

Aeronautics Educator Guide

2008 Science

Next Generation Sunshine State Standards

Florida Science			
Grade 2			
Activity/Lesson	State	Standards	
Air Engines (12-16)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Air Engines (12-16)	FL	SCI.2.SC.2.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Air Engines (12-16)	FL	SCI.2.SC.2.N.1. 2	Compare the observations made by different groups using the same tools.
Air Engines (12-16)	FL	SCI.2.SC.2.P.13 .4	Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.
Air Engines (12-16)	FL	SCI.2.SC.2.L.14 .C	Humans can better understand the natural world through careful observation.
Rotor Motor (69-75)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Rotor Motor (69-75)	FL	SCI.2.SC.2.N.1. 3	Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.
Rotor Motor (69-75)	FL	SCI.2.SC.2.P.13 .A	It takes energy to change the motion of objects.
Rotor Motor (69-75)	FL	SCI.2.SC.2.P.13 .4	Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.
Flight: Interdisciplinary Learning Activities (76-79)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Flight: Interdisciplinary Learning Activities (76-79)	FL	SCI.2.SC.2.E.7. 4	Investigate that air is all around us and that moving air is wind.

Where is North? The Compass Can Tell Us (87-90)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Where is North? The Compass Can Tell Us (87-90)	FL	SCI.2.SC.2.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Where is North? The Compass Can Tell Us (87-90)	FL	SCI.2.SC.2.P.13 .2	Demonstrate that magnets can be used to make some things move without touching them.
Let's Build a Table Top Airport (91-96)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	FL	SCI.2.SC.2.L.17 .B	Both human activities and natural events can have major impacts on the environment.
Dunked Napkin (17-22)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Dunked Napkin (17-22)	FL	SCI.2.SC.2.N.1. C	Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge.
Dunked Napkin (17-22)	FL	SCI.2.SC.2.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Dunked Napkin (17-22)	FL	SCI.2.SC.2.E.7. 4	Investigate that air is all around us and that moving air is wind.
Dunked Napkin (17-22)	FL	SCI.2.SC.2.P.8. A	All objects and substances in the world are made of matter. Matter has two fundamental properties: matter takes up space and matter has mass.
Dunked Napkin (17-22)	FL	SCI.2.SC.2.P.8. 6	Measure and compare the volume of liquids using containers of various shapes and sizes.

Dunked Napkin (17-22)	FL	SCI.2.SC.2.P.9.1	Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration.
Paper Bag Mask (23-28)	FL	SCI.2.SC.2.N.1.A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Paper Bag Mask (23-28)	FL	SCI.2.SC.2.N.1.B	The processes of science frequently do not correspond to the traditional portrayal of "the scientific method."
Wind in Your Socks) (29-35)	FL	SCI.2.SC.2.N.1.A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Wind in Your Socks) (29-35)	FL	SCI.2.SC.2.N.1.D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Wind in Your Socks) (29-35)	FL	SCI.2.SC.2.N.1.2	Compare the observations made by different groups using the same tools.
Wind in Your Socks) (29-35)	FL	SCI.2.SC.2.L.14.C	Humans can better understand the natural world through careful observation.
Air: Interdisciplinary Learning Activities (36-39)	FL	SCI.2.SC.2.E.7.4	Investigate that air is all around us and that moving air is wind.
Air: Interdisciplinary Learning Activities (36-39)	FL	SCI.2.SC.2.P.8.5	Measure and compare temperatures taken every day at the same time.
Bag Balloons (40-43)	FL	SCI.2.SC.2.N.1.A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Bag Balloons (40-43)	FL	SCI.2.SC.2.N.1.3	Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

Sled Kite (44-51)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Sled Kite (44-51)	FL	SCI.2.SC.2.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Sled Kite (44-51)	FL	SCI.2.SC.2.N.1. 3	Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.
Right Flight (52-59)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Right Flight (52-59)	FL	SCI.2.SC.2.N.1. 5	Distinguish between empirical observation (what you see, hear, feel, smell, or taste) and ideas or inferences (what you think).
Delta Wing Glider (60-68)	FL	SCI.2.SC.2.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Delta Wing Glider (60-68)	FL	SCI.2.SC.2.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Delta Wing Glider (60-68)	FL	SCI.2.SC.2.N.1. 3	Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.
Delta Wing Glider (60-68)	FL	SCI.2.SC.2.N.1. 5	Distinguish between empirical observation (what you see, hear, feel, smell, or taste) and ideas or inferences (what you think).

Aeronautics Educator Guide

2008 Science

Next Generation Sunshine State Standards

Florida Science			
Grade 3			
Activity/Lesson	State	Standards	

Air Engines (12-16)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Air Engines (12-16)	FL	SCI.3.SC.3.N.1. 2	Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.
Air Engines (12-16)	FL	SCI.3.SC.3.N.1. 5	Recognize that scientists question, discuss, and check each others' evidence and explanations.
Air Engines (12-16)	FL	SCI.3.SC.3.L.14 .C	Humans can better understand the natural world through careful observation.
Rotor Motor (69-75)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Rotor Motor (69-75)	FL	SCI.3.SC.3.P.10 .2	Recognize that energy has the ability to cause motion or create change.
Where is North? The Compass Can Tell Us (87-90)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Where is North? The Compass Can Tell Us (87-90)	FL	SCI.3.SC.3.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Where is North? The Compass Can Tell Us (87-90)	FL	SCI.3.SC.3.N.1. 6	Infer based on observation.
Let's Build a Table Top Airport (91-96)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Let's Build a Table Top Airport (91-96)	FL	SCI.3.SC.3.N.1. 4	Recognize the importance of communication among scientists.
Let's Build a Table Top Airport (91-96)	FL	SCI.3.SC.3.N.3. 2	Recognize that scientists use models to help understand and explain how things work.

We Can Fly, You and I: Interdisciplinary Learning (107-108)	FL	SCI.3.SC.3.N.3.2	Recognize that scientists use models to help understand and explain how things work.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	FL	SCI.3.SC.3.L.17.B	Both human activities and natural events can have major impacts on the environment.
Dunked Napkin (17-22)	FL	SCI.3.SC.3.N.1.A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Dunked Napkin (17-22)	FL	SCI.3.SC.3.N.1.D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Dunked Napkin (17-22)	FL	SCI.3.SC.3.P.11.1	Investigate, observe, and explain that things that give off light often also give off heat.
Paper Bag Mask (23-28)	FL	SCI.3.SC.3.N.1.A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Paper Bag Mask (23-28)	FL	SCI.3.SC.3.N.1.B	The processes of science frequently do not correspond to the traditional portrayal of "the scientific method."
Paper Bag Mask (23-28)	FL	SCI.3.SC.3.N.1.D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Wind in Your Socks) (29-35)	FL	SCI.3.SC.3.N.1.A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Wind in Your Socks) (29-35)	FL	SCI.3.SC.3.N.1.C	Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge.

Wind in Your Socks) (29-35)	FL	SCI.3.SC.3.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Bag Balloons (40-43)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Sled Kite (44-51)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Right Flight (52-59)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Right Flight (52-59)	FL	SCI.3.SC.3.N.3. 3	Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.
Delta Wing Glider (60-68)	FL	SCI.3.SC.3.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Delta Wing Glider (60-68)	FL	SCI.3.SC.3.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Delta Wing Glider (60-68)	FL	SCI.3.SC.3.N.3. 3	Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.
Aeronautics Educator Guide			
2008 Science			
Next Generation Sunshine State Standards			
Florida Science			
Grade 4			
Activity/Lesson	State	Standards	

Air Engines (12-16)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Air Engines (12-16)	FL	SCI.4.SC.4.P.10 .4	Describe how moving water and air are sources of energy and can be used to move things.
Air Engines (12-16)	FL	SCI.4.SC.4.P.12 .A	Motion is a key characteristic of all matter that can be observed, described, and measured.
Air Engines (12-16)	FL	SCI.4.SC.4.P.12 .B	The motion of objects can be changed by forces.
Air Engines (12-16)	FL	SCI.4.SC.4.P.12 .1	Recognize that an object in motion always changes its position and may change its direction.
Air Engines (12-16)	FL	SCI.4.SC.4.P.12 .2	Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.
Rotor Motor (69-75)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Rotor Motor (69-75)	FL	SCI.4.SC.4.P.10 .2	Investigate and describe that energy has the ability to cause motion or create change.
Rotor Motor (69-75)	FL	SCI.4.SC.4.P.12 .B	The motion of objects can be changed by forces.
Flight: Interdisciplinary Learning Activities (76-79)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Flight: Interdisciplinary Learning Activities (76-79)	FL	SCI.4.SC.4.P.12 .2	Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.
Where is North? The Compass Can Tell Us (87-90)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.

Where is North? The Compass Can Tell Us (87-90)	FL	SCI.4.SC.4.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Let's Build a Table Top Airport (91-96)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Plan to Fly There (97-106)	FL	SCI.4.SC.4.P.12 .2	Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	FL	SCI.4.SC.4.N.3. 1	Explain that models can be three dimensional, two dimensional, an explanation in your mind, or a computer model.
Dunked Napkin (17-22)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Dunked Napkin (17-22)	FL	SCI.4.SC.4.N.1. C	Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge.
Dunked Napkin (17-22)	FL	SCI.4.SC.4.N.1. 4	Attempt reasonable answers to scientific questions and cite evidence in support.
Dunked Napkin (17-22)	FL	SCI.4.SC.4.N.1. 5	Compare the methods and results of investigations done by other classmates.
Dunked Napkin (17-22)	FL	SCI.4.SC.4.E.6. 5	Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things.
Dunked Napkin (17-22)	FL	SCI.4.SC.4.P.8. A	All objects and substances in the world are made of matter. Matter has two fundamental properties: matter takes up space and matter has mass.
Paper Bag Mask (23-28)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Paper Bag Mask (23-28)	FL	SCI.4.SC.4.N.1. B	The processes of science frequently do not correspond to the traditional portrayal of "the scientific method."

Paper Bag Mask (23-28)	FL	SCI.4.SC.4.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Paper Bag Mask (23-28)	FL	SCI.4.SC.4.N.1. 4	Attempt reasonable answers to scientific questions and cite evidence in support.
Paper Bag Mask (23-28)	FL	SCI.4.SC.4.N.1. 6	Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.
Wind in Your Socks) (29-35)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Wind in Your Socks) (29-35)	FL	SCI.4.SC.4.N.1. C	Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge.
Wind in Your Socks) (29-35)	FL	SCI.4.SC.4.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Wind in Your Socks) (29-35)	FL	SCI.4.SC.4.N.1. 2	Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.
Wind in Your Socks) (29-35)	FL	SCI.4.SC.4.E.6. 5	Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things.
Bag Balloons (40-43)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Bag Balloons (40-43)	FL	SCI.4.SC.4.N.1. 4	Attempt reasonable answers to scientific questions and cite evidence in support.
Sled Kite (44-51)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Sled Kite (44-51)	FL	SCI.4.SC.4.N.1. 4	Attempt reasonable answers to scientific questions and cite evidence in support.

Right Flight (52-59)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Right Flight (52-59)	FL	SCI.4.SC.4.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Right Flight (52-59)	FL	SCI.4.SC.4.N.1. 6	Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.
Delta Wing Glider (60-68)	FL	SCI.4.SC.4.N.1. A	Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
Delta Wing Glider (60-68)	FL	SCI.4.SC.4.N.1. D	Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
Delta Wing Glider (60-68)	FL	SCI.4.SC.4.N.1. 6	Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.