate, and validate conjectures and arguments, recognizing that patterns and relationships can assist in explaining and extending mathematical phenomena: interpolate and extrapolate from data
Air Transportation Problem	NY	SCI.5-8.1.S2.2b	design scientific investigations (e.g., observing, describing, and comparing; collecting samples; seeking more information, conducting a controlled experiment; discovering new objects or phenomena; making models)
Air Transportation Problem	NY	SCI.5-8.1.S3.1a	organize results, using appropriate graphs, diagrams, data tables, and other models to show relationships
Air Transportation Problem	NY	SCI.5-8.1.S3.2a	accurately describe the procedures used and the data gathered
Air Transportation Problem	NY	SCI.5-8.1.S3.2b	identify sources of error and the limitations of data collected
Air Transportation Problem	NY	SCI.5-8.1.S3.2c	evaluate the original hypothesis in light of the data
Air Transportation Problem	NY	SCI.5-8.2.1.1	Use a range of equipment and software to integrate several forms of information in order to create good-quality audio, video, graphic, and text-based presentations.
Air Transportation Problem	NY	SCI.5-8.2.1.4c	use the collected data to communicate a scientific concept
Air Transportation Problem	NY	SCI.5-8.2.1.5	Use simple modeling programs to make predictions.
Air Transportation Problem	NY	SCI.5-8.2.2.1b	identify and explain sources of error in a data collection
Air Transportation Problem	NY	SCI.5-8.2.2.2	Identify advantages and limitations of data-handling programs and graphics programs.
Air Transportation Problem	NY	SCI.5-8.2.3.1	Use graphical, statistical, and presentation software to present projects to fellow classmates.
Air Transportation Problem	NY	SCI.5-8.6.6.1	Determine the criteria and constraints and make trade-offs to determine the best decision.
Air Transportation Problem	NY	SCI.5-8.7.1.2	Make informed consumer decisions by seeking answers to appropriate questions about products, services, and systems; determining the cost/benefit and risk/benefit tradeoffs; and applying this knowledge to a potential purchase.

Air Transportation Problem	NY	SCI.5-8.7.2.1b	Gathering and Processing Information: Accessing information from printed media, electronic data bases, and community resources and using the information to develop a definition of the problem and to research possible solutions.
Air Transportation Problem	NY	SCI.5-8.7.2.1c	Generating and Analyzing Ideas: Developing ideas for proposed solutions, investigating ideas, collecting data, and showing relationships and patterns in the data.
Aircraft Design Problem	NY	SCI.5-8.1.T1.3b	evaluate alternatives based on the constraints of design
Aircraft Design Problem	NY	SCI.5-8.1.T1.4a	design and construct a model of the product or process
Aircraft Design Problem	NY	SCI.5-8.6.1.1	Describe the differences between dynamic systems and organizational systems.
Aircraft Design Problem	NY	SCI.5-8.6.1.2	Describe the differences and similarities among engineering systems, natural systems, and social systems.
Aircraft Design Problem	NY	SCI.5-8.6.1.3	Describe the differences between open-and closed-loop systems.
Aircraft Design Problem	NY	SCI.5-8.6.3.1	Cite examples of how different aspects of natural and designed systems change at different rates with changes in scale.
Aircraft Design Problem	NY	SCI.5-8.6.6.1	Determine the criteria and constraints and make trade-offs to determine the best decision.
Aircraft Design Problem	NY	SCI.5-8.7.1.2	Make informed consumer decisions by seeking answers to appropriate questions about products, services, and systems; determining the cost/benefit and risk/benefit tradeoffs; and applying this knowledge to a potential purchase.
Aircraft Design Problem	NY	SCI.5-8.7.1.3	Design solutions to real-world problems of general social interest related to home, school, or community using scientific experimentation to inform the solution and applying mathematical concepts and reasoning to assist in developing a solution.
Aircraft Design Problem	NY	SCI.5-8.4.P5.1b	The motion of an object can be described by its position, direction of motion, and speed.
Aircraft Design Problem	NY	SCI.5-8.4.P5.1c	An object's motion is the result of the combined effect of all forces acting on the object. A moving object that is not subjected to a force will continue to move at a constant speed in a straight line. An object at rest will remain at rest.
Aircraft Design Problem	NY	SCI.5-8.4.P5.1d	Force is directly related to an object's mass and acceleration. The greater the force, the greater the change in motion.

Aircraft Design Problem	NY	SCI.5-8.4.P5.2f	Machines can change the direction or amount of force, or the distance or speed of force required to do work.
-------------------------	----	-----------------	--