

Learning to Fly: The Wright Brother's Adventure			
2000 Science			
Academic Standards			
Indiana Science			
Grade 5			
Activity/Lesson	State	Standards	
Wright Brothers: 1902 Glider	IN	SCI.5.5.1.3	Explain that doing science involves many different kinds of work and engages men, women, and children of all ages and backgrounds.
Wright Brothers: 1902 Glider	IN	SCI.5.5.1.5	Explain that technology extends the ability of people to make positive and/or negative changes in the world.
Learning to Fly: The Wright Brother's Adventure			
2000 Science			
Academic Standards			
Indiana Science			
Grade 6			
Activity/Lesson	State	Standards	
The Society	IN	SCI.6.6.1.2	Give examples of different ways scientists investigate natural phenomena and identify processes all scientists use, such as collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations, in order to make sense of the evidence.
The Society	IN	SCI.6.6.1.4	Give examples of employers who hire scientists, such as colleges and universities, businesses and industries, hospitals, and many government agencies.
Wright Brothers: 1900 Glider	IN	SCI.6.6.1.2	Give examples of different ways scientists investigate natural phenomena and identify processes all scientists use, such as collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations, in order to make sense of the evidence.
Wright Brothers: 1902 Glider	IN	SCI.6.6.1.2	Give examples of different ways scientists investigate natural phenomena and identify processes all scientists use, such as collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations, in order to make sense of the evidence.
Meet the Wrights	IN	SCI.6.6.1.4	Give examples of employers who hire scientists, such as colleges and universities, businesses and industries, hospitals, and many government agencies.

1900: Kitty Hawks	IN	SCI.6.6.1.2	Give examples of different ways scientists investigate natural phenomena and identify processes all scientists use, such as collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations, in order to make sense of the evidence.
1901: The First Improvement	IN	SCI.6.6.7.2	Use models to illustrate processes that happen too slowly, too quickly, or on too small a scale to observe directly, or are too vast to be changed deliberately, or are potentially dangerous.
New Data	IN	SCI.6.6.3.12	Describe ways human beings protect themselves from adverse weather conditions.
1903: Powered Flight	IN	SCI.6.6.1.7	Explain that technology is essential to science for such purposes as access to outer space and other remote locations, sample collection and treatment, measurement, data collection and storage, computation, and communication of information.
1903: Powered Flight	IN	SCI.6.6.2.5	Organize information in simple tables and graphs and identify relationships they reveal. Use tables and graphs as examples of evidence for explanations when writing essays or writing about lab work, fieldwork, etc.
1903: Powered Flight	IN	SCI.6.6.2.6	Read simple tables and graphs produced by others and describe in words what they show.
1903: Powered Flight	IN	SCI.6.6.5.2	Evaluate the precision and usefulness of data based on measurements taken.
1903: Powered Flight	IN	SCI.6.6.5.4	Demonstrate how graphs may help to show patterns, such as trends, varying rates of change, gaps, or clusters, which can be used to make predictions.
1904: Improvement in Dayton	IN	SCI.6.6.1.6	Explain that computers have become invaluable in science because they speed up and extend people's ability to collect, store, compile, and analyze data; prepare research reports; and share data and ideas with investigators all over the world.
1904: Improvement in Dayton	IN	SCI.6.6.1.7	Explain that technology is essential to science for such purposes as access to outer space and other remote locations, sample collection and treatment, measurement, data collection and storage, computation, and communication of information.

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Grade 7			
Activity/Lesson	State	Standards	
The Society	IN	SCI.7.7.1.10	Identify ways that technology has strongly influenced the course of history and continues to do so.
Wright Brothers: 1900 Glider	IN	SCI.7.7.1.7	Explain how engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems.
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Wright Brothers: 1902 Glider	IN	SCI.7.7.1.7	Explain how engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems.
Wright Brothers: 1903 Flyer	IN	SCI.7.7.1.7	Explain how engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems.
Meet the Wrights	IN	SCI.7.7.1.10	Identify ways that technology has strongly influenced the course of history and continues to do so.
1900: Kitty Hawks	IN	SCI.7.7.2.7	Incorporate circle charts, bar and line graphs, diagrams, scatter plots, and symbols into writing, such as lab or research reports, to serve as evidence for claims and/or conclusions.
1901: The First Improvement	IN	SCI.7.7.1.10	Identify ways that technology has strongly influenced the course of history and continues to do so.
1901: The First Improvement	IN	SCI.7.7.3.17	Investigate that an unbalanced force, acting on an object, changes its speed or path of motion or both, and know that if the force always acts toward the same center as the object moves, the object's path may curve into an orbit around the center.
1901: The First Improvement	IN	SCI.7.7.7.2	Use different models to represent the same thing, noting that the kind of model and its complexity should depend on its purpose.
New Data	IN	SCI.7.7.1.3	Explain why it is important in science to keep honest, clear, and accurate records.
1902: Success at Last	IN	SCI.7.7.1.7	Explain how engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems.

1902: Success at Last	IN	SCI.7.7.7.2	Use different models to represent the same thing, noting that the kind of model and its complexity should depend on its purpose.
1903: Powered Flight	IN	SCI.7.7.1.7	Explain how engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems.
1903: Powered Flight	IN	SCI.7.7.2.6	Read analog and digital meters on instruments used to make direct measurements of length, volume, weight, elapsed time, rates, or temperatures, and choose appropriate units.
1903: Powered Flight	IN	SCI.7.7.5.3	Demonstrate how the scale chosen for a graph or drawing determines its interpretation.
1903: Powered Flight	IN	SCI.7.7.7.2	Use different models to represent the same thing, noting that the kind of model and its complexity should depend on its purpose.
1905: Complete a Flight at Last	IN	SCI.7.7.1.7	Explain how engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems.
1905: Complete a Flight at Last	IN	SCI.7.7.1.10	Identify ways that technology has strongly influenced the course of history and continues to do so.

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2000 Science

Academic Standards

Indiana Science			
Grade 8			
Activity/Lesson	State	Standards	
The Society	IN	SCI.8.8.1.5	Explain why research involving human subjects requires potential subjects be fully informed about the risks and benefits associated with the research and that they have the right to refuse to participate.
Wright Brothers: 1900 Glider	IN	SCI.8.8.1.6	Identify the constraints that must be taken into account as a new design is developed, such as gravity and the properties of the materials to be used.
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Wright Brothers: 1903 Flyer	IN	SCI.8.8.1.6	Identify the constraints that must be taken into account as a new design is developed, such as gravity and the properties of the materials to be used.
1900: Kitty Hawks	IN	SCI.8.8.1.6	Identify the constraints that must be taken into account as a new design is developed, such as gravity and the properties of the materials to be used.
1901: The First Improvement	IN	SCI.8.8.1.3	Recognize and describe that if more than one variable changes at the same time in an experiment, the outcome of the experiment may not be attributable to any one of the variables.
1901: The First Improvement	IN	SCI.8.8.1.5	Explain why research involving human subjects requires potential subjects be fully informed about the risks and benefits associated with the research and that they have the right to refuse to participate.
1901: The First Improvement	IN	SCI.8.8.3.2	Explain that the slow movement of material within Earth results from heat flowing out of the deep interior and the action of gravitational forces on regions of different density.
1901: The First Improvement	IN	SCI.8.8.3.9	Demonstrate, using drawings and models, the movement of atoms in a solid, liquid, and gaseous state. Explain that atoms and molecules are perpetually in motion.
1901: The First Improvement	IN	SCI.8.8.7.3	Use technology to assist in graphing and with simulations that compute and display results of changing factors in models.
New Data	IN	SCI.8.8.1.3	Recognize and describe that if more than one variable changes at the same time in an experiment, the outcome of the experiment may not be attributable to any one of the variables.
New Data	IN	SCI.8.8.1.4	Explain why accurate record keeping, openness, and replication are essential for maintaining an investigator's credibility with other scientists and society.
New Data	IN	SCI.8.8.2.5	Use computers to store and retrieve information in topical, alphabetical, numerical, and keyword files and create simple files of students' own devising.

New Data	IN	SCI.8.8.2.10	Identify and criticize the reasoning in arguments in which fact and opinion are intermingled or the conclusions do not follow logically from the evidence given, an analogy is not apt, no mention is made of whether the control group is very much like the experimental group, or all members of a group are implied to have nearly identical characteristics that differ from those of other groups.
1902: Success at Last	IN	SCI.8.8.1.6	Identify the constraints that must be taken into account as a new design is developed, such as gravity and the properties of the materials to be used.
1902: Success at Last	IN	SCI.8.8.3.9	Demonstrate, using drawings and models, the movement of atoms in a solid, liquid, and gaseous state. Explain that atoms and molecules are perpetually in motion.
1902: Success at Last	IN	SCI.8.8.7.3	Use technology to assist in graphing and with simulations that compute and display results of changing factors in models.
1903: Powered Flight	IN	SCI.8.8.1.6	Identify the constraints that must be taken into account as a new design is developed, such as gravity and the properties of the materials to be used.
1903: Powered Flight	IN	SCI.8.8.3.9	Demonstrate, using drawings and models, the movement of atoms in a solid, liquid, and gaseous state. Explain that atoms and molecules are perpetually in motion.
1903: Powered Flight	IN	SCI.8.8.5.1	Understand and explain that a number must be written with an appropriate number of significant figures (determined by the measurements from which the number is derived).
1903: Powered Flight	IN	SCI.8.8.5.4	Illustrate how graphs can show a variety of possible relationships between two variables.
1903: Powered Flight	IN	SCI.8.8.7.3	Use technology to assist in graphing and with simulations that compute and display results of changing factors in models.
1904: Improvement in Dayton	IN	SCI.8.8.1.8	Explain that humans help shape the future by generating knowledge, developing new technologies, and communicating ideas to others.
1904: Improvement in Dayton	IN	SCI.8.8.2.7	Participate in group discussions on scientific topics by restating or summarizing accurately what others have said, asking for clarification or elaboration, and expressing alternative positions.

1905: Complete a Flight at Last	IN	SCI.8.8.1.6	Identify the constraints that must be taken into account as a new design is developed, such as gravity and the properties of the materials to be used.
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Indiana Science			
Grades 9-12 (Physics I)			
Activity/Lesson	State	Standards	
1903: Powered Flight	IN	SCI.9-12.P.1.6	Describe and measure motion in terms of position, time, and the derived quantities of velocity and acceleration.