

Exploring Aeronautics			
2006 Mathematics			
Grade Level and Grade Span Expectations			
New Hampshire Mathematics			
Grades 3-5			
Activity/Lesson	State	Standards	
The Resource Center	NH	MA.3-5.M(CCR)-5-2.c	Recognize equivalent representations of concepts and procedures and translate among them as appropriate (for example, understand how the addition of whole numbers, fractions, and decimals are related).
Integrating with Aeronautics	NH	MA.3-5.M(PRP)-5-2.a	Draw conclusions and solve problems using elementary deductive reasoning and reasoning by analogy.
Integrating with Aeronautics	NH	MA.3-5.M(PRP)-5-2.d	Recognize the pervasive use and power of reasoning as a part of mathematics.
Integrating with Aeronautics	NH	MA.3-5.M(CCR)-5-2.c	Recognize equivalent representations of concepts and procedures and translate among them as appropriate (for example, understand how the addition of whole numbers, fractions, and decimals are related).
Exploring Aeronautics			
2006 Mathematics			
Grade Level and Grade Span Expectations			
New Hampshire Mathematics			
Grade 5			
Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	NH	MA.5.M:DSP:5:3a	Organizes and displays data using tables, bar graphs, or line graphs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Fundamentals of Aeronautics (145-176)	NH	MA.5.M:DSP:5:3b	Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M:DSP:5:1.
Fundamentals of Aeronautics (145-176)	NH	MA.5.M:DSP:5:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.

Tools of Aeronautics(257-326)	NH	MA.5.M:G&M:5:5	Demonstrates conceptual understanding of similarity by describing the proportional effect on the linear dimensions of triangles and rectangles when scaling up or down while preserving angle measures, or by solving related problems (including applying scales on maps). Describes effects using models or explanations.
The Tools of Aeronautics	NH	MA.5.M:G&M:5:5	Demonstrates conceptual understanding of similarity by describing the proportional effect on the linear dimensions of triangles and rectangles when scaling up or down while preserving angle measures, or by solving related problems (including applying scales on maps). Describes effects using models or explanations.
The Resource Center	NH	MA.5.M:N&O:5:2	Demonstrates understanding of the relative magnitude of numbers by ordering, comparing, or identifying equivalent positive fractional numbers, decimals, or benchmark percents within number formats (fractions to fractions, decimals to decimals, or percents to percents); or integers in context using models or number lines.
Science of Flight	NH	MA.5.M:G&M:5:5	Demonstrates conceptual understanding of similarity by describing the proportional effect on the linear dimensions of triangles and rectangles when scaling up or down while preserving angle measures, or by solving related problems (including applying scales on maps). Describes effects using models or explanations.
Science of Flight	NH	MA.5.M:DSP:5:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Integrating with Aeronautics	NH	MA.5.M:N&O:5:2	Demonstrates understanding of the relative magnitude of numbers by ordering, comparing, or identifying equivalent positive fractional numbers, decimals, or benchmark percents within number formats (fractions to fractions, decimals to decimals, or percents to percents); or integers in context using models or number lines.

Integrating with Aeronautics	NH	MA.5.M:N&O:5:3b	Demonstrates conceptual understanding of mathematical operations by describing or illustrating the meaning of a remainder with respect to division of whole numbers using models, explanations, or solving problems.
Integrating with Aeronautics	NH	MA.5.M:N&O:5:8	Applies properties of numbers (odd, even, and divisibility) and field properties (commutative, associative, identity, and distributive) to solve problems and to simplify computations.
Integrating with Aeronautics	NH	MA.5.M:G&M:5:3	Uses properties or attributes (shape of bases, number of lateral faces, or number of bases) to identify, compare, or describe three-dimensional shapes (rectangular prisms, triangular prisms, cylinders, spheres, pyramids, or cones).
Integrating with Aeronautics	NH	MA.5.M:F&A:5:1	Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables, sequences, or in problem situations; and writes a rule in words or symbols for finding specific cases of a linear relationship.
Integrating with Aeronautics	NH	MA.5.M:F&A:5:3	Demonstrates conceptual understanding of algebraic expressions by using letters to represent unknown quantities to write linear algebraic expressions involving any two of the four operations; or by evaluating linear algebraic expressions using whole numbers.
Integrating with Aeronautics	NH	MA.5.M:F&A:5:4	Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions (expressions consistent with the parameters of M:F&A:5-3), by solving one-step linear equations of the form $ax = c$, $x \pm b = c$, or $x/a = c$, where a , b , and c are whole numbers with a not equal to 0; or by determining which values of a replacement set make the equation (multi-step of the form $ax \pm b = c$ where a , b , and c are whole numbers with a not equal to 0) a true statement (e.g., $2x + 3 = 11$, $\{x: x = 2, 3, 4, 5\}$).
Intro to Aeronautics (109-123)	NH	MA.5.M:DSP:5:3b	Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M:DSP:5:1.
Scientific Method(124-144)	NH	MA.5.M:DSP:5:3a	Organizes and displays data using tables, bar graphs, or line graphs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Scientific Method(124-144)	NH	MA.5.M:DSP:5:3b	Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M:DSP:5:1.

Exploring Aeronautics			
2006 Mathematics			
Grade Level and Grade Span Expectations			
New Hampshire Mathematics			
Grade 6			
Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	NH	MA.6.M:F&A:6:2	Demonstrates conceptual understanding of linear relationships ($y = kx$; $y = mx + b$) as a constant rate of change by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variety of problem situations; and describes how change in the value of one variable relates to change in the value of a second variable in problem situations with constant rates of change.
Fundamentals of Aeronautics (145-176)	NH	MA.6.M:DSP:6:1	Interprets a given representation (circle graphs, line graphs, or stem-and-leaf plots) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Fundamentals of Aeronautics (145-176)	NH	MA.6.M:DSP:6:2	Analyzes patterns, trends or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, or mode) or dispersion (range) to analyze situations, or to solve problems.
Fundamentals of Aeronautics (145-176)	NH	MA.6.M:DSP:6:3	Organizes and displays data using tables, line graphs, or stem-and-leaf plots to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Fundamentals of Aeronautics (145-176)	NH	MA.6.M:DSP:6:4	Uses counting techniques to solve problems in context involving combinations or simple permutations using a variety of strategies (e.g., organized lists, tables, tree diagrams, models, Fundamental Counting Principle, or others).
Fundamentals of Aeronautics (145-176)	NH	MA.6.M:DSP:6:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.

Airplane Control(209-256)	NH	MA.6.M:G&M:6:5	Demonstrates conceptual understanding of similarity by describing the proportional effect on the linear dimensions of polygons or circles when scaling up or down while preserving the angles of polygons, or by solving related problems (including applying scales on maps). Describes effects using models or explanations.
Tools of Aeronautics(257-326)	NH	MA.6.M:DSP:6:5a	For a probability event in which the sample space may or may not contain equally likely outcomes, predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and designs fair games.
The Tools of Aeronautics	NH	MA.6.M:DSP:6:5a	For a probability event in which the sample space may or may not contain equally likely outcomes, predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and designs fair games.
The Resource Center	NH	MA.6.M:N&O:6:2	Demonstrates understanding of the relative magnitude of numbers by ordering or comparing numbers with whole number bases and whole number exponents (e.g., 3^3 , 4^3), integers, or rational numbers within and across number formats (fractions, decimals, or whole number percents from 1-100) using number lines or equality and inequality symbols.
Science of Flight	NH	MA.6.M:DSP:6:5a	For a probability event in which the sample space may or may not contain equally likely outcomes, predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and designs fair games.
Science of Flight	NH	MA.6.M:DSP:6:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Integrating with Aeronautics	NH	MA.6.M:N&O:6:1	Demonstrates conceptual understanding of rational numbers with respect to ratios (comparison of two whole numbers by division a/b , $a : b$, and $a \div b$, where b is not equal to 0); and rates (e.g., a out of b , 25%) using models, explanations, or other representations.

Integrating with Aeronautics	NH	MA.6.M:N&O:6:2	Demonstrates understanding of the relative magnitude of numbers by ordering or comparing numbers with whole number bases and whole number exponents (e.g., 3^3 , 4^3), integers, or rational numbers within and across number formats (fractions, decimals, or whole number percents from 1-100) using number lines or equality and inequality symbols.
Integrating with Aeronautics	NH	MA.6.M:N&O:6:7	Makes estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation, determining the level of accuracy needed given the situation, analyzing the effect of the estimation method on the accuracy of results, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.
Integrating with Aeronautics	NH	MA.6.M:G&M:6:3	Uses properties or attributes (shape of bases, number of lateral faces, number of bases, number of edges, or number of vertices) to identify, compare, or describe three-dimensional shapes (rectangular prisms, triangular prisms, cylinders, spheres, pyramids, or cones).
Integrating with Aeronautics	NH	MA.6.M:G&M:6:7	Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands.
Integrating with Aeronautics	NH	MA.6.M:F&A:6:1	Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables, sequences, graphs, or in problem situations; or writes a rule in words or symbols for finding specific cases of a linear relationship; or writes a rule in words or symbols for finding specific cases of a nonlinear relationship; and writes an expression or equation using words or symbols to express the generalization of a linear relationship (e.g., twice the term number plus 1 or $2n + 1$).
Integrating with Aeronautics	NH	MA.6.M:F&A:6:2	Demonstrates conceptual understanding of linear relationships ($y = kx$; $y = mx + b$) as a constant rate of change by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variety of problem situations; and describes how change in the value of one variable relates to change in the value of a second variable in problem situations with constant rates of change.

Integrating with Aeronautics	NH	MA.6.M:F&A:6:3	Demonstrates conceptual understanding of algebraic expressions by using letters to represent unknown quantities to write linear algebraic expressions involving any of the four operations and consistent with order of operations expected at this grade level; or by evaluating linear algebraic expressions (including those with more than one variable); or by evaluating an expression within an equation (e.g., determine the value of y when $x = 4$ given $y = 3x - 2$).
Integrating with Aeronautics	NH	MA.6.M:DSP:6:1	Interprets a given representation (circle graphs, line graphs, or stem-and-leaf plots) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Integrating with Aeronautics	NH	MA.6.M:DSP:6:2	Analyzes patterns, trends or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, or mode) or dispersion (range) to analyze situations, or to solve problems.
Integrating with Aeronautics	NH	MA.6.M:DSP:6:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Intro to Aeronautics (109-123)	NH	MA.6.M:DSP:6:1	Interprets a given representation (circle graphs, line graphs, or stem-and-leaf plots) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Intro to Aeronautics (109-123)	NH	MA.6.M:DSP:6:2	Analyzes patterns, trends or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, or mode) or dispersion (range) to analyze situations, or to solve problems.
Intro to Aeronautics (109-123)	NH	MA.6.M:DSP:6:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.

Scientific Method(124-144)	NH	MA.6.M:DSP:6:1	Interprets a given representation (circle graphs, line graphs, or stem-and-leaf plots) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Scientific Method(124-144)	NH	MA.6.M:DSP:6:2	Analyzes patterns, trends or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, or mode) or dispersion (range) to analyze situations, or to solve problems.
Scientific Method(124-144)	NH	MA.6.M:DSP:6:3	Organizes and displays data using tables, line graphs, or stem-and-leaf plots to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Scientific Method(124-144)	NH	MA.6.M:DSP:6:5a	For a probability event in which the sample space may or may not contain equally likely outcomes, predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and designs fair games.
Scientific Method(124-144)	NH	MA.6.M:DSP:6:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.

Exploring Aeronautics

2006 Mathematics

Grade Level and Grade Span Expectations

New Hampshire Mathematics			
Grades 6-8			
Activity/Lesson	State	Standards	
Science of Flight	NH	MA.6-8.M(PRP)-8-2.a	Draw logical conclusions and make generalizations using deductive and inductive reasoning.
Science of Flight	NH	MA.6-8.M(CCR)-8-1.d	Formulate questions, conjectures, definitions, and generalizations about data, information, and problem situations.
Integrating with Aeronautics	NH	MA.6-8.M(PRP)-8-2.a	Draw logical conclusions and make generalizations using deductive and inductive reasoning.
Integrating with Aeronautics	NH	MA.6-8.M(CCR)-8-2.c	Convert between representations (e.g., a table of values, an equation, and a graph may all be representations of the same function).

Scientific Method(124-144)	NH	MA.6-8.M(PRP)-8-2.a	Draw logical conclusions and make generalizations using deductive and inductive reasoning.
Scientific Method(124-144)	NH	MA.6-8.M(CCR)-8-1.d	Formulate questions, conjectures, definitions, and generalizations about data, information, and problem situations.
Exploring Aeronautics			
2006 Mathematics			
Grade Level and Grade Span Expectations			
New Hampshire Mathematics			
Grade 7			
Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	NH	MA.7.M:G&M:7:5	Applies concepts of similarity by solving problems involving scaling up or down and their impact on angle measures, linear dimensions and areas of polygons, and circles when the linear dimensions are multiplied by a constant factor. Describes effects using models or explanations.
Fundamentals of Aeronautics (145-176)	NH	MA.7.M:F&A:7:1	Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables, sequences, graphs, or in problem situations; and generalizes a linear relationship using words and symbols; generalizes a linear relationship to find a specific case; or writes an expression or equation using words or symbols to express the generalization of a nonlinear relationship.
Fundamentals of Aeronautics (145-176)	NH	MA.7.M:DSP:7:1	Interprets a given representation (circle graphs, scatter plots that represent discrete linear relationships, or histograms) to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Fundamentals of Aeronautics (145-176)	NH	MA.7.M:DSP:7:3a	Organizes and displays data using tables, line graphs, scatter plots, and circle graphs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Fundamentals of Aeronautics (145-176)	NH	MA.7.M:DSP:7:4	Uses counting techniques to solve problems in context involving combinations or permutations (e.g., How many different ways can eight students place first, second, and third in a race?) using a variety of strategies (e.g., organized lists, tables, tree diagrams, models, Fundamental Counting Principle, or others).

Fundamentals of Aeronautics (145-176)	NH	MA.7.M:DSP:7:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Wings(177-208)	NH	MA.7.M:G&M:7:6	Demonstrates conceptual understanding of the area of circles or the area or perimeter of composite figures (quadrilaterals, triangles, or parts of circles), and the surface area of rectangular prisms, or volume of rectangular prisms, triangular prisms, or cylinders using models, formulas, or by solving related problems. Expresses all measures using appropriate units.
Wings(177-208)	NH	MA.7.M:G&M:7:10	Demonstrates conceptual understanding of spatial reasoning and visualization by sketching three-dimensional solids; and draws nets of rectangular and triangular prisms, cylinders, and pyramids and uses the nets as a technique for finding surface area.
Airplane Control(209-256)	NH	MA.7.M:G&M:7:5	Applies concepts of similarity by solving problems involving scaling up or down and their impact on angle measures, linear dimensions and areas of polygons, and circles when the linear dimensions are multiplied by a constant factor. Describes effects using models or explanations.
Tools of Aeronautics(257-326)	NH	MA.7.M:DSP:7:5a	For a probability event in which the sample space may or may not contain equally likely outcomes, predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and compares and contrasts theoretical and experimental probabilities.
The Tools of Aeronautics	NH	MA.7.M:DSP:7:5a	For a probability event in which the sample space may or may not contain equally likely outcomes, predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and compares and contrasts theoretical and experimental probabilities.

The Resource Center	NH	MA.7.M:N&O:7:2	Demonstrates understanding of the relative magnitude of numbers by ordering, comparing, or identifying equivalent rational numbers across number formats, numbers with whole number bases and whole number exponents (e.g., 3^3 , 4^3), integers, absolute values, or numbers represented in scientific notation using number lines or equality and inequality symbols.
Science of Flight	NH	MA.7.M:DSP:7:3a	Organizes and displays data using tables, line graphs, scatter plots, and circle graphs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Science of Flight	NH	MA.7.M:DSP:7:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Integrating with Aeronautics	NH	MA.7.M:N&O:7:2	Demonstrates understanding of the relative magnitude of numbers by ordering, comparing, or identifying equivalent rational numbers across number formats, numbers with whole number bases and whole number exponents (e.g., 3^3 , 4^3), integers, absolute values, or numbers represented in scientific notation using number lines or equality and inequality symbols.
Integrating with Aeronautics	NH	MA.7.M:F&A:7:1	Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables, sequences, graphs, or in problem situations; and generalizes a linear relationship using words and symbols; generalizes a linear relationship to find a specific case; or writes an expression or equation using words or symbols to express the generalization of a nonlinear relationship.
Integrating with Aeronautics	NH	MA.7.M:DSP:7:1	Interprets a given representation (circle graphs, scatter plots that represent discrete linear relationships, or histograms) to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

Integrating with Aeronautics	NH	MA.7.M:DSP:7:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Intro to Aeronautics (109-123)	NH	MA.7.M:DSP:7:1	Interprets a given representation (circle graphs, scatter plots that represent discrete linear relationships, or histograms) to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Intro to Aeronautics (109-123)	NH	MA.7.M:DSP:7:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Scientific Method(124-144)	NH	MA.7.M:DSP:7:3a	Organizes and displays data using tables, line graphs, scatter plots, and circle graphs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

Exploring Aeronautics

2006 Mathematics

Grade Level and Grade Span Expectations

New Hampshire Mathematics			
Grade 8			
Activity/Lesson	State	Standards	

Fundamentals of Aeronautics (145-176)	NH	MA.8.M:F&A:8:1	Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables, sequences, graphs, or in problem situations; and generalizes a linear relationship (non-recursive explicit equation); generalizes a linear relationship to find a specific case; generalizes a nonlinear relationship using words or symbols; or generalizes a common nonlinear relationship to find a specific case.
Fundamentals of Aeronautics (145-176)	NH	MA.8.M:DSP:8:1	Interprets a given representation (line graphs, scatter plots, histograms, or box-and-whisker plots) to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Fundamentals of Aeronautics (145-176)	NH	MA.8.M:DSP:8:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Wings(177-208)	NH	MA.8.M:G&M:8:5	Applies concepts of similarity to determine the impact of scaling on the volume or surface area of three-dimensional figures when linear dimensions are multiplied by a constant factor; to determine the length of sides of similar triangles, or to solve problems involving growth and rate.
Wings(177-208)	NH	MA.8.M:G&M:8:6	Demonstrates conceptual understanding of surface area or volume by solving problems involving surface area and volume of rectangular prisms, triangular prisms, cylinders, pyramids, or cones. Expresses all measures using appropriate units.
Tools of Aeronautics(257-326)	NH	MA.8.M:DSP:8:5	For a probability event in which the sample space may or may not contain equally likely outcomes, determines the experimental or theoretical probability of an event in a problem-solving situation; and predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and compares and contrasts theoretical and experimental probabilities.

The Tools of Aeronautics	NH	MA.8.M:DSP:8:5	For a probability event in which the sample space may or may not contain equally likely outcomes, determines the experimental or theoretical probability of an event in a problem-solving situation; and predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and compares and contrasts theoretical and experimental probabilities.
The Resource Center	NH	MA.8.M:N&O:8:2	Demonstrates understanding of the relative magnitude of numbers by ordering or comparing rational numbers, common irrational numbers (e.g., the square root of 2, pi), numbers with whole number or fractional bases and whole number exponents, square roots, absolute values, integers, or numbers represented in scientific notation using number lines or equality and inequality
Science of Flight	NH	MA.8.M:DSP:8:5	For a probability event in which the sample space may or may not contain equally likely outcomes, determines the experimental or theoretical probability of an event in a problem-solving situation; and predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and compares and contrasts theoretical and experimental probabilities.
Science of Flight	NH	MA.8.M:DSP:8:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Integrating with Aeronautics	NH	MA.8.M:N&O:8:2	Demonstrates understanding of the relative magnitude of numbers by ordering or comparing rational numbers, common irrational numbers (e.g., the square root of 2, pi), numbers with whole number or fractional bases and whole number exponents, square roots, absolute values, integers, or numbers represented in scientific notation using number lines or equality and inequality

Scientific Method(124-144)	NH	MA.8.M:DSP:8:1	Interprets a given representation (line graphs, scatter plots, histograms, or box-and-whisker plots) to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Scientific Method(124-144)	NH	MA.8.M:DSP:8:6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.