

**Aeronautics Educator Guide**

**2006 Science**

**Learning Standards**

**District of Columbia Science**

**Grade 2**

**Activity/Lesson**

**State**

**Standards**

Air Engines (12-16)	DC	SCI.2.1.2	Make new observations when there is disagreement among observers or among successive observations.
Air Engines (12-16)	DC	SCI.2.1.4	Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things.
Air Engines (12-16)	DC	SCI.2.1.5	Measure objects in standard units and include units in reports of measurements with simple calculations (e.g., 3 cm + 3 cm = 6 cm).
Air Engines (12-16)	DC	SCI.2.1.7	Recognize and explain that people are more likely to believe ideas when they are supported by observations.
Rotor Motor (69-75)	DC	SCI.2.1.10	Make simple line and bar graphs (e.g., track daily changes in outdoor air temperature).
Making Time Fly (80-86)	DC	SCI.2.1.3	Demonstrate the ability to work with a team, but still reach and communicate one's own conclusions about findings.
Where is North? The Compass Can Tell Us (87-90)	DC	SCI.2.1.4	Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things.
Let's Build a Table Top Airport (91-96)	DC	SCI.2.1.4	Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things.
Dunked Napkin ( 17-22)	DC	SCI.2.1.3	Demonstrate the ability to work with a team, but still reach and communicate one's own conclusions about findings.
Dunked Napkin ( 17-22)	DC	SCI.2.1.4	Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things.
Dunked Napkin ( 17-22)	DC	SCI.2.5.1	Recognize that solids have a definite shape; liquids and gases take the shape of their containers.
Dunked Napkin ( 17-22)	DC	SCI.2.5.3	Investigate and explain that water, like many other substances, can be a liquid, a solid, or a gas, and it can transform from one state to another.
Paper Bag Mask (23-28)	DC	SCI.2.1.4	Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things.
Paper Bag Mask (23-28)	DC	SCI.2.1.5	Measure objects in standard units and include units in reports of measurements with simple calculations (e.g., 3 cm + 3 cm = 6 cm).
Paper Bag Mask (23-28)	DC	SCI.2.5.1	Recognize that solids have a definite shape; liquids and gases take the shape of their containers.

Paper Bag Mask (23-28)	DC	SCI.2.5.3	Investigate and explain that water, like many other substances, can be a liquid, a solid, or a gas, and it can transform from one state to another.
Wind in Your Socks) (29-35)	DC	SCI.2.1.1	Describe objects as accurately as possible and compare observations with those made and reported by others.
Wind in Your Socks) (29-35)	DC	SCI.2.1.2	Make new observations when there is disagreement among observers or among successive observations.
Wind in Your Socks) (29-35)	DC	SCI.2.1.4	Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things.
Wind in Your Socks) (29-35)	DC	SCI.2.1.5	Measure objects in standard units and include units in reports of measurements with simple calculations (e.g., 3 cm + 3 cm = 6 cm).
Wind in Your Socks) (29-35)	DC	SCI.2.1.7	Recognize and explain that people are more likely to believe ideas when they are supported by observations.
Wind in Your Socks) (29-35)	DC	SCI.2.1.9	Explain that sometimes a person can make general discoveries about a group of objects or organisms, such as insects, plants, or rocks, by studying just a few of them, even though the group may vary in details. Understand that this is not inconsistent with the existence of biological variation.
Wind in Your Socks) (29-35)	DC	SCI.2.3.2	Explain that air temperature, humidity, wind speed and direction, and precipitation make up the weather in a particular place and time.
Wind in Your Socks) (29-35)	DC	SCI.2.3.3	Investigate and compare weather changes from day to day and place to place.
Air: Interdisciplinary Learning Activities (36-39)	DC	SCI.2.3.2	Explain that air temperature, humidity, wind speed and direction, and precipitation make up the weather in a particular place and time.
Bag Balloons (40-43)	DC	SCI.2.3.2	Explain that air temperature, humidity, wind speed and direction, and precipitation make up the weather in a particular place and time.
Bag Balloons (40-43)	DC	SCI.2.5.4	Explain how water can be transformed from one state to another by adding or taking away heat energy.
Sled Kite (44-51)	DC	SCI.2.1.4	Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things.

**Aeronautics Educator Guide**

**2006 Science**

**Learning Standards**

**District of Columbia Science**

**Grade 3**

**Activity/Lesson**

**State**

**Standards**

Air Engines (12-16)	DC	SCI.3.1.2	Participate in different types of guided scientific investigations (related to content in this grade), such as observing objects and events and collecting specimens for analysis, including longer-term investigations that take place over several days, weeks, or months.
Air Engines (12-16)	DC	SCI.3.1.3	Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers.
Air Engines (12-16)	DC	SCI.3.1.7	Keep a notebook that describes ongoing observations and that is still understandable weeks or months later.
Air Engines (12-16)	DC	SCI.3.1.10	Ask, "How do you know?" in appropriate situations, and attempt reasonable answers when others ask the same question.
Air Engines (12-16)	DC	SCI.3.4.5	Investigate and describe how moving air and water (carriers of kinetic energy, the energy of motion) can be used to run machines like windmills and waterwheels.
Rotor Motor (69-75)	DC	SCI.3.1.2	Participate in different types of guided scientific investigations (related to content in this grade), such as observing objects and events and collecting specimens for analysis, including longer-term investigations that take place over several days, weeks, or months.
Rotor Motor (69-75)	DC	SCI.3.1.3	Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers.
Flight: Interdisciplinary Learning Activities (76-79)	DC	SCI.3.1.2	Participate in different types of guided scientific investigations (related to content in this grade), such as observing objects and events and collecting specimens for analysis, including longer-term investigations that take place over several days, weeks, or months.
Making Time Fly (80-86)	DC	SCI.3.1.4	Discuss the results of investigations and consider the explanations of others.
Making Time Fly (80-86)	DC	SCI.3.1.5	Demonstrate the ability to work cooperatively while respecting the ideas of others and communicating one's own conclusions about findings.
Where is North? The Compass Can Tell Us (87-90)	DC	SCI.3.1.2	Participate in different types of guided scientific investigations (related to content in this grade), such as observing objects and events and collecting specimens for analysis, including longer-term investigations that take place over several days, weeks, or months.
Where is North? The Compass Can Tell Us (87-90)	DC	SCI.3.1.3	Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers.

Dunked Napkin ( 17-22)	DC	SCI.3.1.2	Participate in different types of guided scientific investigations (related to content in this grade), such as observing objects and events and collecting specimens for analysis, including longer-term investigations that take place over several days, weeks, or months.
Dunked Napkin ( 17-22)	DC	SCI.3.1.3	Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers.
Dunked Napkin ( 17-22)	DC	SCI.3.1.10	Ask, "How do you know?" in appropriate situations, and attempt reasonable answers when others ask the same question.
Paper Bag Mask (23-28)	DC	SCI.3.1.10	Ask, "How do you know?" in appropriate situations, and attempt reasonable answers when others ask the same question.
Wind in Your Socks) (29-35)	DC	SCI.3.1.2	Participate in different types of guided scientific investigations (related to content in this grade), such as observing objects and events and collecting specimens for analysis, including longer-term investigations that take place over several days, weeks, or months.
Wind in Your Socks) (29-35)	DC	SCI.3.1.3	Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers.
Wind in Your Socks) (29-35)	DC	SCI.3.1.7	Keep a notebook that describes ongoing observations and that is still understandable weeks or months later.
Wind in Your Socks) (29-35)	DC	SCI.3.1.8	Appropriately use simple tools — such as clamps, rulers, scissors, and hand lenses, as well as other technology (e.g., such as calculators and computers) — to help solve problems.
Wind in Your Socks) (29-35)	DC	SCI.3.1.10	Ask, "How do you know?" in appropriate situations, and attempt reasonable answers when others ask the same question.
Air: Interdisciplinary Learning Activities (36-39)	DC	SCI.3.4.5	Investigate and describe how moving air and water (carriers of kinetic energy, the energy of motion) can be used to run machines like windmills and waterwheels.
Sled Kite (44-51)	DC	SCI.3.1.10	Ask, "How do you know?" in appropriate situations, and attempt reasonable answers when others ask the same question.

**Aeronautics Educator Guide**

**2006 Science**

**Learning Standards**

**District of Columbia Science**

**Grade 4**

**Activity/Lesson**

**State**

**Standards**

Air Engines (12-16)	DC	SCI.4.1.1	Recognize and describe how results of similar scientific investigations may turn out differently due to inconsistencies in methods, materials, or observations, or the limitations of the tools used.
Air Engines (12-16)	DC	SCI.4.1.4	Write descriptions of investigations by using observations as support for explanations.
Air Engines (12-16)	DC	SCI.4.6.10	Explain how electrical energy can be used to produce light, heat energy, motion (kinetic energy), or sound energy.
Making Time Fly (80-86)	DC	SCI.4.1.2	Explain that clear communication is an essential part of the process of scientific inquiry because it enables scientists to inform others about their work, to expose their ideas to evaluation by other scientists, and to allow scientists to stay informed about scientific discoveries around the world.
Where is North? The Compass Can Tell Us (87-90)	DC	SCI.4.1.1	Recognize and describe how results of similar scientific investigations may turn out differently due to inconsistencies in methods, materials, or observations, or the limitations of the tools used.
Where is North? The Compass Can Tell Us (87-90)	DC	SCI.4.6.2	Demonstrate that magnets attract object made of iron and a few other substances (called magnetic materials), but they do not attract objects made of most other substances.
Where is North? The Compass Can Tell Us (87-90)	DC	SCI.4.6.3	Investigate and describe that a magnet does not have to touch an object made of magnetic material to exert a force on it.
Where is North? The Compass Can Tell Us (87-90)	DC	SCI.4.6.4	Describe that magnets have poles; unlike poles of two magnets attract each other while like poles repel.
Let's Build a Table Top Airport (91-96)	DC	SCI.4.1.2	Explain that clear communication is an essential part of the process of scientific inquiry because it enables scientists to inform others about their work, to expose their ideas to evaluation by other scientists, and to allow scientists to stay informed about scientific discoveries around the world.
Dunked Napkin ( 17-22)	DC	SCI.4.1.1	Recognize and describe how results of similar scientific investigations may turn out differently due to inconsistencies in methods, materials, or observations, or the limitations of the tools used.
Dunked Napkin ( 17-22)	DC	SCI.4.1.2	Explain that clear communication is an essential part of the process of scientific inquiry because it enables scientists to inform others about their work, to expose their ideas to evaluation by other scientists, and to allow scientists to stay informed about scientific discoveries around the world.
Paper Bag Mask (23-28)	DC	SCI.4.1.3	Use numerical data to describe and compare objects and events.

Wind in Your Socks) (29-35)	DC	SCI.4.1.1	Recognize and describe how results of similar scientific investigations may turn out differently due to inconsistencies in methods, materials, or observations, or the limitations of the tools used.
Wind in Your Socks) (29-35)	DC	SCI.4.1.4	Write descriptions of investigations by using observations as support for explanations.