

Exploring Aeronautics			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 5			
Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
Fundamentals of Aeronautics (145-176)	SC	SCI.5.5-5.6	Explain how a change of force or a change in mass affects the motion of an object.
Wings(177-208)	SC	SCI.5.5-1.7	Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.
Wings(177-208)	SC	SCI.5.5-5.2	Summarize the motion of an object in terms of position, direction, and speed.
Airplane Control(209-256)	SC	SCI.5.5-1.7	Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.
Airplane Control(209-256)	SC	SCI.5.5-5.1	Illustrate the affects of force (including magnetism, gravity, and friction) on motion.
Airplane Control(209-256)	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
Airplane Control(209-256)	SC	SCI.5.5-5.6	Explain how a change of force or a change in mass affects the motion of an object.
How an Airplane Flies	SC	SCI.5.5-5.1	Illustrate the affects of force (including magnetism, gravity, and friction) on motion.
How an Airplane Flies	SC	SCI.5.5-5.2	Summarize the motion of an object in terms of position, direction, and speed.
How an Airplane Flies	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
How an Airplane Flies	SC	SCI.5.5-5.6	Explain how a change of force or a change in mass affects the motion of an object.
The Tools of Aeronautics	SC	SCI.5.5-1.7	Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.
The Activity Center	SC	SCI.5.5-1.7	Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.
The Activity Center	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
Science of Flight	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
Integrating with Aeronautics	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
Intro to Aeronautics (109-123)	SC	SCI.5.5-5.6	Explain how a change of force or a change in mass affects the motion of an object.

Scientific Method(124-144)	SC	SCI.5.5-1.1	Identify questions suitable for generating a hypothesis.
Scientific Method(124-144)	SC	SCI.5.5-1.2	Identify independent (manipulated), dependent (responding), and controlled variables in an experiment.
Exploring Aeronautics			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 6			
Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	SC	SCI.6.6-5.6	Recognize that energy is the ability to do work (force exerted over a distance).
Wings(177-208)	SC	SCI.6.6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).
Wings(177-208)	SC	SCI.6.6-5.7	Explain how the design of simple machines (including levers, pulleys, and inclined planes) helps reduce the amount of force required to do work.
Airplane Control(209-256)	SC	SCI.6.6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).
Airplane Control(209-256)	SC	SCI.6.6-5.6	Recognize that energy is the ability to do work (force exerted over a distance).
How an Airplane Flies	SC	SCI.6.6-5.6	Recognize that energy is the ability to do work (force exerted over a distance).
The Tools of Aeronautics	SC	SCI.6.6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).
The Activity Center	SC	SCI.6.6-5.7	Explain how the design of simple machines (including levers, pulleys, and inclined planes) helps reduce the amount of force required to do work.
Science of Flight	SC	SCI.6.6-1.2	Differentiate between observation and inference during the analysis and interpretation of data.
Science of Flight	SC	SCI.6.6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).
Integrating with Aeronautics	SC	SCI.6.6-1.2	Differentiate between observation and inference during the analysis and interpretation of data.

Integrating with Aeronautics	SC	SCI.6.6-5.6	Recognize that energy is the ability to do work (force exerted over a distance).
Intro to Aeronautics (109-123)	SC	SCI.6.6-1.2	Differentiate between observation and inference during the analysis and interpretation of data.
Intro to Aeronautics (109-123)	SC	SCI.6.6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).
Intro to Aeronautics (109-123)	SC	SCI.6.6-4.5	Use appropriate instruments and tools to collect weather data (including wind speed and direction, air temperature, humidity, and air pressure).
Intro to Aeronautics (109-123)	SC	SCI.6.6-5.6	Recognize that energy is the ability to do work (force exerted over a distance).
Intro to Aeronautics (109-123)	SC	SCI.6.6-5.7	Explain how the design of simple machines (including levers, pulleys, and inclined planes) helps reduce the amount of force required to do work.
Scientific Method(124-144)	SC	SCI.6.6-1.2	Differentiate between observation and inference during the analysis and interpretation of data.
Scientific Method(124-144)	SC	SCI.6.6-4.5	Use appropriate instruments and tools to collect weather data (including wind speed and direction, air temperature, humidity, and air pressure).
Scientific Method(124-144)	SC	SCI.6.6-5.7	Explain how the design of simple machines (including levers, pulleys, and inclined planes) helps reduce the amount of force required to do work.
Exploring Aeronautics			
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Grade 7			
Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	SC	SCI.7.7-1.5	Explain the relationships between independent and dependent variables in a controlled scientific investigation through the use of appropriate graphs, tables, and charts.
The Activity Center	SC	SCI.7.7-1.3	Explain the reasons for testing one independent variable at a time in a controlled scientific investigation.
The Activity Center	SC	SCI.7.7-1.4	Explain the importance that repeated trials and a well-chosen sample size have with regard to the validity of a controlled scientific investigation.
Science of Flight	SC	SCI.7.7-1.6	Critique a conclusion drawn from a scientific investigation.

Integrating with Aeronautics	SC	SCI.7.7-1.5	Explain the relationships between independent and dependent variables in a controlled scientific investigation through the use of appropriate graphs, tables, and charts.
Scientific Method(124-144)	SC	SCI.7.7-1.2	Generate questions that can be answered through scientific investigation.
Scientific Method(124-144)	SC	SCI.7.7-1.6	Critique a conclusion drawn from a scientific investigation.
Exploring Aeronautics			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 8			
Activity/Lesson	State	Standards	
Fundamentals of Aeronautics (145-176)	SC	SCI.8.8-3.8	Explain how earthquakes result from forces inside Earth.
Fundamentals of Aeronautics (145-176)	SC	SCI.8.8-4.8	Explain the difference between mass and weight by using the concept of gravitational force.
Fundamentals of Aeronautics (145-176)	SC	SCI.8.8-5.1	Use measurement and time-distance graphs to represent the motion of an object in terms of its position, direction, or speed.
Fundamentals of Aeronautics (145-176)	SC	SCI.8.8-5.3	Analyze the effects of forces (including gravity and friction) on the speed and direction of an object.
Wings(177-208)	SC	SCI.8.8-5.1	Use measurement and time-distance graphs to represent the motion of an object in terms of its position, direction, or speed.
Wings(177-208)	SC	SCI.8.8-5.2	Use the formula for average speed, $v = d/t$, to solve real-world problems.
Wings(177-208)	SC	SCI.8.8-5.3	Analyze the effects of forces (including gravity and friction) on the speed and direction of an object.
Airplane Control(209-256)	SC	SCI.8.8-3.8	Explain how earthquakes result from forces inside Earth.
Airplane Control(209-256)	SC	SCI.8.8-5.1	Use measurement and time-distance graphs to represent the motion of an object in terms of its position, direction, or speed.
Airplane Control(209-256)	SC	SCI.8.8-5.2	Use the formula for average speed, $v = d/t$, to solve real-world problems.
Airplane Control(209-256)	SC	SCI.8.8-5.3	Analyze the effects of forces (including gravity and friction) on the speed and direction of an object.
Airplane Control(209-256)	SC	SCI.8.8-5.4	Predict how varying the amount of force or mass will affect the motion of an object.
Airplane Control(209-256)	SC	SCI.8.8-5.5	Analyze the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.
Airplane Control(209-256)	SC	SCI.8.8-5.6	Summarize and illustrate the concept of inertia.

How an Airplane Flies	SC	SCI.8.8-3.8	Explain how earthquakes result from forces inside Earth.
How an Airplane Flies	SC	SCI.8.8-4.6	Explain how gravitational forces are influenced by mass and distance.
How an Airplane Flies	SC	SCI.8.8-4.8	Explain the difference between mass and weight by using the concept of gravitational force.
How an Airplane Flies	SC	SCI.8.8-5.6	Summarize and illustrate the concept of inertia.
The Activity Center	SC	SCI.8.8-5.5	Analyze the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.
The Activity Center	SC	SCI.8.8-5.6	Summarize and illustrate the concept of inertia.
Science of Flight	SC	SCI.8.8-1.3	Construct explanations and conclusions from interpretations of data obtained during a controlled scientific investigation.
Integrating with Aeronautics	SC	SCI.8.8-1.3	Construct explanations and conclusions from interpretations of data obtained during a controlled scientific investigation.
Integrating with Aeronautics	SC	SCI.8.8-5.1	Use measurement and time-distance graphs to represent the motion of an object in terms of its position, direction, or speed.
Integrating with Aeronautics	SC	SCI.8.8-5.3	Analyze the effects of forces (including gravity and friction) on the speed and direction of an object.
Integrating with Aeronautics	SC	SCI.8.8-5.5	Analyze the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.
Integrating with Aeronautics	SC	SCI.8.8-5.6	Summarize and illustrate the concept of inertia.
Intro to Aeronautics (109-123)	SC	SCI.8.8-1.3	Construct explanations and conclusions from interpretations of data obtained during a controlled scientific investigation.
Intro to Aeronautics (109-123)	SC	SCI.8.8-5.1	Use measurement and time-distance graphs to represent the motion of an object in terms of its position, direction, or speed.
Intro to Aeronautics (109-123)	SC	SCI.8.8-5.3	Analyze the effects of forces (including gravity and friction) on the speed and direction of an object.
Intro to Aeronautics (109-123)	SC	SCI.8.8-5.4	Predict how varying the amount of force or mass will affect the motion of an object.
Intro to Aeronautics (109-123)	SC	SCI.8.8-5.5	Analyze the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.
Intro to Aeronautics (109-123)	SC	SCI.8.8-5.6	Summarize and illustrate the concept of inertia.