



Correlation

Standards of Learning for Virginia

Physical Science

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a quote or to place an order, please contact:**

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Standards of Learning for Virginia Physical Science

The Physical Science Standards continue to build on skills of systematic investigation with a clear focus on variables and repeated trials. Validating conclusions using evidence and data becomes increasingly important at this level. Students will plan and conduct research involving both classroom experimentation and literature reviews from written and electronic resources. Research methods and skills highlight practical problems and questions. Students will share their work using written reports and other presentations and will continue to use metric units as the primary unit of measurement for gathering and reporting data.

The Physical Science Standards stress an in-depth understanding of the nature and structure of matter and the characteristics of energy. The Standards place considerable emphasis on the technological application of physical science principles. Major areas covered by the Standards include the organization and use of the periodic table; physical and chemical changes; nuclear reactions; temperature and heat; sound; light; electricity and magnetism; and work, force, and motion.

The Physical Science Standards continue to focus on student growth in understanding the nature of science. This scientific view defines the idea that explanations of nature are developed and tested using observation, experimentation, models, evidence, and systematic processes. The nature of science includes the concepts that scientific explanations are based on logical thinking; are subject to rules of evidence; are consistent with observational, inferential, and experimental evidence; are open to rational critique; and are subject to refinement and change with the addition of new scientific evidence. The nature of science includes the concept that science can provide explanations about nature and can predict potential consequences of actions, but cannot be used to answer all questions.

PS.1. The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.

Cite It: Selecting Credible Sources	R/800	978-1-4488-7599-3	51.00	Rosen Classroom
Find It: Searching for Information	R/800	978-1-4488-7598-6	51.00	Rosen Classroom
Inquiry and Investigation (PRIME)(Bridges)(below-level)	R/750	Y05755	69.00	Benchmark Education
Inquiry and Investigation (PRIME)(on-level)	X/910	Y05690	69.00	Benchmark Education
Investigating the Scientific Method with Max Axiom, Super Scientist	T/760	978-1-4296-2055-0	48.70	Capstone Classroom
Plan It: Conducting Short-Term and Long-Term Research	R/800	978-1-4488-7597-9	51.00	Rosen Classroom
Present It: Understanding Contexts and Audiences	R/800	978-1-4488-7602-0	51.00	Rosen Classroom
Prove It: Gathering Evidence and Integrating Information	R/800	978-1-4488-7600-6	51.00	Rosen Classroom
Share It: Using Digital Tools and Media	R/800	978-1-4488-7601-3	51.00	Rosen Classroom
Tools of Scientists (PRIME)(Bridges)(below-level)	Q/760	Y05763	69.00	Benchmark Education
Tools of Scientists (PRIME)(on-level)	V/890	Y05698	69.00	Benchmark Education
Using Math in Science (PRIME)(Bridges)(below-level)	R/760	Y05758	69.00	Benchmark Education
Using Math in Science (PRIME)(on-level)	V/950	Y05693	69.00	Benchmark Education
<i>Using Scientific Tools</i>	<i>U/800</i>	<i>978-1-60694-531-5</i>	<i>9.95</i>	<i>Rourke Ed Media</i>

<i>Title</i>	<i>GR / Lexile</i>	<i>ISBN or Code</i>	<i>Six-pack Price</i>	<i>Publisher</i>
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Titles in italics are single copy; order six to make a six-pack.

PS.2 The student will investigate and understand the nature of matter.

Chemical Reactions (Science Made Simple)	Z/1100	978-1-4488-2249-2	66.00	Rosen Classroom
Dynamic World of Chemical Reactions with Max Axiom, Super Scientist *	V/790	978-1-4296-5719-8	48.70	Capstone Classroom
Energy Resources (PRIME)(Bridges)(below-level)	R/840	Y05752	69.00	Benchmark Education
Energy Resources (PRIME)(on-level)	V/940	Y05687	69.00	Benchmark Education
Experiments with States of Matter	Y/980	978-1-4042-8023-6	51.00	Rosen Classroom
Foundations of Matter (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/770	Y05750	69.00	Benchmark Education
Foundations of Matter (Physical Science: Matter)(PRIME)(on-level) *	X/900	Y05685	60.00	Benchmark Education
Gases and Their Properties (Science Made Simple)	Z/1010	978-1-4488-2245-4	66.00	Rosen Classroom
Interactions of Matter (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/780	Y05754	69.00	Benchmark Education
Interactions of Matter (Physical Science: Matter)(PRIME)(on-level) *	V/930	Y05689	69.00	Benchmark Education
Nature of Matter, The (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/740	Y05759	69.00	Benchmark Education
Nature of Matter, The (Physical Science: Matter)(PRIME)(on-level) *	W/870	Y05694	69.00	Benchmark Education
Properties of Salts, The (The Library of Physical Science)	S/900	978-1-4042-2362-2	36.00	Rosen Classroom
Properties of Solids, The (The Library of Physical Science)	R/870	978-1-4042-2358-5	36.00	Rosen Classroom
Solids, Liquids and Gases (Essential Physical Science)	S/1000	978-1-4329-8169-3	54.94	Capstone Classroom
Scientific Inquiry in Action: Chemical Reaction	T/1000	978-1-4358-0188-2	51.00	Rosen Classroom
What Do You Know about States of Matter?	S/900	978-1-4488-1247-9	42.00	Rosen Classroom

PS.3 The student will investigate and understand the modern and historical models of atomic structure.

Age of the Atom: 1900-1946, The (Science Highlights) *	V/860	978-1-4339-4153-5	71.70	Gareth Stevens Cl
Atomic and Molecular Structure (Science Made Simple) *	Z/1000	978-1-4488-2248-5	66.00	Rosen Classroom
Carbon Chemistry (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/830	Y05748	69.00	Benchmark Education
Carbon Chemistry (Physical Science: Matter)(PRIME)(on-level) *	X/940	Y05683	69.00	Benchmark Education
Foundations of Matter (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/770	Y05750	69.00	Benchmark Education
Foundations of Matter (Physical Science: Matter)(PRIME)(on-level) *	X/900	Y05685	60.00	Benchmark Education
Looking at Atoms and Molecules *	S/800	978-1-4042-2356-1	36.00	Rosen Classroom
What Do You Know about Atoms and Molecules?*	T/1000	978-1-4488-1224-0	42.00	Rosen Classroom

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PS.4 The student will investigate and understand the organization and use of the periodic table of elements to obtain information.

Age of the Atom: 1900-1946, The (Science Highlights) *	V/860	978-1-4339-4153-5	71.70	Gareth Stevens Cl
Atomic and Molecular Structure (Science Made Simple) *	Z/1000	978-1-4488-2248-5	66.00	Rosen Classroom
Carbon Chemistry (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/830	Y05748	69.00	Benchmark Education
Carbon Chemistry (Physical Science: Matter)(PRIME)(on-level) *	X/940	Y05683	69.00	Benchmark Education
Elements in Living Organisms (The Library of Physical Science)	T/850	978-1-4042-2361-5	36.00	Rosen Classroom
Foundations of Matter (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/770	Y05750	69.00	Benchmark Education
Foundations of Matter (Physical Science: Matter)(PRIME)(on-level) *	X/900	Y05685	60.00	Benchmark Education
Interactions of Matter (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/780	Y05754	69.00	Benchmark Education
Interactions of Matter (Physical Science: Matter)(PRIME)(on-level) *	V/930	Y05689	69.00	Benchmark Education
Looking at Atoms and Molecules *	S/800	978-1-4042-2356-1	36.00	Rosen Classroom
<i>Sorting the Elements: The Periodic Table at Work</i>	V/660	978-1-60694-994-8	9.95	Rourke Ed Media
What Do You Know about Atoms and Molecules?*	T/1000	978-1-4488-1224-0	42.00	Rosen Classroom

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.

Age of the Atom: 1900-1946, The (Science Highlights) *	V/860	978-1-4339-4153-5	71.70	Gareth Stevens Cl
Atomic and Molecular Structure (Science Made Simple) *	Z/1000	978-1-4488-2248-5	66.00	Rosen Classroom
Carbon Chemistry (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/830	Y05748	69.00	Benchmark Education
Carbon Chemistry (Physical Science: Matter)(PRIME)(on-level) *	X/940	Y05683	69.00	Benchmark Education
Energy Resources (Earth Science) (PRIME)(Bridges)(below-level) *	R/840	Y05752	69.00	Benchmark Education
Energy Resources (Earth Science) (PRIME)(on-level) *	V/940	Y05687	69.00	Benchmark Education
Foundations of Matter (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/770	Y05750	69.00	Benchmark Education
Foundations of Matter (Physical Science: Matter)(PRIME)(on-level) *	X/900	Y05685	60.00	Benchmark Education
Interactions of Matter (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/780	Y05754	69.00	Benchmark Education
Interactions of Matter (Physical Science: Matter)(PRIME)(on-level) *	V/930	Y05689	69.00	Benchmark Education
Looking at Atoms and Molecules *	S/800	978-1-4042-2356-1	36.00	Rosen Classroom

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Nature of Matter, The: (Physical Science: Matter)(PRIME)(Bridges)(below-level) *	R/740	Y05759	69.00	Benchmark Education
Nature of Matter, The: (Physical Science: Matter)(PRIME)(on-level) *	W/870	Y05694	69.00	Benchmark Education
What Do You Know about Atoms and Molecules?*	T/1000	978-1-4488-1224-0	42.00	Rosen Classroom

PS.6 The student will investigate and understand forms of energy and how energy is transferred and transformed.

Dynamic World of Chemical Reactions with Max Axiom, Super Scientist *	V/790	978-1-4296-5719-8	48.70	Capstone Classroom
Energy (Essential Physical Science) *	S/1040	978-1-4329-8163-1	54.94	Capstone Classroom
Energy Resources (Earth Science) (PRIME)(Bridges)(below-level) *	R/840	Y05752	69.00	Benchmark Education
Energy Resources (Earth Science) (PRIME)(on-level) *	V/940	Y05687	69.00	Benchmark Education
Fossil Fuels (Energy for the Future and Global Warming)	Q/790	978-1-4339-0421-9	59.70	Gareth Stevens Cl
Heat (Energy in Action) *	R/680	978-1-4042-2376-9	36.00	Rosen Classroom
Transfer of Energy (Gareth Stevens Vital Science – Physical Science) *	T/870	978-1-4339-0494-3	71.70	Gareth Stevens Cl
Wind Power (Energy for the Future and Global Warming)	Q/830	978-1-4339-0427-1	59.70	Gareth Stevens Cl

PS.7 The student will investigate and understand temperature scales, heat, and thermal energy transfer.

Energy (Essential Physical Science) *	S/1040	978-1-4329-8163-1	54.94	Capstone Classroom
Energy Resources (Earth Science)(PRIME)(Bridges)(below-level) *	R/840	Y05752	69.00	Benchmark Education
Energy Resources (Earth Science) (PRIME)(on-level) *	V/940	Y05687	69.00	Benchmark Education
Heat (Energy in Action) *	R/680	978-1-4042-2376-9	36.00	Rosen Classroom
Transfer of Energy (Gareth Stevens Vital Science – Physical Science) *	T/870	978-1-4339-0494-3	71.70	Gareth Stevens Cl

PS.8 The student will investigate and understand the characteristics of sound waves.

Adventures in Sound with Max Axiom, Super Scientist	U/630	978-0-7368-9962-8	48.70	Capstone Classroom
Experiments with Light and Sound *	Y/1090	978-1-4042-8026-7	51.00	Rosen Classroom
Light and Sound (Essential Phy Science)	S/1020	978-1-4329-8165-5	54.94	Capstone Classroom
Light and Sound Technology (Physical Science)(Bridges)(below-level) *	M/530	A98616	54.00	Benchmark Education
Light and Sound Technology (Physical Science)(on-level) *	R/680	A62280	51.00	Benchmark Education
Listening to Sound (Physical Science) (Bridges)(below-level)	M/570	A98609	54.00	Benchmark Education
Listening to Sound (Phy Sci)(on-level)	Q/730	A62273	51.00	Benchmark Education

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Making Noise!: Making Sounds (Exploring Sound)	R/920	978-1-4109-6009-2	48.94	Capstone Classroom
Shhh! Listen!: Hearing Sounds (Exploring Sound)	R/840	978-1-4109-6012-2	48.94	Capstone Classroom
Sound (Gareth Stevens Vital Science-Physical Science)	T/1040	978-1-4339-0493-6	71.70	Gareth Stevens Cl
Turn It Up! Turn It Down!: Volume (Exploring Sound)	R/830	978-1-4109-6011-5	48.94	Capstone Classroom
Why Can't I Hear That?: Pitch and Frequency (Exploring Sound)	R/860	978-1-4109-6010-8	48.94	Capstone Classroom
Why Does Sound Travel? All About Sound	S/1000	978-1-61531-909-1	42.00	Rosen Classroom

PS.9 The student will investigate and understand the characteristics of transverse waves.

Experiments with Light and Sound *	Y/1090	978-1-4042-8026-7	51.00	Rosen Classroom
Light and Sound (Essential Phy Science) *	S/1020	978-1-4329-8165-5	54.94	Capstone Classroom
Light and Sound Technology (Physical Science)(Bridges)(below-level) *	M/530	A98616	54.00	Benchmark Education
Light and Sound Technology (Physical Science)(on-level) *	R/680	A62280	51.00	Benchmark Education
Looking at Light (Physical Science) (Bridges)(below-level)	L/560	A98593	54.00	Benchmark Education
Looking at Light (Physical Science) (on-level)	Q/760	A62266	51.00	Benchmark Education
What Do You Know About Light? (20 Questions: Physical Science)	T/1000	978-1-4488-1251-6	42.00	Rosen Classroom

PS.10 The student will investigate and understand the scientific principles of work, force, and motion.

Crash Course in Forces and Motion with Max Axiom, Super Scientist, A	V/630	978-0-7368-9963-5	48.70	Capstone Classroom
Forces and Motion (Essential Phy Science)	S/920	978-1-4329-8164-8	54.94	Capstone Classroom
<i>Forces and Motion at Work</i>	W/770	978-1-61741-990-4	9.95	<i>Rourke Ed Media</i>
Forces and Motion on Earth (Bridges)(below-level)	R/640	A76638	56.00	Benchmark Education
Forces and Motion on Earth (on-level)	V/700	A50870	56.00	Benchmark Education
Forces and Motion in Sports (Bridges)(below-level)	Q/570	A76577	56.00	Benchmark Education
Forces and Motion in Sports (on-level)	W/740	A50889	56.00	Benchmark Education
Isaac Newton and His Laws of Motion (Bridges)(below-level)	R/580	A76560	56.00	Benchmark Education
Isaac Newton and His Laws of Motion (on-level)	X/830	A50897	56.00	Benchmark Education
Motion and Forces (Science Made Simple)	Z/1100	978-1-4488-2246-1	66.00	Rosen Classroom
The Science of Bicycle Racing (The Science of Speed)	Y/1050	978-1-4765-6203-2	59.70	Capstone Classroom
The Science of Car Racing (The Science of Speed)	S/780	978-1-4765-6204-9	60.70	Capstone Classroom
The Science of Snowboarding (The Science of Speed)	Y/1000	978-1-4765-6206-3	59.70	Capstone Classroom

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Skateboarding: How It Works (The Science of Sports)	Y/800	978-1-4296-5110-3	59.70	Capstone Classroom
Why Do Balls Bounce? All About Gravity	R/850	978-1-61531-911-4	42.00	Rosen Classroom
What Do You Know About Forces and Motion? (20 Questions: Physical Science)	T/1000	978-1-4488-1255-4	42.00	Rosen Classroom

PS.11 The student will investigate and understand basic principles of electricity and magnetism.

The Attractive Story of Magnetism with Max Axiom, Super Scientist	V/830	978-1-4296-2051-2	48.70	Capstone Classroom
Electricity (Energy in Action)	R/740	978-1-4042-2377-6	36.00	Rosen Classroom
Electricity (Essential Physical Science)	S/1050	978-1-4329-8162-4	54.94	Capstone Classroom
Electricity Adds Up	T/870	A04399	51.00	Benchmark Education
Magnetic Forces	R/850	978-1-4358-0156-1	51.00	Rosen Classroom
Magnetism (Essential Physical Science)	S/1010	978-1-4329-8166-2	54.94	Capstone Classroom
The Shocking World of Electricity with Max Axiom, Super Scientist	V/720	978-0-7368-9961-1	48.70	Capstone Classroom
Snap, Crackle and Flow	R/890	A04283	51.00	Benchmark Education
<i>Turn On the Light: How Electricity Works</i>	<i>U/680</i>	<i>978-1-61236-233-5</i>	<i>9.95</i>	<i>Rourke Ed Media</i>
Why Does Electricity Flow? All About Electricity	R/850	978-1-61531-918-3	42.00	Rosen Classroom

*Title in multiple strands

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