



Subject Standards learned in Physical Science A and B include, but are not limited to:

### H.1 Structure and Function

- H.1P.1 Explain how atomic structure is related to the properties of elements and their position in the Periodic Table. Explain how composition of the nucleus relates to isotopes and radioactivity.
- H.1P.2 Describe how different types and strengths of bonds affect the physical and chemical properties of compounds.

### H.2 Interaction and Change

- H.2P.1 Explain how chemical reactions result from the making and breaking of bonds in a process that absorbs or releases energy. Explain how factors affect the rate of a chemical reaction.
- H.2P.2 Explain how physical and chemical changes demonstrate the law of conservation of mass.
- H.2P.3 Describe the interactions of energy and matter including the law of conservation of energy.
- H.2P.4 Apply the laws of motion and gravitation to describe the interaction of forces acting on an object and the resultant motion.

### H.3 Scientific Inquiry

- H.3S.1 Based on observation and science principles, form a question or hypothesis that can be tested through the collection and analysis of data.
- H.3S.2 Design and conduct a controlled experiment, field study, or investigation to make systematic observations, including the collection of sufficient and appropriate data.
- H.3S.3 Analyze data and identify uncertainties. Draw a valid conclusion, explain how it is supported by the data, and communicate the findings of a scientific investigation.
- H.3S.4 Identify examples from science that illustrate modification of science knowledge in light of challenges to prevailing explanations.
- H.3S.5 Explain how technological problems and advances create a demand for new scientific knowledge and how this new knowledge enables the creation of new technology.

- 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.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
- 9-10.RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context.
- 9-10.RST.5 Analyze the structure of the relationships among concepts in the text, including relationships among the key terms.
- 9-10.RST.7 Translate quantitative information expressed in words in a text into visual form and translate a visual form back into words. (graph and interpret)
- 9-10.RST.9 Compare and contrast findings presented in a text to those from other sources, 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.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
- 9-10.WHST.5 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.
- 9-10.WHST.6 Use technology to produce, publish, and update writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
- 9-10.WHST.7 Conduct short as well as more sustained research projects to answer a question or solve a problem, narrow or broaden the inquiry when appropriate, synthesize multiple sources, demonstrating understanding of the subject under investigation.
- 9-10.WHST.9 Draw evidence from informational texts to support analysis, reflection, and research.
- 9-10.WHST.10 Write routinely over extended time frames and shorter time frames for a range of discipline-specific tasks, purposes, and audiences.