

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.1.1 Physical Science	Content Standard	Structure and Properties of Matter	Matter is made up of minute particles called atoms, and atoms are composed of even smaller components (i.e., protons, neutrons, and electrons).	311	location/size/charge of subatomic particles	132	atomic number determines what element that atom is
				311	protons/neutrons/electrons	132	building atom models
				315	atoms of same element have same atomic number	133	protons and neutrons
				318	proton/electron attraction	133	location of electrons in atom
				388	showing valence electrons in a diagram	136	model stable and neutral atoms
						137	importance of atomic number
						137	build atomic models
						140	find the number of electrons in outermost level
						140	review subatomic particles

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.1.2 Physical Science	Content Standard	Structure and Properties of Matter	An element is composed of a single type of atoms. When elements are listed in order according to the number of protons repeating patterns of physical and chemical properties identify families of elements with similar properties.	311	all matter is formed from atoms	132	comparing atoms
				315	atoms of same element have same atomic number	132	atomic number determines what element that atom is
				321	groups of elements and valence shells	137	importance of atomic number
				329	periodic table columns and valence electrons	141	build model of Na and Cl atoms and explain why they bond to form a molecule
				330	bonding and periodic table position	142	arrangement of electrons and groups of elements
				332	periodic table and electronegativities		
			335	periodic table and oxidation numbers			

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.1.3 Physical Science	Content Standard	Structure and Properties of Matter	Matter has characteristic properties, such as boiling points, melting points, and density, which distinguish pure substances and can be used to separate one substance from another.	278	mixtures can be separated by physical means	114	separating a homogeneous mixture
				281	volume and mass contrasted	116	mass and volume measurements
				291	density is independent of amount of substance	124	build a density column
				292	hardness is a physical property of matter	212	investigate density changes in the oceans as the cause of ocean layering
				292	elasticity is a physical property of matter		
				293	brittleness is a physical property of matter		
				294	tensile strength is a physical property of matter		
				294	malleability is a physical property of matter		
				295	relationship between mass volume and density		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.2.1 Physical Science	Content Standard	Motion and Forces	Objects change their motion only when a net force is applied. Laws of motion are used to determine the effects of forces on the motion of objects.	14	how to calculate speed	8	calculating speed
				15	compare and contrast speed and velocity	9	collect data and calculate speed of car
				20	find speed of bumblebee	10	calculate speed of the car
				20	calculate speed of car	12	model the car's motion graphically
				24	accurate speed measurements	12	find speed of car at different positions
				29	position vs. time graph discussion	13	make a position vs. time graph
				30	position vs. time graphs	14	exploring acceleration on a ramp
				32	average speed vs. instantaneous	14	calculate speed of car at two places on the ramp
				32	average speed discussed	15	changes in motion can be represented graphically
				37	speed vs. time graphs	15	make a speed vs. time graph
				37	speed vs. time graph discussion	15	make a speed vs. time graph
				42	calculate speed from distance/time graph	16	2nd law
				45	Newton's first law summarized	16	unbalanced forces and acceleration of car
				45	Newton's third law summarized	16	thinking about force
				45	Newton's second law summarized	17	calculate speed of car
				46	force has potential to change motion	19	find correct relationship between force mass and acceleration
				47	weight vs. mass		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page		
				48 48 49 49 50 51 51 53 59 64 599	Newton's laws explained and applied Newton's first law in detail Newton's second law in detail force is related to acceleration Newton's second law applied balanced and unbalanced forces net force explained how to calculate weight Newton's third law in detail solving problems using $f=ma$ Newton's first law of motion and the space shuttle	19 20 20 22 23 36	discover 2nd law of motion force and motion with car and ramp weight vs. mass car and ramp and Newton's 3rd law using 3rd law to explain common phenomena find speed of marble
PS.2.2 Physical Science	Content Standard	Motion and Forces	Gravitation is a universal force that each mass exerts on any other mass.	52 52 54 55 606	the effect of gravity gravity depends on mass Newton's law of universal gravitation calculating gravitational force between objects Newton's law of universal gravitation	20 257	investigate effect of gravity on motion relating the relationship between orbital speed and distance to the equation of universal gravitation

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.3.1 Physical Science	Content Standard	Interactions of Energy and Matter	All energy can be considered to be either kinetic energy, which is the energy of motion; potential energy, which depends on relative position; or energy contained by a field, such as electromagnetic waves.	88	potential and kinetic energy explained	36	energy conservation and the roller coaster
				90	conservation of energy explained	37	investigating conservation of energy with rollercoaster
				91	following an energy transformation	38	conservation of energy and energy transformations
				91	understand basic forms of energy	39	make an energy flow chart
				92	energy transformations and conservation	39	identify type of energy involved
				93	different forms of energy described		
				96	prove that energy is conserved		
				623	energy from the sun		
				626	harnessing the sun's energy		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.3.2 Physical Science	Content Standard	Interactions of Energy and Matter	Waves, including sounds and seismic waves, waves on water, and light waves, have energy and can transfer energy when they interact with matter (such as used in telescopes, solar power, and telecommunication technology).	195	waves transmit energy	82	study wave pulses on elastic cord
				196	waves are all around us	83	measure speed of a wave pulse
				197	transverse and longitudinal waves	83	find speed of a wave
				198	frequency and wavelength and amplitude	84	make different types of waves in a ripple tank
				201	waves and absorption	85	observing reflection in water waves
				201	reflection in water waves and light waves	86	investigate frequency and wavelength
				201	waves and reflection	86	adjust frequency of a standing wave
				201	waves and refraction	87	investigating resonance
				202	refraction and eyeglasses	88	natural frequency and resonance of standing waves on a string
				204	resonance explained	90	what is sound and how do we hear it?
				205	standing waves on a string	90	investigate human perception of sound
				206	constructive and destructive interference	90	investigate human perception of sound
				210	natural frequency of a building and earthquakes	94	does sound behave like other waves?
				210	can wave interference sink a ship?	95	investigate interference with sound waves
				213	how the ear works	95	interference and sound waves
				215	properties of sound waves		
				217	loudness and decibels		
				219	frequency of sound and pitch		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page		
				220	voice recognition programs	96	investigating sound resonance
				220	sonograms	98	investigate sound and music
				220	white noise		
				221	importance of wavelength of sound waves	101	examine light through diffraction grating
				222	effect of medium on speed of sound wave	101	observing white light through diffraction grating
				222	effect of temperature on speed of sound wave	102	polarization of a spring wave
				223	interference of sound waves	102	polarization of water waves
				225	consonance and dissonance and beats	103	polarization of light
				226	musical instruments	104	investigate RGB model of color
				237	visible light and the electromagnetic spectrum	105	explore relationship between color and wavelength
				237	microwave ovens	106	tracing incident and reflected rays
				237	radio and television signals	106	investigate reflection of light
				237	light waves and the electromagnetic spectrum	107	investigate how light interacts with mirrors
				240	polarization of light		
				242	color and frequency of light waves	107	plot reflected rays from a mirror
				242	properties of light waves	108	explore refraction with a prism
				243	RGB model of color		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page		
				245	we see color in terms of reflected light	108	explore refraction with lenses
				250	identify uses of electromagnetic waves	108	investigate how light interacts with a prism
				258	forming images with lenses	110	finding focal point and focal length of a lens
				260	reflection and mirrors	111	plotting images formed when light is refracted by a lens
				261	refraction and lenses		
				264	human eye as an optical instrument	113	observe internal reflection and relate to fiber optics
				268	total internal reflection and fiber optics	134	investigating visible light with a spectrometer
				272	identify uses of electromagnetic waves	253	using a refractive telescope
				273	find the angle of reflection		
				479	ultraviolet and infrared light	265	an element's spectral lines correspond to specific wavelengths of light
				480	electromagnetic radiation		
				480	absorption and emission		
				480	energy and radiation relationships		
				538	body waves		
				626	the sun's energy reaches Earth in the form of electromagnetic waves		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.4.1 Physical Science	Content Standard	The Earth System	Geologic time can be estimated by observing rock sequences and using fossils to correlate the sequences at various locations.	521	origin of fossils	225	determining the relative ages of rock formations
				522	relative dating	226	sequencing events in a geologic cross-section
				523	interpreting rock formations	242	understanding how igneous rocks are formed and growing crystals to investigate their formation
				533	activity of Earth's crust at plate boundaries	244	understanding how sedimentary rocks are formed and creating sedimentary deposits to investigate them
				534	balance of creating and consuming Earth's crust	246	understanding and investigating how metamorphic rocks are formed
				562	constructive and destructive processes	247	interpreting how different rock formations were formed
				562	constructive and destructive processes		
				565	formation of soil		
				569	studying moon rocks on Earth		
				573	formation of igneous and sedimentary and metamorphic rocks		
				575	identifying igneous and sedimentary and metamorphic rocks		
				576	the rock cycle		
				576	the rock cycle		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.4.2 Physical Science	Content Standard	The Earth System	The solid crust of the earth consists of separate plates that move very slowly pressing against one another in some places and pulling apart in other places (i.e., volcanoes, earthquakes and mountain building).	528	definition of plate tectonics	228	reading a bathymetric map
				532	theory of plate tectonics	229	using a geologic hazard map of frequent earthquakes
				533	describing plate boundaries	229	identifying tectonic plates and plate boundaries
				534	divergent plate boundaries	236	understanding the Volcanic Explosivity Index
				535	convergent plate boundaries	237	finding a pattern of volcanoes related to the locations of plate boundaries
				536	transform plate boundaries		
				537	conversion of energy in rocks causes seismic waves		
				537	earthquakes and plate tectonics		
				537	causes and descriptions of earthquakes		
				538	seismic waves		
				539	earthquakes rating scales		
				540	where earthquakes occur		
				541	earthquake hazard map		
				552	formation of magma in Earth's mantle		
				552	geologic basis for volcanic eruptions		
553	where volcanic activity occurs						

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
				554	
				555	
				555	
				555	
				556	
				556	
				556	
				557	
				567	
				580	

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
PS.5.1 Physical Science	Content Standard	The Universe	The stars differ from each other in size, temperature, and age, but they appear to be made up of the same elements that are found on the earth.	622 descriptions of the sun and comparisons to other stars 635 size of the sun compare to other stars 637 H-R diagrams comparing temperature and brightness of stars 639 death of small to medium stars results in white dwarfs and planetary nebula and black dwarfs 640 death of massive stars results in supernovas and neutron stars and black holes 640 birth of elements 640 death of massive stars	264 using spectroscopy to analyze the light emitted by stars and identify most common elements
PS.5.2 Physical Science	Content Standard	The Universe	All stars have a life cycle including birth, development, and death. Fusion reactions in stars release great amounts of energy and matter over millions of years.	639 death of small to medium stars results in white dwarfs and planetary nebula and black dwarfs 640 death of massive stars results in supernovas and neutron stars and black holes	264 using spectroscopy to analyze the light emitted by stars and identify most common elements

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.1.1 Physical Science	Process Standard	Observe and Measure	Identify qualitative and quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.	3	time measurement	5	making measurements with precision
				5	make measurements with precision	7	measure and record variables
				6	scientists use metric units	12	make metric length measurement
				78	use and understand mass measurements	16	understand and use units of force
				280	measuring volume of liquids	17	measure the force
				280	measuring volume of solids	17	measure the force
				585	understanding time measurement in years	25	measure and record the force
				586	clocks and the division of time	30	measure height difference
						36	make precise height measurements
						63	making measurements with precision
		75	make precise length measurements				
		116	measuring mass				
		117	measuring volume				
		176	measure pH				
		249	calibrating a sundial				

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.1.2 Physical Science	Process Standard	Observe and Measure	Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) when measuring objects and/or events.	24	using an electronic timer	7	use a ruler to make a measurement
				497	slings psychrometer	12	using photogates
				594	telescopes	14	using photogates
						16	use a force scale
						17	use photogates to study car on ramp
						18	use a balance to find mass of car
						30	use force scale
						44	using electrical meter
						46	using electrical meter
						48	using electrical meter
						50	using electrical meter
						86	use CPO Timer to measure frequency
						107	study reflection of laser beam
						108	study refraction of laser beam
						113	trace critical angle with a laser beam
						158	use a thermometer

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.1.3 Physical Science	Process Standard	Observe and Measure	Use appropriate System International (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds); and SI prefixes (i.e. micro- , milli-, centi-, and kilo-) when measuring objects and/or events.	5 6 78	measuring distance scientists use metric units use and understand mass measurements	5 6 12 16 16 44 46 48 87 116 116 117 186	measuring metric and english lengths measure time make metric length measurement understand and use units of force measure force measure voltage measure current measure resistance measure wavelength measuring mass measure mass measure volume measure temperature

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.2.1 Physical Science	Process Standard	Classify	Using observable properties, place an object or event into a classification system.	91	understand basic forms of energy	39	identify type of energy involved
				284	states of matter and arrangement of molecules	118	investigate melting
				284	changes of state	118	molecules in a liquid
				405	molecular structure of ice	118	think of melting process at molecular level
				429	the water cycle	119	energy and phase changes
				435	pond ecosystem and water quality		
				438	acid rain formation system		
				498	phases changes in the atmosphere		
PS.INQ.2.2 Physical Science	Process Standard	Classify	Identify the properties by which a classification system is based.	243	RGB model of color	104	investigate RGB model of color

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.3.1 Physical Science	Process Standard	Experiment	Evaluate the design of a physical science investigation.	7	experimentation begins with a question	7	variables in an experiment
				9	steps in the scientific method	7	design your own experiment
				10	forming a hypothesis	7	doing a controlled experiment
				11	control and experimental variables	7	compare results with hypothesis
				19	design your own experiment	9	design three experiments using car and ramp
				19	which group did the best experiment?	9	design three experiments and choose equipment
				19	design your own experiment	9	design three experiments and choose equipment
				26	independent and dependent variables	16	decide how to vary the force on the car for this experiment
				28	identifying cause and effect relationships	18	evaluate graphs as to whether or not they show relationships between variables
				41	identify cause and effect	21	evaluate percent change for data collected
				42	devise an experiment	21	choose independent and dependent variables for graph
				288	find the thickness of a single card	21	determine effect of increasing mass
				438	what causes acid rain	26	what variables can be changed?
				448	forming a hypothesis and testing through experimentation (#5)		
				448	describe steps you would take to determine whether pH affects frog population		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page	
				456	determining effect of changing mass on temperature changes	27 recognize variables
				460	thermal equilibrium	75 design pendulum experiment
				497	factors that shape the weather	75 evaluate statistical significance
				530	proving hypotheses for sea-floor spreading	75 plan three experiments to determine which variable affects the period of a pendulum
				580	form a hypothesis (#7)	
				602	identify question, hypothesis, procedure, and results (#1)	93 decision trees and the advantage of doing multiple trials
				608	relationship between orbital speed and distance between two objects	145 plan a procedure and select necessary equipment
						151 design experiment to find out if mass is conserved
						151 plan procedures and select materials
						170 which factor will produce fastest dissolving rate?
						170 devise hypothesis and explain
						170 what three factors influence dissolving rate?
						171 evaluate method based on data
						182 formulate hypothesis
						190 effect of changing mass on collected data

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					190 effect of changing mass on data
					194 design and construct an aneroid barometer
					197 identifying relationships between air pressure and weather
					200 evaluating your qualitative ozone strips
					206 identifying relationship between percent of Earth covered in water and temperature range
					208 formulate a hypothesis about why the seasons occur
					211 determining whether distance from light source or axial tilt plays a more significant role in causing the seasons
					224 sequencing events
					233 identifying how the earthquake model represents an earthquake
					235 concluding which conditions affect the timing and duration and intensity of an earthquake based on observation

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					237 develop a research plan for studying volcanoes 241 justify which scenario was most likely 256 investigation discovering relationship between orbital speed and distance
PS.INQ.3.2 Physical Science	Process Standard	Experiment	Identify the independent variables, dependent variables, and controls in an experiment.	11 control and experimental variables 26 independent and dependent variables	7 doing a controlled experiment 21 choose independent and dependent variables for graph 27 recognize variables 190 effect of changing mass on collected data 211 determining whether distance from light source or axial tilt plays a more significant role in causing the seasons

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.3.3 Physical Science	Process Standard	Experiment	Use mathematics to show relationships within a given set of observations.	42	interpreting distance/time graph	6	compare results with other groups
				42	analyze a speed/distance graph	11	analyze speed change of car
				459	heat equation	11	graph speed vs. position
				547	average density (#5)	18	study data table for relationship between force and motion
				618	average distance from the sun	25	create a mathematical model
				645	inverse square law	25	analyze block and tackle data
						27	find math rule for lever equilibrium
						27	analyze lever equilibrium data
						28	derive a math formula
						35	does data support hypothesis?
						45	did battery voltage change?
						76	analyze pendulum data
						129	find average velocity
		147	students analyze chemical change lab results				
		171	average dissolving rate				
		187	find equation for trend line				

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					257 inverse square law 268 discovering the mathematical relationship between apparent brightness and distance
PS.INQ.3.4 Physical Science	Process Standard	Experiment	Identify a hypothesis for a given problem in physical science investigations.	448 forming a hypothesis and testing through experimentation (#5) 451 what is temperature 530 proving hypotheses for sea-floor spreading 580 form a hypothesis (#7) 602 identify question, hypothesis, procedure, and results (#1)	7 variables in an experiment 170 which method will give fastest dissolving rate? 170 devise hypothesis and explain 182 formulate hypothesis 208 formulate a hypothesis about why the seasons occur

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
PS.INQ.3.5 Physical Science	Process Standard	Experiment	Recognize potential hazards and practice safety procedures in all physical science activities.	452 safety caution on heating jar	20 safety tip for car/ramp setup 24 ropes and pulley safety 26 safety tip for hanging weights from lever 40 electrical safety 44 short circuit safety warning 56 short circuit safety warning 58 short circuit safety warning 146 safety in the lab 150 chemistry safety 158 wear goggles and apron 168 safety equipment 172 hot water safety 180 safety tip for water testing 182 safety tips for observing Daphnia 186 thermometer safety 188 heat safety 192 heat safety 202 safety in greenhouse gas investigation 210 safety using light bulbs

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					216 safety in swinging thermometers 256 safety in lab

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.4.1 Physical Science	Process Standard	Interpret and Communicate	Select appropriate predictions based on previously observed patterns of evidence.	20	how will speed change?	76	use data to predict best string length for a pendulum clock
				24	predicting speed from a graph	121	use graph to predict mass of six objects
				42	predict the speed of a car	151	does your experiment agree with law of conservation of mass?
						156	make predictions about solubility
						201	predicting areas with high ozone concentration based on your data
						204	predicting what would happen if you place your ice/water test tube into a hot cup or a cold cup
						231	evaluating your completed bathymetric map
						239	estimating the number of meteor collisions on Earth during the last 3.5 billion years
						242	predicting the results of the crystal-growing experiment
		247	evaluate your ability to interpret rock formations				

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
PS.INQ.4.2 Physical Science	Process Standard	Interpret and Communicate	Report data in an appropriate manner.		<p>data tables and graphs can be created on computer or graphing calculator</p> <p>9 construct a data table</p> <p>12 understand and use data table</p> <p>17 record results in data table</p> <p>18 organize different combinations of data</p> <p>24 use data table to record results</p> <p>27 use data table to record results</p> <p>30 record ropes and pulley data in table</p> <p>36 organize data into a table</p> <p>75 create data table for self-designed experiment</p> <p>151 design a data table</p> <p>171 use data table for observations</p> <p>181 organize water quality data into a table</p>

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.4.3 Physical Science	Process Standard	Interpret and Communicate	Interpret data tables, line, bar, trend, and/or circle graphs.	24	making a graph	13	graph distance vs. time
				24	interpretations of patterns in data	13	make a distance vs. time graph
				26	creating graphs	15	construct a quantitative graphical model
				27	how to read a graph	15	interpret a speed vs. time graph
				27	reading a graph	37	organize data into a graph of speed vs. height
				41	make a graph	51	graph voltage vs. current
				78	analyze lever diagram	78	reading harmonic motion data tables and graphs
				476	atmospheric pressure at various altitudes graph	121	graph mass vs. volume
				645	apparent brightness vs. distance graph	147	organize observations into a category table
				651	use the diagram to answer the questions (#2)	185	constructing a graph of drops of acid vs pH
				651	arrange the items in the table (#3)	187	construct a graphical model
				651	use the diagram to answer the questions (#4)	189	construct a temperature vs. time graph
						197	constructing a graph from atmospheric pressure data
						203	graphing water and ice temperature readings
		206	constructing a graph of time vs. temperature				

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					217 determining relationship between temperature of the atmosphere and relative humidity 218 interpreting Doppler radar images 237 finding a pattern of volcanoes on a bathymetric map
PS.INQ.4.4 Physical Science	Process Standard	Interpret and Communicate	Accept or reject hypotheses when given results of a physical science investigation.	10 process of reviewing hypothesis explained	35 what evidence is there in support of your hypothesis? 151 do the data support the hypothesis 151 review your hypothesis 171 what was happening at molecular level? 171 did you prove or disprove your hypothesis?
PS.INQ.4.5 Physical Science	Process Standard	Interpret and Communicate	Evaluate experimental data to draw the most logical conclusion.		21 construct reasonable explanation based on data 35 study data and determine importance of height on speed of marble 45 analyze data and explain a rule

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
PS.INQ.4.6 Physical Science	Process Standard	Interpret and Communicate	Prepare a written report describing the sequence, results, and interpretation of a physical science investigation or event.		9 reporting on an experiment 179 create water quality report 181 write paragraph to explain results 183 write summary of findings
PS.INQ.4.7 Physical Science	Process Standard	Interpret and Communicate	Communicate or defend scientific thinking that resulted in conclusions.	20 explain your reasoning	9 present conclusions to the class 15 discuss and test ideas with your group 19 explain how you arrived at your answer 29 discuss what you learned about gears 37 describe the flow of energy based on experimental graph 39 give a brief presentation to the class 47 discuss an explanation with your group 47 present and defend an explanation 129 explain your answer and justify 145 present findings and methods used 151 present results to the class

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.4.8 Physical Science	Process Standard	Interpret and Communicate	Identify and/or create an appropriate graph or chart from collected data, tables, or written description.	24	making a graph	13	make a distance vs. time graph
				26	creating graphs	13	graph distance vs. time
				41	make a graph	15	construct a quantitative graphical model
						37	organize data into a graph of speed vs. height
						51	graph voltage vs. current
						121	graph mass vs. volume
						147	organize observations into a category table
						185	constructing a graph of drops of acid vs pH
						187	construct a graphical model
						189	construct a temperature vs. time graph
						197	constructing a graph from atmospheric pressure data
						203	graphing water and ice temperature readings
						206	constructing a graph of time vs. temperature

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.5.1 Physical Science	Process Standard	Model	Interpret a model which explains a given set of observations.	23	why make models?	25	create a mathematical model
				24	scientific models	27	find math rule for lever equilibrium
				24	what is a scientific model?	28	derive a math formula
				42	interpreting distance/time graph	187	find equation for trend line
				459	heat equation	202	modeling the effect of greenhouse gases on Earth's temperature
				485	computer modeling to predict greenhouse effects	212	modeling underwater rivers and waterfalls and springs
				494	modeling air currents	232	construct a model that simulates an earthquake
				518	create a model (#1)	257	inverse square law
				524	model of Earth's history	258	setting up a scale model of the solar system
				533	modeling plate boundaries	268	discovering the mathematical relationship between apparent brightness and distance
				576	rock cycle model		
				614	solar system modeling		
				624	model of the sun's anatomy		
				645	inverse square law		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.5.2 Physical Science	Process Standard	Model	Select predictions based on models.	20	how will speed change?	76	use data to predict best string length for a pendulum clock
				24	predicting speed from a graph	121	use graph to predict mass of six objects
				42	predict the speed of a car	156	make predictions about solubility
						201	predicting areas with high ozone concentration based on your data
						204	predicting what would happen if you place your ice/water test tube into a hot cup or a cold cup
						239	estimating the number of meteor collisions on Earth during the last 3.5 billion years
						242	predicting the results of the crystal-growing experiment

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.5.3 Physical Science	Process Standard	Model	Compare a given model to the physical world.	23	why make models?	202	modeling the effect of greenhouse gases on Earth's temperature
				24	scientific models		
				24	what is a scientific model?	212	modeling underwater rivers and waterfalls and springs
				485	computer modeling to predict greenhouse effects	232	construct a model that simulates an earthquake
				494	modeling air currents	258	setting up a scale model of the solar system
				518	create a model (#1)		
				524	model of Earth's history		
				533	modeling plate boundaries		
				576	rock cycle model		
				614	solar system modeling		
				624	model of the sun's anatomy		
PS.INQ.6.1 Physical Science	Process Standard	Inquiry	Formulate a testable hypothesis and design an appropriate experiment relating to the physical world.	530	proving hypotheses for sea-floor spreading	170	devise hypothesis and explain
				580	form a hypothesis (#7)	182	formulate hypothesis
						208	formulate a hypothesis about why the seasons occur

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.6.2 Physical Science	Process Standard	Inquiry	Design and conduct physical science investigations in which variables are identified and controlled.	7	experimentation begins with a question	6	how do we ask questions and get answers from nature?
				10	the research question and hypothesis	7	doing a controlled experiment
				11	control and experimental variables	7	design your own experiment
				19	design your own experiment	7	perform your own experiment
				20	finding variability in data	9	design three experiments and choose equipment
				26	independent and dependent variables	9	design three experiments and choose equipment
				42	devise an experiment	9	conduct three experiments with appropriate equipment
				79	look at force data and decide the usefulness of a machine	9	design three experiments using car and ramp
				288	find the thickness of a single card	10	conduct car/ramp experiment
				429	why haven't we run out of water	10	selecting ramp and photogates
				434	what is in your tap water	12	select equipment and set up experiment
				437	what is acid rain	16	investigate Newton's 2nd law
				441	why are oceans salty	16	decide how to vary the force on the car for this experiment
				456	asking questions pertaining to specific heat and heat flow		
				472	why is Earth's atmosphere different from other planets		
				473	why do ears pop		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page		
				492	why does Earth have seasons	18	use data to describe relationship between force and motion
				501	how does rain form		
				509	how do animals survive in the desert	19	use data to infer correct relationship between variables
				515	what is a carbon sink	21	choose independent and dependent variables for graph
				534	why doesn't Earth get bigger and bigger		
				588	what causes eclipses	26	what variables can be changed?
				621	is Pluto a planet	27	recognize variables
						30	interpret block and tackle data
						30	rigging block and tackle
						34	investigate motion on a rollercoaster
						75	perform self-designed experiment
						75	design pendulum experiment
						93	decision trees and the advantage of doing multiple trials
						141	build models of Na and Cl and use them to explain bonding
						145	carry out procedure and select equipment

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					145 plan a procedure and select necessary equipment
					151 select materials from list
					151 design experiment to find out if mass is conserved
					151 plan procedures and select materials
					170 what three factors influence dissolving rate?
					178 visit local water supply and perform testing
					182 making hypotheses and testing them against observations
					182 simulating the effect of acid rain on daphnia
					185 analyzing the results of the buffered acid experiment
					188 conducting investigation of efficiency of immersion heater
					190 effect of changing mass on collected data
					193 conducting experiments on heat transfer
					193 explaining efficiency of heat transfer based on data

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					194 design and construct an aneroid barometer
					198 making qualitative observations of the amount of ozone present in the school environment
					205 investigating how specific heat of water regulates Earth's temperature
					209 measuring the intensity of light using an electric meter and solar cell and light bulb
					211 determining whether distance from light source or axial tilt plays a more significant role in causing the seasons
					224 reconstruct a series of events from clues
					233 identifying how the earthquake model represents an earthquake
					235 interpreting how the drumming affects the intensity of the earthquake in the model
					252 identifying the parts of a refracting telescope and making observations of the moon's surface

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page
PS.INQ.6.3 Physical Science	Process Standard	Inquiry	Use a variety of technologies, such as hand tools, measuring instruments, and computers to collect, analyze, and display data.	5	measuring distance	data tables and graphs can be created on computer or graphing calculator
				12	importance of reliable and accurate data collection	4 difference between precise and accurate data
						5 measuring metric and english lengths
						6 measure time
						6 electronic timer and release technique
						7 record time interval
						9 collect speed data
						16 measure force
						17 record times
						24 collect weight data
						36 collect precise speed and height data
						44 measure voltage
						46 measure current
						48 measure resistance
						75 collect mass and amplitude data
						87 measure wavelength
						116 measure mass
						117 measure volume

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					171 collect time data and record observations
					182 making detailed observations
					184 collecting pH readings while adding carbon dioxide
					186 measure temperature
					186 collecting temperature data
					189 collecting time and temperature data
					193 collecting and recording time and temperature data
					249 using your sundial to collect accurate data
					253 calibrating your telescope

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page		Volume 2 Investigation Manual Page	
PS.INQ.6.4 Physical Science	Process Standard	Inquiry	Inquiries should lead to the formulation of explanations or models (physical, conceptual, and mathematical).	20	finding variability in data	7	perform your own experiment
				23	why make models?	10	conduct car/ramp experiment
				24	what is a scientific model?	13	graph distance vs. time
				24	scientific models	15	construct a quantitative graphical model
				24	making a graph	16	investigate Newton's 2nd law
				26	creating graphs	18	use data to describe relationship between force and motion
				41	make a graph	19	use data to infer correct relationship between variables
				42	interpreting distance/time graph	25	create a mathematical model
				79	look at force data and decide the usefulness of a machine	27	find math rule for lever equilibrium
				459	heat equation	28	derive a math formula
				485	computer modeling to predict greenhouse effects	30	interpret block and tackle data
				494	modeling air currents	34	investigate motion on a rollercoaster
				518	create a model (#1)	37	organize data into a graph of speed vs. height
				524	model of Earth's history	51	graph voltage vs. current
				533	modeling plate boundaries	75	perform self-designed experiment
				576	rock cycle model		
				614	solar system modeling		
				624	model of the sun's anatomy		
				645	inverse square law		

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					121 graph mass vs. volume
					141 build models of Na and Cl and use them to explain bonding
					147 organize observations into a category table
					151 does your experiment agree with law of conservation of mass?
					157 add new rules to list based on findings
					182 simulating the effect of acid rain on daphnia
					182 making hypotheses and testing them against observations
					185 analyzing the results of the buffered acid experiment
					185 constructing a graph of drops of acid vs pH
					187 find equation for trend line
					187 construct a graphical model
					188 conducting investigation of efficiency of immersion heater
					189 construct a temperature vs. time graph

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					193 conducting experiments on heat transfer
					193 explaining efficiency of heat transfer based on data
					197 evaluating your aneroid barometer design
					197 constructing a graph from atmospheric pressure data
					202 modeling the effect of greenhouse gases on Earth's temperature
					203 graphing water and ice temperature readings
					205 investigating how specific heat of water regulates Earth's temperature
					206 constructing a graph of time vs. temperature
					212 modeling underwater rivers and waterfalls and springs
					224 reconstruct a series of events from clues
					231 evaluating your completed bathymetric map
					232 construct a model that simulates an earthquake

Correlation to Oklahoma Priority Academic Student Skills: High School Science
Foundations of Physical Science with Earth and Space Science
Student Text and Investigation Manual

Standard #: Science Course	Standard type	Standard	Objective	Volume 1 Student Text Page	Volume 2 Investigation Manual Page
					<p>235 interpreting how the drumming affects the intensity of the earthquake in the model</p> <p>247 evaluate your ability to interpret rock formations</p> <p>257 inverse square law</p> <p>258 setting up a scale model of the solar system</p> <p>268 discovering the mathematical relationship between apparent brightness and distance</p>