

<b>Exploring Aeronautics</b>			
<b>2006 Science Revised January 2008</b>			
<b>State Curriculum</b>			
<b>Maryland Science Revised January 2008</b>			
<b>Grade 5</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Tools of Aeronautics(257-326)	MD	SCI.5.1.C.1.a	Make use of and analyze models, such as tables and graphs to summarize and interpret data.
Tools of Aeronautics(257-326)	MD	SCI.5.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
Tools of Aeronautics(257-326)	MD	SCI.5.1.D1.C.b	Investigate and describe that seeing how a model works after changes are made to it may suggest how the real thing would work if the same were done to it.
The Tools of Aeronautics	MD	SCI.5.1.C.1.a	Make use of and analyze models, such as tables and graphs to summarize and interpret data.
The Tools of Aeronautics	MD	SCI.5.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
The Tools of Aeronautics	MD	SCI.5.1.D1.C.b	Investigate and describe that seeing how a model works after changes are made to it may suggest how the real thing would work if the same were done to it.
Science of Flight	MD	SCI.5.1.B.1.a	Develop explanations using knowledge possessed and evidence from observations, reliable print resources, and investigations.
Science of Flight	MD	SCI.5.1.B.1.c	Review different explanations for the same set of observations and make more observations to resolve the differences.
Science of Flight	MD	SCI.5.1.B.1.d	Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.
Science of Flight	MD	SCI.5.1.C.1.a	Make use of and analyze models, such as tables and graphs to summarize and interpret data.
Science of Flight	MD	SCI.5.1.C.1.c	Submit work to the critique of others which involves discussing findings, posing questions, and challenging statements to clarify ideas.
Integrating with Aeronautics	MD	SCI.5.1.D1.C.c	Explain that models, such as geometric figures, number sequences, graphs, diagrams, sketches, number lines, maps, and stories can be used to represent objects, events, and processes in the real world, although such representations can never be exact in every detail.

Scientific Method(124-144)	MD	SCI.5.1.A.1.d	Recognize that the results of scientific investigations are seldom exactly the same, and when the differences are large, it is important to try to figure out why.
Scientific Method(124-144)	MD	SCI.5.1.A.1.f	Identify possible reasons for differences in results from investigations including unexpected differences in the methods used or in the circumstances in which the investigation is carried out, and sometimes just because of uncertainties in observations.
Scientific Method(124-144)	MD	SCI.5.1.C.1.a	Make use of and analyze models, such as tables and graphs to summarize and interpret data.
Scientific Method(124-144)	MD	SCI.5.1.C.1.c	Submit work to the critique of others which involves discussing findings, posing questions, and challenging statements to clarify ideas.
<b>Exploring Aeronautics</b>			
<b>2006 Science Revised January 2008</b>			
<b>State Curriculum</b>			
<b>Maryland Science Revised January 2008</b>			
<b>Grade 6</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Tools of Aeronautics(257-326)	MD	SCI.6.1.A.1.d	Locate information in reference books, back issues of newspapers, magazines and compact disks, and computer databases.
Tools of Aeronautics(257-326)	MD	SCI.6.1.C.1.e	Explain how different models can be used to represent the same thing. What kind of a model to use and how complex it should be depend on its purpose. Choosing a useful model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.
Tools of Aeronautics(257-326)	MD	SCI.6.1.D1.C.a	Explain that the kind of model to use and how complex it should be depends on its purpose and that it is possible to have different models used to represent the same thing.
Tools of Aeronautics(257-326)	MD	SCI.6.1.D1.C.c	Explain that models may sometimes mislead by suggesting characteristics that are not really shared with what is being modeled.
The Tools of Aeronautics	MD	SCI.6.1.A.1.d	Locate information in reference books, back issues of newspapers, magazines and compact disks, and computer databases.
The Tools of Aeronautics	MD	SCI.6.1.C.1.e	Explain how different models can be used to represent the same thing. What kind of a model to use and how complex it should be depend on its purpose. Choosing a useful model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.

The Tools of Aeronautics	MD	SCI.6.1.D1.C.a	Explain that the kind of model to use and how complex it should be depends on its purpose and that it is possible to have different models used to represent the same thing.
The Tools of Aeronautics	MD	SCI.6.1.D1.C.c	Explain that models may sometimes mislead by suggesting characteristics that are not really shared with what is being modeled.
Science of Flight	MD	SCI.6.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Science of Flight	MD	SCI.6.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
Science of Flight	MD	SCI.6.1.B.1.b	Explain that what people expect to observe often affects what they actually do observe and that scientists know about this danger to objectivity and take steps to try to avoid it when designing investigations and examining data.
Science of Flight	MD	SCI.6.1.B.1.d	Describe the reasoning that lead to the interpretation of data and conclusions drawn.
Science of Flight	MD	SCI.6.1.B.1.e	Question claims based on vague statements or on statements made by people outside their area of expertise.
Integrating with Aeronautics	MD	SCI.6.1.A.1.h	Use mathematics to interpret and communicate data.
Scientific Method(124-144)	MD	SCI.6.1.A.1.b	Develop the ability to clarify questions and direct them toward objects and phenomena that can be described, explained, or predicted by scientific investigations.
Scientific Method(124-144)	MD	SCI.6.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Scientific Method(124-144)	MD	SCI.6.1.A.1.f	Give examples of when further studies of the question being investigated may be necessary.
Scientific Method(124-144)	MD	SCI.6.1.A.1.h	Use mathematics to interpret and communicate data.
Scientific Method(124-144)	MD	SCI.6.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
<b>Exploring Aeronautics</b>			
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Grade 7			
Activity/Lesson	State	Standards	
Tools of Aeronautics(257-326)	MD	SCI.7.1.A.1.d	Locate information in reference books, back issues of newspapers, magazines and compact disks, and computer databases.
Tools of Aeronautics(257-326)	MD	SCI.7.1.C.1.e	Explain how different models can be used to represent the same thing. What kind of a model to use and how complex it should be depend on its purpose. Choosing a useful model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.
Tools of Aeronautics(257-326)	MD	SCI.7.1.D1.C.a	Explain that the kind of model to use and how complex it should be depends on its purpose and that it is possible to have different models used to represent the same thing.
Tools of Aeronautics(257-326)	MD	SCI.7.1.D1.C.c	Explain that models may sometimes mislead by suggesting characteristics that are not really shared with what is being modeled.
The Tools of Aeronautics	MD	SCI.7.1.A.1.d	Locate information in reference books, back issues of newspapers, magazines and compact disks, and computer databases.
The Tools of Aeronautics	MD	SCI.7.1.C.1.e	Explain how different models can be used to represent the same thing. What kind of a model to use and how complex it should be depend on its purpose. Choosing a useful model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.
The Tools of Aeronautics	MD	SCI.7.1.D1.C.a	Explain that the kind of model to use and how complex it should be depends on its purpose and that it is possible to have different models used to represent the same thing.
The Tools of Aeronautics	MD	SCI.7.1.D1.C.c	Explain that models may sometimes mislead by suggesting characteristics that are not really shared with what is being modeled.
Science of Flight	MD	SCI.7.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Science of Flight	MD	SCI.7.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
Science of Flight	MD	SCI.7.1.B.1.d	Describe the reasoning that lead to the interpretation of data and conclusions drawn.

Science of Flight	MD	SCI.7.1.C.1.c	Give examples of how scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.
Science of Flight	MD	SCI.7.1.C.1.d.2	Conclusions do not follow logically from the evidence given.
Science of Flight	MD	SCI.7.1.C.1.d.3	Existence of control groups and the relationship to experimental groups is not made obvious.
Integrating with Aeronautics	MD	SCI.7.1.A.1.h	Use mathematics to interpret and communicate data.
Scientific Method(124-144)	MD	SCI.7.1.A.1.b	Develop the ability to clarify questions and direct them toward objects and phenomena that can be described, explained, or predicted by scientific investigations.
Scientific Method(124-144)	MD	SCI.7.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Scientific Method(124-144)	MD	SCI.7.1.A.1.h	Use mathematics to interpret and communicate data.
Scientific Method(124-144)	MD	SCI.7.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
Scientific Method(124-144)	MD	SCI.7.1.B.1.b	Explain that what people expect to observe often affects what they actually do observe and that scientists know about this danger to objectivity and take steps to try to avoid it when designing investigations and examining data.
<b>Exploring Aeronautics</b>			
<b>2006 Science Revised January 2008</b>			
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<b>Maryland Science Revised January 2008</b>			
<b>Grade 8</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Tools of Aeronautics(257-326)	MD	SCI.8.1.A.1.d	Locate information in reference books, back issues of newspapers, magazines and compact disks, and computer databases.
Tools of Aeronautics(257-326)	MD	SCI.8.1.C.1.e	Explain how different models can be used to represent the same thing. What kind of a model to use and how complex it should be depend on its purpose. Choosing a useful model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.

Tools of Aeronautics(257-326)	MD	SCI.8.1.D1.C.a	Explain that the kind of model to use and how complex it should be depends on its purpose and that it is possible to have different models used to represent the same thing.
Tools of Aeronautics(257-326)	MD	SCI.8.1.D1.C.c	Explain that models may sometimes mislead by suggesting characteristics that are not really shared with what is being modeled.
How an Airplane Flies	MD	SCI.8.5.A.2.a	Investigate and explain the interaction of force and motion that causes objects that are at rest to move.
How an Airplane Flies	MD	SCI.8.5.A.2.b	Demonstrate and explain, through a variety of examples, that moving objects will stay in motion at the same speed and in the same direction unless acted on by an unbalanced force.
How an Airplane Flies	MD	SCI.8.5.A.2.c	Investigate and collect data from multiple trials, about the motion that explain the motion that results when the same force acts on objects of different mass; and when different amounts of force act on objects of the same mass.
The Tools of Aeronautics	MD	SCI.8.1.A.1.d	Locate information in reference books, back issues of newspapers, magazines and compact disks, and computer databases.
The Tools of Aeronautics	MD	SCI.8.1.C.1.e	Explain how different models can be used to represent the same thing. What kind of a model to use and how complex it should be depend on its purpose. Choosing a useful model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.
The Tools of Aeronautics	MD	SCI.8.1.D1.C.a	Explain that the kind of model to use and how complex it should be depends on its purpose and that it is possible to have different models used to represent the same thing.
The Tools of Aeronautics	MD	SCI.8.1.D1.C.c	Explain that models may sometimes mislead by suggesting characteristics that are not really shared with what is being modeled.
Science of Flight	MD	SCI.8.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Science of Flight	MD	SCI.8.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
Science of Flight	MD	SCI.8.1.B.1.b	Explain that what people expect to observe often affects what they actually do observe and that scientists know about this danger to objectivity and take steps to try to avoid it when designing investigations and examining data.

Science of Flight	MD	SCI.8.1.B.1.d	Describe the reasoning that lead to the interpretation of data and conclusions drawn.
Science of Flight	MD	SCI.8.1.B.1.e	Question claims based on vague statements or on statements made by people outside their area of expertise.
Integrating with Aeronautics	MD	SCI.8.1.A.1.h	Use mathematics to interpret and communicate data.
Scientific Method(124-144)	MD	SCI.8.1.A.1.b	Develop the ability to clarify questions and direct them toward objects and phenomena that can be described, explained, or predicted by scientific investigations.
Scientific Method(124-144)	MD	SCI.8.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Scientific Method(124-144)	MD	SCI.8.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
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