



		C.2.A	know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section;	
SCIENCE.CHEM.2	<u>Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence based arguments or evaluate designs. The student is expected to:</u>			
SCIENCE.CHEM.2.A	<u>identify advantages and limitations of models such as their size, scale, properties, and materials;</u>			
SCIENCE.CHEM.2.B	<u>analyze data by identifying significant statistical features, patterns, sources of error, and limitations;</u>	C.2.H	organize, analyze, evaluate, make inferences, and predict trends from data; and	
SCIENCE.CHEM.2.C	<u>use mathematical calculations to assess quantitative relationships in data; and</u>	C.2.G	express and manipulate chemical quantities using scientific conventions and mathematical procedures, including dimensional analysis, scientific notation, and significant figures;	
SCIENCE.CHEM.2.D	<u>evaluate experimental and engineering designs.</u>			
SCIENCE.CHEM.3	<u>Scientific and engineering practices. The student develops evidence based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:</u>	C.3	Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	
SCIENCE.CHEM.3.A	<u>develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;</u>	C.3.C	draw inferences based on data related to promotional materials for _____	
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SCIENCE.CHEM.5.B	<u>predict</u> the properties of <u>elements in</u> chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, <u>based on valence electrons patterns</u> , using the Periodic Table; and	C.5.B	identify and explain the properties of chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, using the Periodic Table; and	
SCIENCE.CHEM.5.C	<u>analyze and</u> interpret <u>elemental data</u> , including atomic radius, <u>atomic mass</u> , electronegativity, ionization energy, <u>and reactivity to identify</u> periodic trends.	C.5.C	interpret periodic trends, including atomic radius, electronegativity, and ionization energy, using the Periodic Table.	
		C.4	Science concepts. The student knows the characteristics of matter and can analyze the relationships between chemical and physical changes and properties. The student is expected to:	The concept of physical properties was covered in Grades 3-8. Chemical changes are covered in Grades 6-8.
		C.4.A	differentiate between physical and chemical changes and properties;	The concept of physical properties was covered in Grades 3-8. Chemical changes are covered in Grades 6-8.
		C.4.B	identify extensive properties such as mass and volume and intensive properties such as density and melting point;	Extensive and Intensive properties have been deleted from Chemistry.
		C.4.C	compare solids, liquids, and gases in terms of compressibility, structure, shape, and volume; and	The properties of solids, liquids, and gasses are covered in Grades 3-8.
		C.4.D	classify matter as pure substances or mixtures through investigation of their properties.	Pure substances versus mixtures are covered in Grades 6-8.
SCIENCE.CHEM.6	Science concepts. The student understands the development of atomic theory <u>and applies it to real world phenomena</u> . The student is expected to:	C.6	Science concepts. The student knows and understands the historical development of atomic theory. The student is expected to:	
SCIENCE.CHEM.6.A	<u>construct models using</u> Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom,		_____ _____	
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SCIENCE.CHEM.11.D	<u>investigate</u> the general rules regarding solubility and <u>predict the solubility of the products of a double replacement reaction</u> ;	C.10.B	<u>apply</u> the general rules regarding solubility <u>through investigations with aqueous solutions</u> ;	
SCIENCE.CHEM.11.E	calculate the concentration of solutions in units of molarity; and	C.10.C	calculate the concentration of solutions in units of molarity;	
SCIENCE.CHEM.11.F	calculate the dilutions of solutions using molarity.	C.10.D	calculate the dilutions of solutions using molarity;	
SCIENCE.CHEM.12	<u>Science concepts. The student understands and applies various rules regarding acids and bases. The student is expected to:</u>			
SCIENCE.CHEM.12.A	<u>name and write the chemical formulas for acids and bases using IUPAC nomenclature rules;</u>			
SCIENCE.CHEM.12.B	define acids and bases and distinguish between Arrhenius and Bronsted Lowry definitions;	C.10.G	define acids and bases and distinguish between Arrhenius and Bronsted Lowry definitions <u>and predict products in acid-base reactions that form water</u> ; and	Defining acids and bases and predicting the products of reactions were split into two separate Student Expectations, C.12.B and C.12.D.
SCIENCE.CHEM.12.C	<u>differentiate</u>		_____	

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