Exploring Aeronautics			
2006 Mathematics			
Program of Studies			
Kentucky Mathematics			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	KY	MA.5.MA-5-M-S-MPA7	estimate weight, length, perimeter, area and angles using appropriate units of measurement
The Resource Center	KY	MA.5.MA-5-NPO-U-1	numbers, ways of representing numbers, relationships between numbers and number systems are means of representing real-world quantities.
The Resource Center	KY	MA.5.MA-5-NPO-S-NS1	read, write, model, order, compare (using relative magnitude) and apply multiple representations of whole numbers
The Resource Center	KY	MA.5.MA-5-NPO-S-NS5	explore, investigate, compare, relate and apply relationships among whole numbers, fractions, decimals and percents
The Resource Center	KY	MA.5.MA-5-DAP-U-1	quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
Science of Flight	KY	MA.5.MA-5-M-S-SM1	relate and convert units (e.g., linear, volume, weight) within a measurement system (e.g., 125 cm = 1m 25 cm)
Science of Flight	KY	MA.5.MA-5-DAP-U-2	the collection, organization, interpretation and display of data can be used to answer questions.
Science of Flight	KY	MA.5.MA-5-DAP-U-6	probability can be used to make decisions or predictions, or to draw conclusions.
Science of Flight	KY	MA.5.MA-5-DAP-S-DR1	choose and use appropriate means to collect and represent data
Integrating with Aeronautics	KY	MA.5.MA-5-NPO-U-3	computing fluently and making reasonable estimates increases the ability to solve realistic problems encountered in everyday life.
Integrating with Aeronautics	KY	MA.5.MA-5-NPO-S-NS1	read, write, model, order, compare (using relative magnitude) and apply multiple representations of whole numbers
Integrating with Aeronautics	KY	MA.5.MA-5-NPO-S-NS4	explore the use of simple ratios to describe problem situations
Integrating with Aeronautics	KY	MA.5.MA-5-NPO-S-NS5	explore, investigate, compare, relate and apply relationships among whole numbers, fractions, decimals and percents
Scientific Method(124-144)	KY	MA.5.MA-5-DAP-S-DR3	pose questions and choose an appropriate method to collect, organize and display student-collected data to answer the questions
Scientific Method(124-144)	KY	MA.5.MA-5-DAP-S-DR4	analyze and make inferences from data displays (e.g., drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs)
Scientific Method(124-144)	KY	MA.5.MA-5-DAP-S-DR5	use a variety of tools (e.g., graph paper, manipulatives, models, computer) to construct data displays (e.g., pictographs, bar graphs, line plots, line graphs, Venn diagrams, tables)

Scientific Method(124-144)	KY	MA.5.MA-5-DAP-S-CD1	draw conclusions and make predictions based on data
Scientific Method(124-144)	KY	MA.5.MA-5-DAP-S-ES1	pose questions and collect, organize, display and interpret data to answer the questions
Exploring Aeronautics			
2006 Mathematics			
Program of Studies			
Kentucky Mathematics			
Grade 6			
Activity/Lesson	**State**	**Standards**	
The Resource Center	KY	MA.6.MA-6-NPO-U-1	numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
The Resource Center	KY	MA.6.MA-6-NPO-S-NS1	continue to develop number sense using fractions, decimals and percents, including percents greater than 100% and improper fractions
The Resource Center	KY	MA.6.MA-6-NPO-S-NS5	compare, order and convert between whole numbers, fractions, decimals and percents using concrete materials, drawings or pictures and mathematical symbols (e.g., <, "less than or equal to", >, "greater than or equal to", =, "not equal to", order on a number line)
The Resource Center	KY	MA.6.MA-6-DAP-U-1	quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
Science of Flight	KY	MA.6.MA-6-DAP-U-2	the collection, organization, interpretation and display of data can be used to answer questions.
Science of Flight	KY	MA.6.MA-6-DAP-U-6	probability can be used to make decisions or predictions or to draw conclusions.
Science of Flight	KY	MA.6.MA-6-DAP-S-DR2	collect, organize, construct, analyze and interpret data in a variety of graphical methods, including line plots, line graphs, circle graphs, bar graphs and stem-and-leaf plots
Science of Flight	KY	MA.6.MA-6-DAP-S-CD1	make predictions, draw conclusions and verify results from statistical data and probability experiments
Science of Flight	KY	MA.6.MA-6-DAP-S-ES1	pose questions; collect, organize and display data
Integrating with Aeronautics	KY	MA.6.MA-6-NPO-U-3	computing fluently and making reasonable estimates with fractions, decimals and whole numbers increases the ability to solve realistic problems encountered in everyday life.
Integrating with Aeronautics	KY	MA.6.MA-6-NPO-S-RP2	develop meaning of ratio (e.g., describe and compare two sets of data using ratios and appropriate notations: 3:5, 3/5, 3 to 5)
Integrating with Aeronautics	KY	MA.6.MA-6-NPO-S-RP3	define and apply ratios to solve real-world problems
Integrating with Aeronautics	KY	MA.6.MA-6-M-U-3	measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

Integrating with Aeronautics	KY	MA.6.MA-6-M-S-MPA2	read and use measurement tools (e.g., rulers, scales, protractors, angle rulers)
Integrating with Aeronautics	KY	MA.6.MA-6-M-S-MPA5	estimate measurements in standard units, including fractions and decimals
Scientific Method(124-144)	KY	MA.6.MA-6-DAP-U-2	the collection, organization, interpretation and display of data can be used to answer questions.
Scientific Method(124-144)	KY	MA.6.MA-6-DAP-U-5	for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
Scientific Method(124-144)	KY	MA.6.MA-6-DAP-S-DR2	collect, organize, construct, analyze and interpret data in a variety of graphical methods, including line plots, line graphs, circle graphs, bar graphs and stem-and-leaf plots
Scientific Method(124-144)	KY	MA.6.MA-6-DAP-S-DR4	relate different representations of data (e.g., tables, graphs, diagrams, plots)
Scientific Method(124-144)	KY	MA.6.MA-6-DAP-S-CD1	make predictions, draw conclusions and verify results from statistical data and probability experiments
Exploring Aeronautics			
2006 Mathematics			
Program of Studies			
Kentucky Mathematics			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	KY	MA.7.MA-7-M-S-MPA7	investigate and demonstrate fixed area with changing perimeter and fixed perimeter with changing area
The Resource Center	KY	MA.7.MA-7-NPO-U-1	numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
The Resource Center	KY	MA.7.MA-7-NPO-S-NS5	compare, order and determine equivalent relationships among fractions, decimals and percents
The Resource Center	KY	MA.7.MA-7-NPO-S-NS6	provide examples of and use models, diagrams and symbols (e.g., number lines, 10 by 10 grids, rectangular arrays, number sentences) to describe and write equivalent forms of integers, fractions, decimals, percents, square roots and pi
Science of Flight	KY	MA.7.MA-7-NPO-S-RP3	develop proportional reasoning and apply to real-world and mathematical problems (e.g., rates, scaling, similarity)
Science of Flight	KY	MA.7.MA-7-DAP-U-6	probability can be used to make decisions or predictions or to draw conclusions.
Science of Flight	KY	MA.7.MA-7-DAP-S-CD1	make predictions, draw conclusions and verify results from statistical data and probability experiments
Science of Flight	KY	MA.7.MA-7-DAP-S-ES1	pose questions; collect, organize and display data

Science of Flight	KY	MA.7.MA-7-DAP-S-P1	make predictions, draw conclusions and verify results from statistical data and probability experiments
Integrating with Aeronautics	KY	MA.7.MA-7-NPO-U-3	computing fluently and making reasonable estimates with fractions, decimals, percents and integers increases the ability to solve realistic problems encountered in everyday life.
Integrating with Aeronautics	KY	MA.7.MA-7-NPO-U-4	proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.
Integrating with Aeronautics	KY	MA.7.MA-7-NPO-S-NS5	compare, order and determine equivalent relationships among fractions, decimals and percents
Integrating with Aeronautics	KY	MA.7.MA-7-G-S-SR4	describe, provide examples of and identify elements (e.g., vertices, angles, faces, edges, congruent parts) of common three-dimensional figures (spheres, cones, cylinders, prisms and pyramids)
Integrating with Aeronautics	KY	MA.7.MA-7-G-S-CG2	apply graphing in the coordinate system to solve real-world and/or mathematical problems
Scientific Method(124-144)	KY	MA.7.MA-7-DAP-U-2	the collection, organization, interpretation and display of data can be used to answer questions.
Scientific Method(124-144)	KY	MA.7.MA-7-DAP-U-3	the choice of data display can affect the visual message communicated.
Scientific Method(124-144)	KY	MA.7.MA-7-DAP-U-5	for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
Scientific Method(124-144)	KY	MA.7.MA-7-DAP-U-6	probability can be used to make decisions or predictions or to draw conclusions.
Scientific Method(124-144)	KY	MA.7.MA-7-DAP-S-DR1	collect, organize, construct, analyze and interpret data and data displays in a variety of graphical methods, including circle graphs, multiple line graphs, double bar graphs and double stem-and-leaf plots
Exploring Aeronautics			
2006 Mathematics			
Program of Studies			
Kentucky Mathematics			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	KY	MA.8.MA-8-M-S-MPA4	determine the area of triangles and quadrilaterals
Wings(177-208)	KY	MA.8.MA-8-M-S-MPA7	develop and apply formulas for volume and surface area of cubes, cylinders and right rectangular prisms; investigate relationships between and among them
Tools of Aeronautics(257-326)	KY	MA.8.MA-8-G-S-SR5	apply proportional reasoning to solve problems involving scale models and real objects and scale drawings and similar two-dimensional figures

Tools of Aeronautics(257-326)	KY	MA.8.MA-8-DAP-S-P1	make predictions, draw conclusions and verify results from probability experiments or simulations, making use of technology as appropriate
The Tools of Aeronautics	KY	MA.8.MA-8-G-S-SR5	apply proportional reasoning to solve problems involving scale models and real objects and scale drawings and similar two-dimensional figures
The Tools of Aeronautics	KY	MA.8.MA-8-DAP-S-P1	make predictions, draw conclusions and verify results from probability experiments or simulations, making use of technology as appropriate
The Resource Center	KY	MA.8.MA-8-NPO-U-1	numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
The Resource Center	KY	MA.8.MA-8-NPO-S-NS1	continue to develop number sense to include irrational numbers (e.g., square roots, cube roots, pi)
The Resource Center	KY	MA.8.MA-8-NPO-S-NS2	provide examples of, describe and compare irrational and rational numbers (e.g., magnitude, order on a number line, scientific notation, very large and very small integers, numbers close to zero)
Science of Flight	KY	MA.8.MA-8-G-S-SR5	apply proportional reasoning to solve problems involving scale models and real objects and scale drawings and similar two-dimensional figures
Science of Flight	KY	MA.8.MA-8-DAP-U-2	the collection, organization, interpretation and display of data can be used to answer questions.
Science of Flight	KY	MA.8.MA-8-DAP-U-6	probability can be used to make decisions or predictions or to draw conclusions.
Science of Flight	KY	MA.8.MA-8-DAP-S-DR4	relate different representations of data (e.g., tables, graphs, diagrams, plots) and explain how misleading representations affect interpretations and conclusions about data
Science of Flight	KY	MA.8.MA-8-DAP-S-CD2	make predictions, draw conclusions and verify results from statistical data and probability experiments, making use of technology as appropriate
Integrating with Aeronautics	KY	MA.8.MA-8-NPO-U-3	computing fluently and making reasonable estimates with fractions, decimals, percents and integers increases the ability to solve realistic problems encountered in everyday life.
Integrating with Aeronautics	KY	MA.8.MA-8-NPO-U-4	proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.
Integrating with Aeronautics	KY	MA.8.MA-8-NPO-S-NS2	provide examples of, describe and compare irrational and rational numbers (e.g., magnitude, order on a number line, scientific notation, very large and very small integers, numbers close to zero)

Integrating with Aeronautics	KY	MA.8.MA-8-M-S-MPA6	develop and apply the Pythagorean theorem
Scientific Method(124-144)	KY	MA.8.MA-8-DAP-U-2	the collection, organization, interpretation and display of data can be used to answer questions.
Scientific Method(124-144)	KY	MA.8.MA-8-DAP-U-3	the choice of data display can affect the visual message communicated.
Scientific Method(124-144)	KY	MA.8.MA-8-DAP-U-5	for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
Scientific Method(124-144)	KY	MA.8.MA-8-DAP-U-6	probability can be used to make decisions or predictions or to draw conclusions.