

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

Text Title: VA eScience3000-Physical Science      Publisher Achieve3000

Print \_\_\_\_\_      Digital X      Combination \_\_\_\_\_

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

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework  Physical Science Summary	Rating		
	Adequate	Limited	No Evidence
PS.1m	X		
PS.1n	X		
PS.2	X		
PS.2a	X		
PS.2b	X		
PS.2c	X		
PS.2d	X		
PS.2e	X		
PS.2f	X		
PS.3	X		
PS.3a	X		
PS.3b	X		
PS.4	X		

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	Adequate	Limited	No Evidence
PS.4a	X		
PS.4b	X		
PS.4c	X		
PS.5	X		
PS.5a	X		
PS.5b	X		
PS.5c	X		
PS.6	X		
PS.6a	X		
PS.6b	X		
PS.7	X		
PS.7a	X		
PS.7b	X		

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework  Physical Science Summary	Rating		
	Adequate	Limited	No Evidence
PS.7c	X		
PS.7d	X		
PS.8	X		
PS.8a	X		
PS.8b	X		
PS.8c	X		
PS.8d	X		
PS.9	X		
PS.9a	X		
PS.9b	X		
PS.9c	X		
PS.9d	X		
PS.9e	X		

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	Adequate	Limited	No Evidence
<b>PS.10</b>	X		
<b>PS.10a</b>	X		
<b>PS.10b</b>	X		
<b>PS.10c</b>	X		
<b>PS.10d</b>	X		
<b>PS.11</b>	X		
<b>PS.11a</b>	X		
<b>PS.11b</b>	X		
<b>PS.11c</b>	X		
<b>PS.11d</b>		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.
	Comments:		
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.
	Comments:		
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 X</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 align="center"><b>Limited</b></p> <p>Readability may be appropriate but is inconsistent throughout the text. Writing style and syntax may be inappropriate or lack variety, offering limited support for student understanding. Vocabulary may be too challenging or too familiar.</p>	<p align="center"><b>No Evidence</b></p> <p>Readability is not appropriate for the grade level. Writing style and syntax are often inappropriate and lack variety to enhance student understanding. Vocabulary is too challenging or unfamiliar.</p>
	Comments:		
5. Graphics and illustrations are appropriate.	<p align="center"><b>Adequate X</b></p> <p>Visuals are accurate, support the text, and enhance student understanding.</p>	<p align="center"><b>Limited</b></p> <p>Visuals are somewhat unclear and offer limited support for the text and student understanding.</p>	<p align="center"><b>No Evidence</b></p> <p>Visuals are inaccurate, do not support the text, and do not enhance student understanding.</p>
	Comments:		
6. Sufficient, high-quality instructional strategies are provided to promote depth of understanding.	<p align="center"><b>Adequate X</b></p> <p>Materials (investigations, laboratories, and inquiry activities) provide students with opportunities to integrate skills and concepts.</p>	<p align="center"><b>Limited</b></p> <p>Materials (investigations, laboratories, and inquiry activities) provide students with limited opportunities to integrate skills and concepts.</p>	<p align="center"><b>No Evidence</b></p> <p>Materials (investigations, laboratories, and inquiry activities) provide students with no opportunities to integrate skills and concepts.</p>
	Comments:		

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Science Standard of Learning		Rating Scale		
		Adequate	Limited	No Evidence
PS.1	The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which	X		
	a) chemicals and equipment are used safely;	X		
	b) length, mass, volume, density, temperature, weight, and force are accurately measured;	X		
	c) conversations are made among metric units, applying appropriate prefixes;	X		
	d) Triple beam and electronic balances, thermometers, metric rulers, graduated cylinders, probeware, and spring scales are used to gather data;	X		
	e) numbers are expressed in scientific notation where appropriate;	X		
	f) independent and dependent variables, constants, controls, and repeated trials are identified;	X		
	g) data tables showing the independent and dependent variables, derived quantities, and the number of trials are constructed and interpreted;		X	
	h) data tables for descriptive statistics showing specific measures of central tendency, the range of the data set, and the number of repeated trials are constructed and interpreted;		X	
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	Adequate	Limited	No Evidence
i) frequency distributions, scatterplots, line plots, and histograms are constructed and interpreted;	X		
j) valid conclusions are made after analyzing data;	X		
k) research methods are used to investigate practical problems and questions;	X		
l) experimental results are presented in appropriate written form;	X		
m) models and simulations are constructed and used to illustrate and explain phenomena; and	X		
n) current applications of physical science concepts are used.	X		
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Science Standard of Learning		Rating Scale		
		Adequate	Limited	No Evidence
PS.2	The student will investigate and understand the nature of matter. Key concepts include	X		
	a) the particle theory of matter;	X		
	b) elements, compounds, mixtures, acids, bases, and salts;	X		
	c) solids, liquids, and gases;	X		
	d) physical properties;	X		
	e) chemical properties; and	X		
	f) characteristics of types of matter based on physical and chemical properties.	X		
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	Adequate	Limited	No Evidence
PS.3 The student will investigate and understand the modern and historical models of atomic structure. Key concepts include	X		
a) the contributions of Dalton, Thomson, Rutherford, and Bohr in understanding the atom; and	X		
b) the modern model of atomic structure.	X		
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		Adequate	Limited	No Evidence
PS.4	The student will investigate and understand the organization and use of the periodic table of elements to obtain information. Key concepts include	X		
	a) symbols, atomic numbers, atomic mass, chemical families (groups), and periods;	X		
	b) classification of elements as metals, metalloids, and nonmetals; and	X		
	c) formation of compounds through ionic and covalent bonding.	X		
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	Adequate	Limited	No Evidence
PS.5 The student will investigate and understand changes in matter and the relationship of these changes to the Law of Conservation of Matter and Energy. Key concepts include	X		
a) physical changes;	X		
b) chemical changes; and	X		
c) nuclear reactions.	X		
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Science Standard of Learning		Rating Scale		
		Adequate	Limited	No Evidence
PS.6	The student will investigate and understand forms of energy and how energy is transferred and transformed. Key concepts include	X		
	a) potential and kinetic energy; and	X		
	b) mechanical, chemical, electrical, thermal, radiant, and nuclear energy.	X		
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		Adequate	Limited	No Evidence
PS.7	The student will investigate and understand temperature scales, heat, and thermal energy transfer. Key concepts include	X		
	a) Celsius and Kelvin temperature scales and absolute zero;	X		
	b) phase change, freezing point, melting point, boiling point, vaporization, and condensation;	X		
	c) conduction, convection, and radiation; and	X		
	d) applications of thermal energy transfer.	X		
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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
PS.8 The student will investigate and understand the characteristics of sound waves. Key concepts include	X		
a) wavelength, frequency, speed, amplitude, rarefaction, and compression;	X		
b) resonance;	X		
c) the nature of compression waves; and	X		
d) technological applications of sound.	X		
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		Adequate	Limited	No Evidence
PS.9	The student will investigate and understand the characteristics of transverse waves. Key concepts include	X		
	a) wavelength, frequency, speed, amplitude, crest, and trough;	X		
	b) the wave behavior of light;	X		
	c) images formed by lenses and mirrors;	X		
	d) the electromagnetic spectrum; and	X		
	e) technological applications of light.	X		
<p><b>Comments: Provide comments to support “limited” or “no evidence” ratings.</b></p>    				

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Science Standard of Learning	Rating Scale		
	Adequate	Limited	No Evidence
PS.10 The student will investigate and understand the scientific principles of work, force and motion. Key concepts include	X		
a) speed, velocity, and acceleration;	X		
b) Newton’s laws of motion;	X		
c) work, force, mechanical advantage, efficiency, and power; and	X		
d) technological applications of work, force, and motion..	X		
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	Adequate	Limited	No Evidence
PS.11 The student will investigate and understand basic principles of electricity and magnetism. Key concepts include	X		
a) static electricity, current electricity and circuits;	X		
b) relationship between a magnetic field and an electric current;	X		
c) electromagnets, motors, and generators and their uses; and	X		
d) conductors, semiconductors, and insulators.		X	
<b>Comments: Provide comments to support "limited" or "no evidence" ratings.</b>			