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| Chemistry STEM Lab | | **Standards-Based Education Priority Standards** |
| **10th Grade** | | |
| *Engineering Design Process* | | |
| HS-ETS1-1 | Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. | |
| HS-ETS1-2 | Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. | |
| HS-ETS1-3 | Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts. | |
| HS-ETS1-4 | Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem. | |
| *Structure and Function of Materials* | | |
| HS-PS1-3 | Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles. | |
| HS-PS2-6 | Communicate scientific and technical information about why the molecular-level structure is important to the functioning of designed materials. | |
| *Structure and Function of Chemical Reactions* | | |
| HS-PS1-5 | Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs. | |
| *Literacy in STEM* | | |
| 9-10.RST.1 | Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. | |
| 9-10.RST.2 | Determine the central ideas or conclusions of a text; trace the text’s explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text. | |
| 9-10.RST.9 | Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts. | |
| 9-10.WHST.1 | Write arguments focused on discipline-specific content. | |
| 9-10.WHST.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. | |