Federal Way Public Schools

Standards-Based Education
Priority Standards

Cambridge PreAICE Chemistry 10

10th Grade

PS 1	Describe basic atomic structure and the difference between elements, compounds and mixtures.
PS 2	Describe the formation of chemical bonds.
PS 3	Write names and formulas of chemical compounds and use them to construct chemical equations.
PS 4	Perform stoichiometric calculations involving the mole.
PS 5	Describe the role of electricity in chemistry.
PS 6	Describe heat changes in chemical reactions and how various factors affect reaction rates.
PS 7	Describe reversible reactions and reactions that involve reduction and oxidation.
PS 8	Describe reactions of acids and bases and how they can be used to make salts.
PS 9	Use the periodic table to classify elements and predict their physical and chemical properties.
PS 10	Explain differences in metal reactivity and how the differences can be used to extract metals from their ores.
PS 11	Describe the impact of chemistry on the environment.
PS 12	Describe the production of important industrial chemicals such as fertilizers, ammonia, sulfuric acid and lime.
PS 13	Explain how a variety of organic compounds can be derived from petroleum.
PS 14	Describe the formation of synthetic and natural polymers.
PS 15	Plan, carry out and communicate practical laboratory work.
PS 16	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.
PS 17	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.
PS 18	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.
PS 19	HS-PS1-6: Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.*
PS 20	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.
PS 21	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.
PS 22	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.
PS 23	9-10.WHST.1 Write arguments focused on discipline-specific content. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
PS 24	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.