

# STEM GRADES 11 & 12: SEMESTER 1

	Dates	Prioritized Literacy Standard	Prioritized Writing Standard
Unit 1	September 8- October 20	<p><b>Reading Anchor Standard #2:</b> Central Idea/Theme            Science: 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.</p> <p><b>Mathematical Practice #2:</b> Reason Abstractly and Quantitatively            Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents, and the ability to contextualize—to pause as needed during the manipulation process in order to probe into the referents for the symbols involved.</p>	<p><b>Writing Standard #2:</b> Write Informative/Explanatory            (a) Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (b) Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (c) Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. (d) Use precise language and domain-specific vocabulary to manage the complexity of the topic. (e) Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (f) Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>
Unit 2	October 23- December 1	<p><b>Reading Anchor Standard #6:</b> Point of View/Author's Purpose            Science: Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</p> <p><b>Mathematical Practice #1:</b> Make Sense of Problems and Persevere in Solving Them            Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. Students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others so solving complex problems and identify correspondences between different approaches.</p>	<p><b>Writing Standard #5:</b> Develop &amp; Refine            Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grades 9-10 here.)</p> <p><b>Mathematical Practice #8:</b> Express Regularity in Repeated Expression            Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. They continually evaluate the reasonableness of the intermediate results.</p>
Unit 3	December 4- January 19	<p><b>Reading Anchor Standard #8:</b> Claims &amp; Counterclaims            Science: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>Mathematical Practice #3:</b> Construct Viable Arguments and Critique the Reasoning of Others.            Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They can build a logical progression of statements to explore the truth of their conjectures. They can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They can compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is.</p>	<p><b>Writing Standard #8:</b> Gather Multiple Sources of Evidence            Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.</p>

# STEM GRADES 9 & 10: SEMESTER 2

	Dates	Prioritized Literacy Standard	Prioritized Writing Standard
Unit 4	January 29 - March 16	<p><b>Reading Anchor Standard #7:</b> Technical Analysis            Science: 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.</p> <p><b>Mathematical Practice #4:</b> Model with Mathematics            Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community.</p>	<p><b>Writing Standard #7:</b> Conduct Research            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.</p> <p><b>Mathematical Practice #5:</b> Use Appropriate Tools Strategically            Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations.</p>
Unit 5	March 16- May 4	<p><b>Reading Anchor Standard #9:</b> Compare &amp; Contrast            Science: 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.</p> <p><b>Mathematical Practice #7:</b> Make Use of Structures            Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community.</p>	<p><b>Writing Standard #9:</b> Draw Information from Texts            Draw evidence from literary or informational texts to support analysis, reflection, and research.</p>
Unit 6	May 9- June 22	<p><b>Reading Anchor Standard #3:</b> Development of Ideas            Science: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p> <p><b>Mathematical Practice #6:</b> Attend to Precision            Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently and express numerical answers with a degree of precision appropriate for the problem context.</p>	<p><b>Writing Standard #6:</b> Use Technology            Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.</p> <p><b>Mathematical Practice #5:</b> Use Appropriate Tools Strategically            Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations.</p>