

The Bakken Museum

Science & Engineering Standards Addressed

The Bakken Museum's **Engineering Design** workshop supports the following Minnesota Science **Standards**:

K-8

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| 1.1.1 | Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read. |
| 1.1.2 | Students will be able to ask questions about a problem to be solved so they can define constraints and specifications for possible solutions. |
| 1.2.1 | Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions that support claims the students make about phenomena. |
| 3.1.1 | Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others. |
| 3.2.1 | Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others. |
| 3.2.2 | Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints. |
| 4.1.1 | Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counterarguments. |
| 4.1.2 | Students will be able to argue from evidence to justify the best solution to a problem or to compare and evaluate competing designs, ideas, or methods. |

The Bakken Museum **Engineering Design** workshop supports the following Minnesota Science **Benchmarks**:

Grade 2

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| 2P.1.1.1.1 | Ask questions about an object's motion based on observation that can be answered by an investigation. |
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Grade 5

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| 5P.1.1.1.1 | Ask investigable questions and predict reasonable outcomes about the changes in energy, related to speed, that occur when objects interact. |
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