

Minnesota Standards for Science

Strand	Substrand	Standard	RAA Online Program	Grade
1 Exploring phenomena or engineering problems	1.1 Asking questions and defining problems	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.	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
			A Watershed in Jeopardy	6 - 12
			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.*	Meet a Mussel
	Let's Go Birding!	K - 5		
	Let's Go Mucking!	K - 8		
	The Great Mussel Mystery	3 - 5		
	What Makes a Bird a Bird?	3 - 5		
	Into the Weeds	3 - 8		
	A Watershed in Jeopardy	6 - 12		
1.2 Planning and carrying out investigations	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, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Meet a Mussel	K - 2	
		Let's Go Birding!	K - 5	
		Let's Go Mucking!	K - 8	
		The Great Mussel Mystery	3 - 5	
		What Makes a Bird a Bird?	3 - 5	
		Into the Weeds	3 - 8	
		A Watershed in Jeopardy	6 - 12	
2 Looking at data and empirical evidence to understand phenomena or solve problems	2.1 Analyzing and interpreting data	2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
			A Watershed in Jeopardy	6 - 12
	2.2 Using mathematics and computational thinking	2.2.1 Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
			A Watershed in Jeopardy	6 - 12
3 Developing possible explanations of phenomena or designing solutions to engineering problems	3.1 Developing and using models	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.	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
			A Watershed in Jeopardy	6 - 12
			3.1.2 Students will be able to use models during the engineering design process to identify problems, design and test solutions, and communicate design features to others.	Meet a Mussel
	Let's Go Birding!	K - 5		
	Let's Go Mucking!	K - 8		
	The Great Mussel Mystery	3 - 5		
	What Makes a Bird a Bird?	3 - 5		
	Into the Weeds	3 - 8		
	A Watershed in Jeopardy	6 - 12		

* Gray cell means program does not fit standard

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	3.2 Constructing explanations and designing solutions	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.	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
			A Watershed in Jeopardy	6 - 12
		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.*	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
			A Watershed in Jeopardy	6 - 12
4 Communicating reasons, arguments and ideas to others	4.1 Engaging in arguing from evidence	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	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
		A Watershed in Jeopardy	6 - 12	
		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.*	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
	Into the Weeds		3 - 8	
	4.2 Obtaining, evaluating and communicating information	4.2.1 Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
			What Makes a Bird a Bird?	3 - 5
			Into the Weeds	3 - 8
		A Watershed in Jeopardy	6 - 12	
		4.2.2 Students will be able to gather information about and communicate the methods that are used by various cultures, especially those of Minnesota American Indian Tribes and communities, to develop explanations of phenomena and design solutions to problems.	Meet a Mussel	K - 2
			Let's Go Birding!	K - 5
			Let's Go Mucking!	K - 8
			The Great Mussel Mystery	3 - 5
What Makes a Bird a Bird?			3 - 5	
Into the Weeds	3 - 8			
A Watershed in Jeopardy	6 - 12			

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