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Alignment to *Maine Learning Results: Parameters for Essential Instruction and Common Core Standards*

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Some Seeds Grow Weeds	PreK-1	PreK-2	ELA – E. Listening E1. Students use early active listening skills. SCI – Cells E3. Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive. b. List the basic things that most organisms need to survive.	ELA – **Speaking & Listening** ***Kindergarten:*** 2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood ***Grade 1:*** 2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media. **Language Standards** ***Kindergarten:*** 6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Merrily We Move Along	PreK-1	PreK-2	SCI – B. Skills & Traits of Scientific Inquiry B1. Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. e. Use writing, speaking and drawing to communicate investigations and explanations. VPA – B. Creation, Performance and Expression – Visual Arts B1. Media Skills – Students use basic media, tools and techniques to create original art works.	No Alignment

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Nibble, Sip and Grind	Grades 2-3	PreK-2	MA – B. Data **B2. Students read, construct, and interpret picture graphs. (**Extension: Students construct a picture graphs and a bar graph based on tallies.) SCI – A. Systems A1. Students recognize that parts work together, and make up whole man-made and natural objects. a. Explain that most man-made and natural objects are made of parts. b. Explain that when put together, parts can do things they could not do separately. A2. Students identify models and the objects they represent to learn about their features. b. Use a model as a tool to describe the motion of objects or the features of plants and animals.	MA – ***Grade 2:*** **Measurement & Data – 2MD10** 10. Draw a picture graph and a bar graph (with single unit scale) to represent a data set with up to four categories. Solve simple put-together, take apart, and compare problems using information presented in a bar graph.
		Grades 3-5	MA – B. Data **B2. *(Grade 3)* Students read, construct, and interpret bar graphs. *(Grade 4)* Students collect and represent data in tables, line plots, and bar graphs, and read and interpret these types of data. *(Grade 5)* Students read, construct and interpret line graphs. (**Extension: Students in grades 3 & 4 construct bar graphs, In Grade 5, students construct line graphs of tally results.)	MA - ***Grade 3*:** **Measurement & Data – 3MD3** 3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "hoe many less" problems using information presented in scaled bar graphs.

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Nibble, Sip and Grind *Cont.*			SCI – A. Systems A1. Students explain interactions between parts that make up whole man-made and natural things. a. Give examples that show how individual parts of organisms, ecosystems, or man-made structures can influence one another. b. Explain ways that things including organisms, eco-systems, or man-made structures may not work as well (or at all) if a part is missing, broken, worn out, mismatched, or misconnected. A2. Students use models to represent objects, processes, and events from the physical setting, the living environment, and the technological world.	

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Let the Sun Shine In	Grades 2-3	PreK-2	ELA – C. Research C1. Students answer research questions by gathering information from print and non-print sources. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. SCI – B. Skills & Traits of Scientific Inquiry B1. Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. e. Use writing, speaking, and drawing to communicate investigations and explanations. **C1. Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them. (**Extension: Students explain how questions and answers are important to their investigation and point out why it is important to accurately describe their observations.)	ELA – **Writing:** ***Grade 2:*** 2. Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

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Let the Sun Shine In *Cont.*			E1. Biodiversity – Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals. b. Describe some features of plants and animals that help them live in different environments.	
		Grades 3-5	ELA – C. Research C1. Students create, identify, and answer research questions by gathering information from print and non-print sources and documenting sources and communicating findings. c. Collect, evaluate, and organize information for a specific purpose. d. Communicate findings from a variety of print and non-print sources. SCI – B. Skills and Traits of Scientific Inquiry B1. Students plan, conduct, analyze data from, and communicate results of investigations. c. Use simple equipment, tools and appropriate metric units of measurement to gather data and extend the senses. d. Use data to construct and support a reasonable explanation. e. Communicate scientific procedures and explanations.	ELA – **Writing** ***Grade 3:*** 3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations Research to Build and Present Knowledge 7. Conduct short research projects that build knowledge about a topic.

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Pushy Plants	Grades 2-3	PreK-2	ELA – E. Listening E1. Students use early active listening skills. SCI – E. The Living Environment E2. Students understand how plants and animals depend on each other and the environment in which they live. a. Explain that animals use plants and other animals for food, shelter, and nesting. E3. Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive. b. List the basic things that most organisms need to survive.	No alignment
		Grades 3-5	SCI – A. Unifying Themes A1. Students explain interactions between parts that make up whole man-made and natural things. a. Give examples that show how individual parts of organisms, ecosystems, or man-made structures can influence one another. **E2. Students describe ways organisms depend upon, interact within, and change the living and non-living environment as well as ways the environment affects organisms. a. Explain how changes in an organism's habitat can influence its survival. (**Extension: Students explain what happens to an organism when an invasive species alters the habitat.)	No alignment

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Nature's Bug Zappers	Grades 2-3	PreK-2	ELA – E. Listening E1. Students use early active listening skills. a. Ask relevant questions at appropriate times. c. Follow one-step and two-step oral instructions.	ELA - **Language Standard** ***Grade 2:*** 6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).
		Grades 3-5	ELA – E. Listening E1. Students apply active listening skills. a. Ask clarifying questions. b. Attend and respond appropriately to classmates and adults. c. Follow multi-step oral instructions.	ELA – **Language Standard** ***Grade 3:*** 6. Acquire and use accurately grade-appropriate conversational, general academic, and domain specific words and phrases, including those that signal spatial and temporal relationships (e.g., *After dinner that night we went looking for them*).

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Nature's Bug Zappers, *Cont.*		Grades 3-5	SCI – A. Systems A1. Students explain interactions between parts that make up the whole man-made and natural things. a. Give examples that show how individual parts or organisms, ecosystems, or man-made structures can influence one another. b. Explain ways that things including organisms, ecosystems, or man-made structures may not work as well (or at all) if a part is missing, broke, worn out, mismatched, or misconnected.	

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Bug Busters	Grades 2-3	PreK-2	ELA – Reading Informational Texts A3. Students read informational texts, within a grade appropriate span of text complexity, for different purposes. b. Restate facts from the text. B. Writing B3. Students write to inform an audience on a specific topic. b. Record and share, in writing, information that has been gathered. MA – B. Data **B2. Data Analysis – Students read, construct, and interpret picture graphs. (**Extension: Students show tally results in a picture graph.)	ELA - **Reading Standard for Informational Texts Grade 2:** 5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently. MA – **Grade 2: Measurement & Data – 2MD10** 10. Draw a picture graph and a bar graph (with single unit scale) to represent a data set with up to four categories. Solve simple put-together, take apart, and compare problems using information presented in a bar graph.
		Grade 3	ELA – Reading Informational Texts A3. Students read and summarize informational texts, within a grade appropriate span of text complexity, for different purposes. c. Identify answers in the text or important ideas to demonstrate understanding.	ELA - **Reading Standard for Informational Texts Grade 3:** 5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

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Bug Busters ***Cont.***		Grades 3-5	ME – B. Data **B2. Data Analysis – *(Grade 3)* Students read, construct, and interpret bar graphs. *(Grade 4)* Students collect and represent data in tables, line plots, and bar graphs, and read and interpret these types of data displays. *(Grade 5)* Students read, construct, and interpret line graphs. (**Extension 3rd: Students show tally results in a bar graph.) (**Extension 4th: Students show tally results in a bar graph.) (**Extension 5th: Students show tally results in a line graph.) SCE – A. Systems A1. Students explain interactions between parts that make up the whole man-made and natural things. a. Give examples that show how individual parts or organisms, ecosystems, or man-made structures can influence one another. b. Explain ways that things including organisms, ecosystems, or man-made structures may not work as well (or at all) if a part is missing, broke, worn out, mismatched, or misconnected.	MA - ***Grade 3*: Measurement & Data – 3MD3** 3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "hoe many less" problems using information presented in scaled bar graphs.

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There's a Wiser Way	Grades 2-3	PreK-2	ELA – E. Listening and Speaking E2. Speaking – Students use speaking skills to communicate. b. Make simple presentations using eye contact. d. Share stories and information and support opinions using oral and visual examples. SCI – B. Skills and Traits of Scientific Inquiry B2. Students use a simple design process and basic tools and materials to solve a problem or create a product. e. Present a design or solution to a problem using oral, written, or pictorial means of communication.	ELA – **Speaking & Listening** ***Grade 2:*** 2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
		Grades 3-5	ELA – E. Listening and Speaking E2. Students use active speaking skills to communicate effectively in a variety of contexts. a. Explain ideas clearly and respond to questions with appropriate information.	No alignment

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Everybody is Somebody's Lunch	Grades 4-5	Grades 3-5	ELA – C. Research E. Listening & Speaking E1. Students apply active listening skills. a. Ask clarifying questions. b. Attend and respond appropriately to classmates and adults. c. Follow multi-step oral instructions. SCI – E. Ecosystems E2. Students describe ways organisms depend upon, interact within, and change the living and non-living environment as well as ways the environment affects organisms. a. Explain how changes in an organism's habitat can influence its survival.	No alignment

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Extreme Makeover	Grades 4-5	Grades 3-5	ELA – C. Research C1. Students create, identify, and answer research questions by gathering information from print and non-print sources and communicating findings. c. Collect, evaluate, and organize information for a specific purpose. d. Communicate findings from a variety of print and non-print sources. MA – A. Number *Grade 4* – A3. Students understand and use procedures to multiply and divide whole numbers by two-digit numbers. *Grade 5* – A2. Students multiply and divide numbers up to four digits by numbers up to two digits, and by tens, hundreds, and thousands and interpret any remainders. A3. Students solve problems requiring multiple operations (addition, subtraction, multiplication, and division) and use the conventions of order of operations (no exponents expected).	No alignment

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Extreme Makeover, *Cont.*			SCI – E. The Living Environment E1. Biodiversity – Students compare living things based on their behaviors, external features, and environmental needs. a. Describe how living things can be sorted in many ways, depending on which features or behaviors are used to sort them, and apply this understanding to sort living things. b. Describe the changes in external features and behaviors of an organism during its life cycle.	

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Better Homes and Gardens	Grades 4-5	Grades 3-5	ELA – B. Writing B5. Students write letters, other requests for information or directions for completing a process. a. Write a letter, including a date, salutation, body, closing, signature and, when appropriate, an inside address. C. Research C1. Students create, identify, and answer research questions by gathering information from Print and non-print sources and communicating findings. c. Collect, evaluate, and organize information for a specific purpose. d. Communicate findings from a variety of print and non-print sources. SCI – E. The Living Environment **E2. Students describe ways organisms depend upon, interact within, and change the living and non-living environment as well as ways the environment affects organisms. a. Explain how changes in an organism's habitat can influence its survival. (**Extension: Students explain how creating a butterfly garden affects the butterfly population.)	No alignment

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Presto Change-o	Grades 4-5	Grades 3-5	ELA – C1. Students create, identify, and answer research questions by gathering information from Print and non-print sources and communicating findings. c. Collect, evaluate, and organize information for a specific purpose. d. Communicate findings from a variety of print and non-print sources.	No alignment

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A Pest by Any Other Name	Grades 4-5	Grades 3-5	ELA – Research C1. Students create, identify, and answer research questions by gathering information from Print and non-print sources and communicating findings. c. Collect, evaluate, and organize information for a specific purpose. d. Communicate findings from a variety of print and non-print sources. MA – B. Data B2. *Grade 4* – Students collect and represent data in tables line plots, and bar graphs, and read and interpret these types of data. *Grade 5* – Students read, construct and interpret line graphs.	ELA – **Reading: Foundational Skills** ***Grades 4 & 5:*** 4. Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. **Reading: Informational Texts** 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. 9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. **Writing** ***Grade 4 :*** 7. Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). ***Grade 5:*** 7. Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).

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Doing Deadly Things	Grades 4-5	Grades 3-5	ELA – B. Writing **B3. Students write to identify and explain position to an identified audience. a. Summarize information from reading, listening, or viewing. (**Extension: Students write a paragraph explaining some of the unintended consequences of using chemical controls.) C. Research C1. Students create, identify, and answer research questions by gathering information from Print and non-print sources and communicating findings. c. Collect, evaluate, and organize information for a specific purpose. d. Communicate findings from a variety of print and non-print sources. E. Listening & Speaking E1. Students apply active listening skills. b. Attend and respond appropriately to classmates and adults. MA – B. Data B2. *Grade 4* – Students collect and represent data in tables line plots, and bar graphs, and read and interpret these types of data. *Grade 5* – Students read, construct and interpret line graphs.	ELA – **Reading: Foundational Skills** ***Grades 3, 4 & 5*:** 4. Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. **Reading: Informational Texts**: ***Grade 4*** 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. ***Grades 4 & 5*:** 9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably **Writing:** ***Grade 3:*** ***2.* Write informative/explanatory texts to examine a topic and convey ideas and information clearly. ***Grade 4 & 5:*** **2. Write opinion pieces on topics or texts, supporting a point of view with reasons and information

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Doing Deadly Things *Cont.*			SCI – A. Unifying Themes A3. Constancy & Change – Students identify and represent basic patterns of change in the physical setting, the living environment, and the technological world. a. Recognize patterns of change including steady, repetitive, irregular, or apparently unpredictable change. b. Make tables or graphs to represent change. C3. Science & Technology – Students identify and describe the influences of science and technology on people and the environment. b. Give examples of changes in the environment caused by natural or man-made influences. VPA – B Creation, Performance, and Expression – Visual Arts B3. Making Meaning - Students create art works that communicate ideas, feelings, and meanings and demonstrate skill in the use of media, tools, techniques and processes.	**Writing** ***Grade 4*** **:** 7. Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). ***Grade 5*****:** 7. Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).

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More Than Just Dust Bunnies	Grades 7-8	Grades 6-8	HE/PE – A. Health Concepts A4. Environment and Personal Health – Students determine how environment and other factors impact personal health. MA – B. Data Analysis *Grade 7:* B1. Students use graphs and charts to represent, organize, interpret, and draw inferences from data. a. Create tables, pictograms, bar graphs, line graphs, pie charts, stem and leaf plots, box and whiskers plots, and histograms using pencil and paper and electronic technologies. ** b. Draw conclusions based on graphs and charts including tables, pictograms, bar graphs, line pie charts, stem and leaf plots, box and whiskers plots, and histograms. (**Extension: Students must draw conclusions based on their graphing results.)	No alignment

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More Than Just Dust Bunnies ***Cont.***			SCI – B. Skills & Traits of Scientific Inquiry & Tech. Design B1. Students plan, conduct, analyze data from, and communicate results of investigations, including simple experiments. b. Design and safely conduct scientific investigations including experiments with controlled variables. c. Use appropriate tools, metric units, and techniques to interpret data. d. Use mathematics to gather, organize, and present data and structure convincing explanations.	

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Ant Antics	Grades 7-8	Grades 6-8	ELA – C. Research C1. Students propose and revise research questions, collect information from a wide variety of primary and/or secondary sources, follow the conventions of documentation to communicate findings. a. Determine the nature and extent of information needed. b. Locate and access relevant information. g. Summarize and interpret information presented in varied sources, and/or from field work, experiments, and interviews. SCI – B. Skills & Traits of Scientific Inquiry B1. Students plan, conduct, analyze data from, and communicate results of investigations, including simple experiments. b. Design and safely conduct scientific investigations including experiments with controlled variables. c. Use appropriate tools, metric units, and techniques to gather, analyze, and interpret data. e. Use logic, critical reasoning and evidence to develop descriptions, explanations, predictions and models.	ELA – **Writing Standards for Literacy in History/Social Studies, Science and Technical Subjects 6-12** ***Grades 6-8:*** 2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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Pesticide Wise	Grades 7-8	Grades 6-8	ELA – A3. Reading Informational Texts A3. Students read various informational texts, within a grade appropriate span of text complexity, making decisions about usefulness based on purpose, noting how the text structures affect the information presented. *Grade 7:* c. Draw conclusions about a text and its purpose, and support them with evidence from the text. d. Make comparisons about information from several passages or articles from different texts. *Grade 8:* d. Draw conclusions about information from multiple texts and support them with evidence from the texts. B. Writing B3. Students write academic essays that state a clear position, supporting the position with relevant evidence. a. Summarize and paraphrase and/or explain information from reading, listening, or viewing.	ELA – **Reading Standards for Literacy in Science and Technical Subjects** 1. Cite specific textual evidence to support analysis of science and technical texts. **Writing Standards for Literacy in History/Social Studies, Science and Technical Subjects 6-12** 2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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Pesticide Wise ***Cont.***			SCI – B1. Skills and Traits of Scientific Inquiry B1. Students plan, conduct, analyze data from, and communicate results of investigations, including simple experiments. c. Use appropriate tools, metric units, and techniques to gather, analyze, and interpret data. e. Use logic, critical reasoning and evidence to develop descriptions, explanations, predictions, and models.	

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Hopper Hunt	Grades 7-8	Grades 6-8	ELA – E2 Speaking E2. Students adjust speaking strategies for formal and informal discussions, debates, or presentations appropriate to the audience and purpose. a. Organize and present information logically. MA – B Data Analysis B3. *Grade 8:* Students use the mean, median, mode, range, and quartiles to solve problems involving raw data and information from data displays. SCI – B. Skills & Traits of Scientific Inquiry B1. Students plan, conduct, analyze data from, and communicate results of investigations, including simple experiments. b. Design and safely conduct scientific investigations including experiments with controlled variables. c. Use appropriate tools, metric units, and techniques to gather, analyze, and interpret data. e. Use logic, critical reasoning and evidence to develop descriptions, explanations, predictions and models.	ELA – **Speaking & Listening** **Grade 6:** 4. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation **Grade 7:** 4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation **Grade 8:** 4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

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A Picture Worth 1000 Words	Grades 7-8	Grades 6-8	MA – B. Data Analysis *Grade 7:* B1. Students use graphs and charts to represent, organize, interpret, and draw inferences from data. a. Create tables, pictograms, bar graphs, line graphs, pie charts, stem and leaf plots, box and whiskers plots, and histograms using pencil and paper and electronic technologies.	No alignment

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Johnny Appleseed Would be Proud	9-10	9-Diploma	ELA – A1. Reading Interconnected Elements A1. Students read and evaluate texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, alphabetics, and fluency. SCI – E2. Ecosystems E2. Students describe and analyze the interactions, cycles, and factors that affect short-term and long term ecosystem stability and change.	ELA- Reading Standards for Informational Texts 2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text. 4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).

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"GM"…It's Not Just a Car Anymore	9-10	9-Diploma	ELA – B. Writing B3. Students write academic essays that structure ideas and arguments in a sustained and logical fashion. E. Listening & Speaking E2. Students determine speaking strategies for formal and informal discussions, debates, or presentations appropriate to the audience and purpose. SCI – E. The Living Environment E2. Students describe and analyze the interactions, cycles, and factors that affect short-term and long-term ecosystem stability and change.	ELA – **Writing Standards** 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) 7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. **Speaking & Listening:** 1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 9–10 topics, texts, and issues,* building on others' ideas and expressing their own clearly and persuasively 4. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

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Hopper Hunt	9-10	9-Diploma	SCI – B. Skills and Traits of Scientific Inquiry & Tech Design B1. Students methodically plan, conduct, analyze data from, and communicate results of in-depth scientific investigations, including experiments guided by a testable hypothesis. b. Design and safely conduct methodical scientific investigations, including experiments with controls. c. Use statistics to summarize, describe, and interpret the results.	ELA – **Speaking & Listening** 4. Present information, findings, and supporting evidence clearly, concisely and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

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Hygiene for Horror	9-10	9-Diploma	ELA – C. Research C1. Students develop research questions and modify them as necessary to elicit, present, and critique evidence from a variety of primary and secondary sources following the conventions of documentation. a. Select and apply research methods that are appropriate for the purpose of the inquiry. c. Synthesize information from varied sources and/or data gathered from fieldwork and interviews. HE/PE – A. Health Concepts A3. Diseases/Other Health Problems – Students explain causes of common diseases, disorders, and other health problems and propose ways to reduce, prevent, or treat them. A4. Environment and Personal Health – Students determine the interrelationship between the environment and other factors and personal health. SCI – C4. History and Nature of Science C4. Students describe the human dimensions and traditions of science, the nature of scientific knowledge, and historical episodes in science that impacted science and society. b. Select and describe one of the major episodes in the history of science including how the scientific knowledge changed over time and any important effects on science and society.	ELA – **Reading Standards for Informational Texts** 2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text. 4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone). **Writing:** 7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Chapter 1: Global Distillation: The Fate and Transport of Toxic Chemicals into the Arctic	Grades 11-12	9-Diploma	HE/PE A. Health Concepts A4. Environment and Personal Health – Students determine the interrelationship between the environment and other factors and personal health. a. Analyze how environment and personal health are interrelated. ELA – B. Writing B3. Students write academic essays that structure ideas and arguments in a sustained and logical fashion. a. Explain and evaluate information from reading, listening, or viewing. b. Write thesis-driven essays that build a logical argument and support assertions with examples and evidence that are accurate, credible, and relevant. C. Research C1. Students develop research questions and modify them as necessary to elicit, present, and critique evidence from a variety of primary and secondary sources following the conventions of documentation. a. Select and apply research methods that are appropriate for the purpose of the inquiry. b. Make judgments about conflicting findings from different sources, incorporating findings from c. Synthesize information from varied sources and/or data gathered from fieldwork and interviews.	ELA – **Reading Standards for Literacy in Science and Technical Subjects** 2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. 7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. 9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. **Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects** 2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

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Chapter 1: Global Distillation: The Fate and Transport of Toxic Chemicals into the Arctic *Cont.*			d. Utilize media relevant to audience and purpose that extend and support oral, written, and visual communication. e. Create and present a coherent set of findings that integrates paraphrasing, quotations , and proper citation. Access and present information ethically and legally. E. Listening & Speaking E2. Students determine speaking strategies for formal and informal discussions, debates, or presentations appropriate to the audience and purpose. a. Choose and present appropriate information logically and ethically. d. Select appropriate media, relevant to audience and purpose, to extend and support oral, written and visual communication. SCI – A1. Systems A1. Students apply an understanding of systems to explain and analyze man-made and natural phenomena ** b. Explain and provide examples that illustrate how it may not always be possible to predict the impact of changing some part of a man-made or natural system. (**Extension: Explain how the effect of toxic substances in the Arctic can't always be predicted, include examples.)	b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. 7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. 9. Draw evidence from informational texts to support analysis, reflection, and research. **Speaking & Listening:** 4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range or formal and informal tasks.

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Chapter 1: Global Distillation: The Fate and Transport of Toxic Chemicals into the Arctic *Cont.*			C. The Scientific and Technological Enterprise C2. Students explain how the relationship between scientific inquiry and technological design influences the advancement of ideas, products, and systems. c. Provide examples that illustrate how technological solutions to problems sometimes lead to new problems or new fields of inquiry. C3. Students describe the role of science and technology creating and solving contemporary issues and challenges.	5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

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Lesson	IPM Grade/ Grade Span	MLR Grade/ Grade Span	Maine Learning Results	Common Core Standards for English and Mathematics
Chapter3: Synthetic Organic Chemicals: Plastics	Grades 11-12	9-Diploma	HE/PE A. Health Concepts A4. Environment and Personal Health - Students determine the interrelationship between the environment and other factors and personal health. a. Analyze how environment and personal health are interrelated. ELA – B. Writing B3. Students write academic essays that structure ideas and arguments in a sustained and logical fashion. a. Explain and evaluate information from reading, listening, or viewing. b. Write thesis-driven essays that build a logical argument and support assertions with examples and evidence that are accurate, credible, and relevant. C. Research C1. Students develop research questions and modify them as necessary to elicit, present, and critique evidence from a variety of primary and secondary sources following the conventions of documentation. a. Select and apply research methods that are appropriate for the purpose of the inquiry. b. Make judgments about conflicting findings from different sources, incorporating findings from c. Synthesize information from varied sources and/or data gathered from fieldwork and interviews.	ELA – **Reading Standards for Literacy in Science and Technical Subjects** 2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. 7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. 9. Synthesize information from a range of sources(e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. **Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects** 2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

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Chapter3: Synthetic Organic Chemicals: Plastics *Cont.*			d. Utilize media relevant to audience and purpose that extend and support oral, written, and visual communication. e. Create and present a coherent set of findings that integrates paraphrasing, quotations , and proper citation. Access and present information ethically and legally. E. Listening & Speaking E2. Students determine speaking strategies for formal and informal discussions, debates, or presentations appropriate to the audience and purpose. a. Choose and present appropriate information logically and ethically. d. Select appropriate media, relevant to audience and purpose, to extend and support oral, written and visual communication. SCI – A1. Systems A1. Students apply an understanding of systems to explain and analyze man-made and natural phenomena ** b. Explain and provide examples that illustrate how it may not always be possible to predict the impact of changing some part of a man-made or natural system. (**Extension: Explain the difficulty in predicting the effect of plastic in the environment.)	a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. 7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. 9. Draw evidence from informational texts to support analysis, reflection, and research.

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Chapter3: Synthetic Organic Chemicals: Plastics *Cont.*			C. The Scientific and Technological Enterprise C2. Students explain how the relationship between scientific inquiry and technological design influences the advancement of ideas, products, and systems. c. Provide examples that illustrate how technological solutions to problems sometimes lead to new problems or new fields of inquiry. C3. Students describe the role of science and technology creating and solving contemporary issues and challenges.	**Speaking & Listening:** 4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range or formal and informal tasks. 5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in