Exploring Aeronautics			
2005 Mathematics			
Grade Level and High School Content Expectations			
Michigan Mathematics			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Science of Flight	MI	MA.5.M.UN.05.04	Convert measurements of length, weight, area, volume, and time within a given system using easily manipulated numbers.
Integrating with Aeronautics	MI	MA.5.N.ME.05.23	Express ratios in several ways given applied situations, e.g., 3 cups to 5 people, 3 : 5, 3/5; recognize and find equivalent ratios.
Integrating with Aeronautics	MI	MA.5.M.UN.05.04	Convert measurements of length, weight, area, volume, and time within a given system using easily manipulated numbers.
Integrating with Aeronautics	MI	MA.5.D.RE.05.01	Read and interpret line graphs, and solve problems based on line graphs, e.g., distance-time graphs, and problems with two or three line graphs on same axes, comparing different data.
Integrating with Aeronautics	MI	MA.5.D.AN.05.03	Given a set of data, find and interpret the mean (using the concept of fair share) and mode.
Integrating with Aeronautics	MI	MA.5.D.AN.05.04	Solve multi-step problems involving means.
Scientific Method(124-144)	MI	MA.5.D.RE.05.01	Read and interpret line graphs, and solve problems based on line graphs, e.g., distance-time graphs, and problems with two or three line graphs on same axes, comparing different data.
Scientific Method(124-144)	MI	MA.5.D.AN.05.03	Given a set of data, find and interpret the mean (using the concept of fair share) and mode.
Exploring Aeronautics			
2005 Mathematics			
Grade Level and High School Content Expectations			
Michigan Mathematics			
Grade 6			
Activity/Lesson	**State**	**Standards**	
Fundamentals of Aeronautics (145-176)	MI	MA.6.A.RP.06.08	Understand that relationships between quantities can be suggested by graphs and tables.
The Resource Center	MI	MA.6.N.ME.06.05	Order rational numbers and place them on the number line.
The Resource Center	MI	MA.6.N.FL.06.09	Add and multiply integers between -10 and 10; subtract and divide integers using the related facts. Use the number line and chip models for addition and subtraction.
The Resource Center	MI	MA.6.N.ME.06.17	Locate negative rational numbers (including integers) on the number line; know that numbers and their negatives add to 0, and are on opposite sides and at equal distance from 0 on a number line.

Integrating with Aeronautics	MI	MA.6.N.ME.06.05	Order rational numbers and place them on the number line.
Integrating with Aeronautics	MI	MA.6.N.FL.06.09	Add and multiply integers between -10 and 10; subtract and divide integers using the related facts. Use the number line and chip models for addition and subtraction.
Integrating with Aeronautics	MI	MA.6.N.ME.06.11	Find equivalent ratios by scaling up or scaling down.
Integrating with Aeronautics	MI	MA.6.N.ME.06.17	Locate negative rational numbers (including integers) on the number line; know that numbers and their negatives add to 0, and are on opposite sides and at equal distance from 0 on a number line.
Integrating with Aeronautics	MI	MA.6.N.ME.06.20	Know that the absolute value of a number is the value of the number ignoring the sign; or is the distance of the number from 0.
Integrating with Aeronautics	MI	MA.6.A.FO.06.04	Distinguish between an algebraic expression and an equation.
Exploring Aeronautics			
2005 Mathematics			
Grade Level and High School Content Expectations			
Michigan Mathematics			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Fundamentals of Aeronautics (145-176)	MI	MA.7.D.RE.07.01	Represent and interpret data using circle graphs, stem and leaf plots, histograms, and box-and-whisker plots, and select appropriate representation to address specific questions.
Tools of Aeronautics(257-326)	MI	MA.7.N.FL.07.05	Solve proportion problems using such methods as unit rate, scaling, finding equivalent fractions, and solving the proportion equation a/b = c/d; know how to see patterns about proportional situations in tables.
Tools of Aeronautics(257-326)	MI	MA.7.G.TR.07.04	Solve problems about similar figures and scale drawings.
The Tools of Aeronautics	MI	MA.7.N.FL.07.05	Solve proportion problems using such methods as unit rate, scaling, finding equivalent fractions, and solving the proportion equation a/b = c/d; know how to see patterns about proportional situations in tables.
The Tools of Aeronautics	MI	MA.7.G.TR.07.04	Solve problems about similar figures and scale drawings.
Science of Flight	MI	MA.7.N.FL.07.05	Solve proportion problems using such methods as unit rate, scaling, finding equivalent fractions, and solving the proportion equation a/b = c/d; know how to see patterns about proportional situations in tables.
Science of Flight	MI	MA.7.G.TR.07.04	Solve problems about similar figures and scale drawings.
Integrating with Aeronautics	MI	MA.7.A.PA.07.01	Recognize when information given in a table, graph, or formula suggests a directly proportional or linear relationship.

Integrating with Aeronautics	MI	MA.7.A.RP.07.02	Represent directly proportional and linear relationships using verbal descriptions, tables, graphs, and formulas, and translate among these representations.
Integrating with Aeronautics	MI	MA.7.A.FO.07.12	Add, subtract, and multiply simple algebraic expressions of the first degree, e.g., (92x + 8y) – 5x + y, or x(x + 2) and justify using properties of real numbers.
Scientific Method(124-144)	MI	MA.7.D.RE.07.01	Represent and interpret data using circle graphs, stem and leaf plots, histograms, and box-and-whisker plots, and select appropriate representation to address specific questions.
Exploring Aeronautics			
2005 Mathematics			
Grade Level and High School Content Expectations			
Michigan Mathematics			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	MI	MA.8.G.SR.08.07	Understand the concept of surface area, and find the surface area of prisms, cones, spheres, pyramids, and cylinders.
Science of Flight	MI	MA.8.D.AN.08.02	Recognize practices of collecting and displaying data that may bias the presentation or analysis.
Integrating with Aeronautics	MI	MA.8.N.ME.08.04	Understand that irrational numbers are those that cannot be expressed as the quotient of two integers, and cannot be represented by terminating or repeating decimals; approximate the position of familiar irrational numbers, e.g., square root of 2, square root of 3, pi, on the number line.
Integrating with Aeronautics	MI	MA.8.N.FL.08.05	Estimate and solve problems with square roots and cube roots using calculators.
Integrating with Aeronautics	MI	MA.8.G.GS.08.01	Understand at least one proof of the Pythagorean Theorem; use the Pythagorean Theorem and its converse to solve applied problems including perimeter, area, and volume problems.
Integrating with Aeronautics	MI	MA.8.G.LO.08.02	Find the distance between two points on the coordinate plane using the distance formula; recognize that the distance formula is an application of the Pythagorean Theorem.
Scientific Method(124-144)	MI	MA.8.D.AN.08.02	Recognize practices of collecting and displaying data that may bias the presentation or analysis.