

Iowa Common Core Standards for Science

4-H Youth Development Curriculum and Kits from Iowa State University Extension and Outreach, Scott County

Name	Target Grade	Number of Lessons	Iowa Core Content Anchor Standard in Science	Specific Standard(s)
Invent STEM	4-12	6	Physical Science Earth & Space Sciences Engineering, Technology & Applications of Science	<p><u>Kindergarten</u> Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1) Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. (K-2-ETS1-2) Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. (K-2-ETS1-3)</p> <p><u>Grade One</u> Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1) Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. (K-2-ETS1-2) Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. (K-2-ETS1-3)</p> <p><u>Grade Two</u> Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1) Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. (K-2-ETS1-2) Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. (K-2-ETS1-3)</p> <p><u>Grade Three</u> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1)</p>

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Invent STEM	4-12	6	Physical Science Earth & Space Sciences Engineering, Technology & Applications of Science	<p>Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. (3-5-ETS1-2) Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. (3-5-ETS1-3)</p> <p><u>Grade Four</u> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1) Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. (3-5-ETS1-2) Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. (3-5-ETS1-3)</p> <p>Analyze and interpret data from maps to describe patterns of Earth's features. (4-ESS2-2)</p> <p><u>Grade Five</u> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1) Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. (3-5-ETS1-2) Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. (3-5-ETS1-3)</p> <p>Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. (5-ESS3-1)</p> <p><u>Grade Six</u> Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. (MS-ETS1-2) Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success. (MS-ETS1-3) Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and</p>

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