

<b>Exploring Aeronautics</b>			
<b>2008 Mathematics</b>			
<b>Core Curriculum Content Standards</b>			
<b>New Jersey Mathematics</b>			
<b>Grade 5</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fundamentals of Aeronautics (145-176)	NJ	MA.5.4.3.5 A.1.a	Descriptions using tables, verbal rules, simple equations, and graphs
Fundamentals of Aeronautics (145-176)	NJ	MA.5.4.3.5 C.1.b	Using concrete materials, tables, graphs, verbal rules, algebraic expressions/equations
Wings(177-208)	NJ	MA.5.4.2.5 D.1	Select and use appropriate units to measure angles and area.
Wings(177-208)	NJ	MA.5.4.2.5 E.3	Recognize that rectangles with the same perimeter do not necessarily have the same area and vice versa.
Science of Flight	NJ	MA.5.4.4.5 A.3	Respond to questions about data and generate their own questions and hypotheses.
Science of Flight	NJ	MA.5.4.5 F.6	Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards).
Integrating with Aeronautics	NJ	MA.5.4.3.5 A.1.a	Descriptions using tables, verbal rules, simple equations, and graphs
Integrating with Aeronautics	NJ	MA.5.4.3.5 B.2	Graph points satisfying a function from T-charts, from verbal rules, and from simple equations.
Integrating with Aeronautics	NJ	MA.5.4.3.5 C.1.a	Using variables to represent unknown quantities
Integrating with Aeronautics	NJ	MA.5.4.3.5 C.1.b	Using concrete materials, tables, graphs, verbal rules, algebraic expressions/equations
Integrating with Aeronautics	NJ	MA.5.4.5 D.2	Use reasoning to support their mathematical conclusions and problem solutions.
Integrating with Aeronautics	NJ	MA.5.4.5 D.3	Select and use various types of reasoning and methods of proof.
Integrating with Aeronautics	NJ	MA.5.4.5 D.4	Rely on reasoning, rather than answer keys, teachers, or peers, to check the correctness of their problem solutions.
Integrating with Aeronautics	NJ	MA.5.4.5 E.1.d	Graphical representations (e.g., a line graph)
Scientific Method(124-144)	NJ	MA.5.4.4.5 A.3	Respond to questions about data and generate their own questions and hypotheses.
Scientific Method(124-144)	NJ	MA.5.4.5 D.2	Use reasoning to support their mathematical conclusions and problem solutions.
Scientific Method(124-144)	NJ	MA.5.4.5 F.2	Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information.
<b>Exploring Aeronautics</b>			
<b>2008 Mathematics</b>			
<b>Core Curriculum Content Standards</b>			
<b>New Jersey Mathematics</b>			
<b>Grade 6</b>			

Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	NJ	MA.6.4.3.6 C.1.b	Using concrete materials, tables, graphs, verbal rules, algebraic expressions/equations/inequalities
Fundamentals of Aeronautics (145-176)	NJ	MA.6.4.5 F.2	Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information.
Wings(177-208)	NJ	MA.6.4.2.6 E.3	Develop and apply strategies and formulas for finding the surface area and volume of rectangular prisms and cylinders.
Wings(177-208)	NJ	MA.6.4.2.6 E.4	Recognize that shapes with the same perimeter do not necessarily have the same area and vice versa.
Tools of Aeronautics(257-326)	NJ	MA.6.4.4.6 A.2.c	Calculators and computers used to record and process information
Tools of Aeronautics(257-326)	NJ	MA.6.4.4.6 B.4	Model situations involving probability using simulations (with spinners, dice) and theoretical models.
Tools of Aeronautics(257-326)	NJ	MA.6.4.5 F.6	Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards).
The Tools of Aeronautics	NJ	MA.6.4.4.6 A.2.c	Calculators and computers used to record and process information
The Tools of Aeronautics	NJ	MA.6.4.4.6 B.4	Model situations involving probability using simulations (with spinners, dice) and theoretical models.
The Tools of Aeronautics	NJ	MA.6.4.5 F.6	Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards).
The Resource Center	NJ	MA.6.4.1.6 A.3	Demonstrate a sense of the relative magnitudes of numbers.
Science of Flight	NJ	MA.6.4.5 F.6	Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards).
Integrating with Aeronautics	NJ	MA.6.4.1.6 C.2	Recognize when an estimate is appropriate, and understand the usefulness of an estimate as distinct from an exact answer.
Integrating with Aeronautics	NJ	MA.6.4.2.6 D.5	Use measurements and estimates to describe and compare phenomena.
Integrating with Aeronautics	NJ	MA.6.4.3.6 A.1.a	Descriptions using tables, verbal rules, simple equations, and graphs
Integrating with Aeronautics	NJ	MA.6.4.3.6 C.1.a	Using variables to represent unknown quantities
Scientific Method(124-144)	NJ	MA.6.4.5 D.2	Use reasoning to support their mathematical conclusions and problem solutions.
Scientific Method(124-144)	NJ	MA.6.4.5 F.2	Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information.
<b>Exploring Aeronautics</b>			
<b>2008 Mathematics</b>			
<b>Core Curriculum Content Standards</b>			
<b>New Jersey Mathematics</b>			

<b>Grade 7</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fundamentals of Aeronautics (145-176)	NJ	MA.7.4.3.7 C.1	Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.
Fundamentals of Aeronautics (145-176)	NJ	MA.7.4.3.7 C.2.a	Using manipulatives, tables, graphs, verbal rules, algebraic expressions/equations/inequalities
Fundamentals of Aeronautics (145-176)	NJ	MA.7.4.5 F.2	Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information.
Tools of Aeronautics(257-326)	NJ	MA.7.4.4.7 A.1.d	Calculators and computer used to record and process information
Tools of Aeronautics(257-326)	NJ	MA.7.4.5 F.6	Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards).
The Tools of Aeronautics	NJ	MA.7.4.4.7 A.1.d	Calculators and computer used to record and process information
The Tools of Aeronautics	NJ	MA.7.4.5 F.6	Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards).
The Resource Center	NJ	MA.7.4.1.7 A.4	Compare and order numbers of all named types.
Science of Flight	NJ	MA.7.4.4.7 A.1.d	Calculators and computer used to record and process information
Science of Flight	NJ	MA.7.4.5 D.2	Use reasoning to support their mathematical conclusions and problem solutions.
Science of Flight	NJ	MA.7.4.5 F.6	Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards).
Integrating with Aeronautics	NJ	MA.7.4.2.7 D.2	Select and use appropriate units and tools to measure quantities to the degree of precision needed in a particular problem-solving situation.
Integrating with Aeronautics	NJ	MA.7.4.3.7 A.1.a	Descriptions using tables, verbal and symbolic rules, graphs, simple equations or expressions
Integrating with Aeronautics	NJ	MA.7.4.3.7 C.1	Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.
Integrating with Aeronautics	NJ	MA.7.4.3.7 C.2.a	Using manipulatives, tables, graphs, verbal rules, algebraic expressions/equations/inequalities
Scientific Method(124-144)	NJ	MA.7.4.5 F.2	Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information.
<b>Exploring Aeronautics</b>			
<b>2008 Mathematics</b>			
<b>Core Curriculum Content Standards</b>			
<b>New Jersey Mathematics</b>			
<b>Grade 8</b>			

Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	NJ	MA.8.4.3.8 B.2	Recognize and describe the difference between linear and exponential growth, using tables, graphs, and equations.
Fundamentals of Aeronautics (145-176)	NJ	MA.8.4.3.8 C.2.a	Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities
Fundamentals of Aeronautics (145-176)	NJ	MA.8.4.5 F.1	Use technology to gather, analyze, and communicate mathematical information.
Fundamentals of Aeronautics (145-176)	NJ	MA.8.4.5 F.2	Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information.
Wings(177-208)	NJ	MA.8.4.2.8 D.6	Solve problems that involve compound measurement units, such as speed (miles per hour), air pressure (pounds per square inch), and population density (persons per square mile).
Airplane Control(209-256)	NJ	MA.8.4.2.8 D.6	Solve problems that involve compound measurement units, such as speed (miles per hour), air pressure (pounds per square inch), and population density (persons per square mile).
The Tools of Aeronautics	NJ	MA.8.4.4.8 A.1.d	Calculators and computer used to record and process information
Science of Flight	NJ	MA.8.4.5 D.2	Use reasoning to support their mathematical conclusions and problem solutions.
Science of Flight	NJ	MA.8.4.5 F.1	Use technology to gather, analyze, and communicate mathematical information.
Integrating with Aeronautics	NJ	MA.8.4.1.8 C.3	Recognize the limitations of estimation and assess the amount of error resulting from estimation.
Integrating with Aeronautics	NJ	MA.8.4.3.8 C.1	Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.
Integrating with Aeronautics	NJ	MA.8.4.3.8 C.2.a	Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities
Integrating with Aeronautics	NJ	MA.8.4.4.8 B.1	Interpret probabilities as ratios, percents, and decimals.
Scientific Method(124-144)	NJ	MA.8.4.4.8 A.1.a	Type of display most appropriate for given data
Scientific Method(124-144)	NJ	MA.8.4.4.8 A.4	Use surveys and sampling techniques to generate data and draw conclusions about large groups.
Scientific Method(124-144)	NJ	MA.8.4.5 D.2	Use reasoning to support their mathematical conclusions and problem solutions.
Scientific Method(124-144)	NJ	MA.8.4.5 F.1	Use technology to gather, analyze, and communicate mathematical information.
Scientific Method(124-144)	NJ	MA.8.4.5 F.2	Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information.