

**2012 Science Textbook Approval Committee Consensus  
Correlation to the 2010 Science Standards of Learning and Curriculum Framework – Chemistry**

Text Title Chemistry Matter and Change Publisher School Education Group, a division of The McGraw-Hill Companies, Inc. Print  Digital  Combination

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework  Chemistry Summary	Rating		
	Adequate	Limited	No Evidence
CH.1	X		
CH.1a	X		
CH.1b	X		
CH.1c	X		
CH.1d	X		
CH.1e	X		
CH.1f	X		
CH.1g	X		
CH.1h	X		
CH.1i	X		
CH.1j	X		
CH.2	X		
CH.2a	X		

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework  Chemistry Summary	Rating		
	Adequate	Limited	No Evidence
CH.2b	X		
CH.2c	X		
CH.2d	X		
CH.2e	X		
CH.2f	X		
CH.2g	X		
CH.2h	X		
CH.2i	X		
CH.3	X		
CH.3a	X		
CH.3b	X		
CH.3c	X		
CH.3d	X		

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	Adequate	Limited	No Evidence
CH.3e	X		
CH.3f	X		
CH.4	X		
CH.4a	X		
CH.4b	X		
CH.4c	X		
CH.4d	X		
CH.5	X		
CH.5a	X		
CH.5b	X		
CH.5c	X		
CH.5d	X		
CH.5e	X		

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework  Chemistry Summary	Rating		
	Adequate	Limited	No Evidence
CH.5 f	X		
CH.5 g	X		
CH.6	X		
CH.6a	X		
CH.6b	X		

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Section II. Additional Criteria: Instructional Planning and Support	Degree of Correlation: Place an X to the right of your choice (Adequate, Limited , No Evidence) Must provide comments to support the ratings other than Adequate.		
1. The textbook is presented in an organized, logical manner and is appropriate for the age, grade, and maturity of the students.	<b>Adequate X</b>	<b>Limited</b>	<b>No Evidence</b>
	Textbook is logically organized and grade/age appropriate for students.	Textbook lacks consistency in organization and appropriateness for the grade/age of students.	Textbook is not reasonably organized and is inappropriate for the grade/age of the students.
2. The textbook is organized appropriately within and among units of study.	<b>Adequate X</b>	<b>Limited</b>	<b>No Evidence</b>
	Scope and sequence is easy to read and understand.	Scope and sequence is confusing and not easy to understand.	Scope and sequence is difficult to read and understand.
3. The format design includes titles, subheadings, and appropriate cross-referencing for ease of use.	<b>Adequate X</b>	<b>Limited</b>	<b>No Evidence</b>
	Organizational properties of the textbook assist in understanding and processing content.	Organizational properties of the textbook offer limited assistance in understanding and processing content.	Organizational properties of the textbook do not assist in understanding and processing content.
	Comments:		

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Section II. Additional Criteria: Instructional Planning and Support	Degree of Correlation: Place an X to the right of your choice (Adequate, Limited , No Evidence) Must provide comments to support the ratings other than Adequate.		
4. The writing style, syntax, and vocabulary are appropriate.	<p align="center"><b>Adequate</b>    <b>X</b></p>	<p align="center"><b>Limited</b></p>	<p align="center"><b>No Evidence</b></p>
	<p>Readability is appropriate for the grade level. Writing style and syntax are varied and appropriate to enhance student understanding. Vocabulary consists of both familiar and challenging words.</p>	<p>Readability may be appropriate but is inconsistent throughout the text. Writing style and syntax may be inappropriate or lac2 variety, offering limited support for student understanding. Vocabulary may be too challenging or too familiar.</p>	<p>Readability is not appropriate for the grade level. Writing style and syntax are often inappropriate and lac2 variety to enhance student understanding. Vocabulary is too challenging or unfamiliar.</p>
5. Graphics and illustrations are appropriate.	<p align="center"><b>Adequate</b>    <b>X</b></p>	<p align="center"><b>Limited</b></p>	<p align="center"><b>No Evidence</b></p>
	<p>Visuals are accurate, support the text, and enhance student understanding.</p>	<p>Visuals are somewhat unclear and offer limited support for the text and student understanding.</p>	<p>Visuals are inaccurate, do not support the text, and do not enhance student understanding.</p>
6. Sufficient, high-quality instructional strategies are provided to promote depth of understanding.	<p align="center"><b>Adequate</b>    <b>X</b></p>	<p align="center"><b>Limited</b></p>	<p align="center"><b>No Evidence</b></p>
	<p>Materials (investigations, laboratories, and inquiry activities) provide students with opportunities to integrate s2ills and concepts.</p>	<p>Materials (investigations, laboratories, and inquiry activities) provide students with limited opportunities to integrate s2ills and concepts.</p>	<p>Materials (investigations, laboratories, and inquiry activities) provide students with no opportunities to integrate s2ills and concepts.</p>
	<p>Comments:</p>		

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Science Standard of Learning		Rating Scale		
		Please indicate the rating for each by placing an X in the appropriate cell.		
		Adequate	Limited	No Evidence
CH.1	The student will investigate and understand that experiments in which variables are measured, analyzed, and evaluated produce observations and verifiable data. Key concepts include	X		
	a) designated laboratory techniques;	X		
	b) safe use of chemicals and equipment;	X		
	c) proper response to emergency situations;	X		
	d) manipulation of multiple variables, using repeated trials;	X		
	e) accurate recording, organization, and analysis of data through repeated trials;	X		
	f) mathematical and procedural error analysis;	X		
	g) mathematical manipulations including SI units, scientific notation, linear equations, graphing, ratio and proportion, significant digits, and dimensional analysis;	X		
<b>Comments: Provide comments to support “limited” or “no evidence” ratings.</b>				

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Science Standard of Learning	Rating Scale		
	Adequate	Limited	No Evidence
CH.1 The student will investigate and understand that experiments in which variables are measures, analyzed, and evaluated produce observations and verifiable data. Key concepts include	X		
h) use of appropriate technology including computers, graphing calculators, and probeware, for gathering data, communicating results, and using simulations to model concepts;	X		
l) construction and defense of a scientific viewpoint; and	X		
j) the use of current applications to reinforce chemistry concepts.	X		
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Science Standard of Learning	Rating Scale		
	Adequate	Limited	No Evidence
CH.2 The student will investigate and understand that the placement of elements on the periodic table is a function of their atomic structure. The periodic table is a tool used for the investigations of	X		
a) average atomic mass, mass number, and atomic number;	X		
b) isotopes, half lives, and radioactive decay;	X		
c) mass and charge characteristics of subatomic particles;	X		
d) families or groups;	X		
e) periods;	X		
f) trends including atomic radii, electronegativity, shielding effect, and ionization energy;	X		
g) electron configurations, valence electrons, and oxidation numbers;	X		
h) chemical and physical properties; and	X		
i) historical and quantum models.	X		
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Science Standard of Learning	Rating Scale		
	Adequate	Limited	No Evidence
CH.3 The student will investigate and understand how conservation of energy and matter is expressed in chemical formulas and balanced equations. Key concepts include	X		
a) nomenclature;	X		
b) balancing chemical equations;	X		
c) writing chemical formulas;	X		
d) bonding types;	X		
e) reaction types; and	X		
f) reaction rates, kinetics, and equilibrium.	X		
<b>Comments: Provide comments to support “limited” or “no evidence” ratings.</b>			



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Science Standard of Learning	Rating Scale		
	Adequate	Limited	No Evidence
CH.4 The student will investigate and understand that chemical quantities are based on molar relationships. Key concepts include	X		
a) Avogadro’s principle and molar volume;	X		
b) stoichiometric relationships;	X		
c) solution concentrations; and	X		
d) acid/base theory; strong electrolytes, weak electrolytes, and nonelectrolytes;	X		
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	Adequate	Limited	No Evidence
CH.5 The student will investigate and understand that the phases of matter are explained by kinetic theory and forces of attraction between particles. Key concepts include	X		
a) pressure, temperature, and volume;	X		
b) partial pressure and gas laws;	X		
c) vapor pressure;	X		
d) phase changes;	X		
e) molar heats of fusion and vaporization;	X		
f) specific heat capacity; and	X		
g) colligative properties.	X		
<b>Comments: Provide comments to support “limited” or “no evidence” ratings.</b>			

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Science Standard of Learning	Rating Scale		
	Adequate	Limited	No Evidence
CH.6 The student will investigate and understand how basic chemical properties relate to organic chemistry and biochemistry. Key concepts include	X		
a) unique properties of carbon that allow multi-carbon compounds; and	X		
b) uses in pharmaceuticals and genetics, petrochemicals, plastics, and food.	X		
<b>Comments: Provide comments to support “limited” or “no evidence” ratings.</b>			