

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
I.I.I.01 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.	Evaluate the accuracy and reproducibility of data and observations.	11	controlling variables in experiments	4	difference between precise and accurate data
				12	importance of reliable and accurate data collection	6	electronic timer and release technique
				19	which group did the best experiment?	7	record time interval
				19	did you run a controlled experiment?	7	what variables should be controlled?
				20	how will speed change?	9	collect speed data
				20	what factors could explain the variability in their data?	11	calculate % error
				24	predicting speed from a graph	17	record times
				42	predict the speed of a car	18	evaluate graphs as to whether or not they show relationships between variables
				491	what percentage comes from this source? (problem 4)	21	evaluate percent change for data collected
				549	determining distance to an epicenter	24	collect weight data
				553	what explains the difference in density? (#5)	36	collect precise speed and height data
				611	how big is Earth?	75	evaluate statistical significance
						75	collect mass and amplitude data
						76	use data to predict best string length for a pendulum clock
		76	calculate % error				

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					121 use graph to predict mass of six objects
					129 control the height of the liquid
					156 make predictions about solubility
					169 why was plain water tested?
					169 what does the word control mean?
					171 evaluate method based on data
					171 collect time data and record observations
					182 making detailed observations
					184 collecting pH readings while adding carbon dioxide
					186 collecting temperature data
					189 collecting time and temperature data
					193 collecting and recording time and temperature data
					197 calculating error between your barometer and a commercial barometer

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					199 importance of good record keeping in order to avoid error
					200 evaluating your qualitative ozone strips
					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
					249 using your sundial to collect accurate data
					253 calibrating your telescope

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page
I.1.1.02 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.	Use a variety of technologies to gather, analyze and interpret scientific data.	5	measuring distance	data tables and graphs can be created on computer or graphing calculator
				12	importance of reliable and accurate data collection	
				20	how will speed change?	4 difference between precise and accurate data
				24	predicting speed from a graph	5 measuring metric and english lengths
				24	making a graph	6 compare results with other groups
				24	using an electronic timer	6 electronic timer and release technique
				24	interpretations of patterns in data	6 measure time
				26	creating graphs	7 record time interval
				27	reading a graph	7 use a ruler to make a measurement
				41	make a graph	9 construct a data table
				42	interpreting distance/time graph	9 collect speed data
				42	analyze a speed/distance graph	11 calculate % error
				42	predict the speed of a car	11 analyze speed change of car
				80	analyze lever diagram	11 graph speed vs. position
				441	making observations and asking questions	12 understand and use data table
				465	heat equation	12 using photogates
				482	atmospheric pressure at various altitudes graph	13 graph distance vs. time
					14 using photogates	

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page		
				491	what percentage comes from this source? (problem 4)	14	record three different time intervals
				492	observing an aurora	15	interpret a speed vs. time graph
				549	determining distance to an epicenter	15	construct a quantitative graphical model
				553	what explains the difference in density? (#5)	16	use a force scale
				600	telescopes	16	measure force
				611	how big is Earth?	17	record times
				636	use the data to answer the questions	17	use photogates to study car on ramp
				636	what evidence was used to predict the existence of the Kuiper Belt?	17	record results in data table
				651	inverse square law	18	organize different combinations of data
				651	apparent brightness vs. distance graph	18	use a balance to find mass of car
				657	use the diagram to answer the questions (#4)	18	study data table for relationship between force and motion
				657	use the diagram to answer the questions (#2)	24	use data table to record results
				657	arrange the items in the table (#3)	24	collect weight data
				658	analysis with a spectrometer (#4)	25	analyze block and tackle data
						25	create a mathematical model

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					25 collect force data
					27 analyze lever equilibrium data
					27 write down the number of weights you use
					27 find math rule for lever equilibrium
					27 use data table to record results
					28 derive a math formula
					30 use force scale
					30 record ropes and pulley data in table
					35 does data support hypothesis?
					36 organize data into a table
					36 collect precise speed and height data
					37 organize data into a graph of speed vs. height
					44 measure voltage
					44 using electrical meter
					45 did battery voltage change?
					46 using electrical meter
					46 measure current

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					48 using electrical meter
					48 measure resistance
					50 using electrical meter
					51 graph voltage vs. current
					75 create data table for self- designed experiment
					75 collect mass and amplitude data
					76 analyze pendulum data
					76 use data to predict best string length for a pendulum clock
					76 calculate % error
					86 use CPO Timer to measure frequency
					87 measure wavelength
					107 study reflection of laser beam
					108 study refraction of laser beam
					113 trace critical angle with a laser beam
					116 measure mass
					117 measure volume
					121 graph mass vs. volume

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					121 use graph to predict mass of six objects
					146 record detailed observations
					147 organize observations into a category table
					147 students analyze chemical change lab results
					150 record data as you perform experiment
					151 design a data table
					151 do the data support the hypothesis
					151 does your experiment agree with law of conservation of mass?
					156 make predictions about solubility
					171 collect time data and record observations
					171 what was happening at molecular level?
					171 use data table for observations
					181 organize water quality data into a table

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					182 observing daphnia and recording movements and behavior
					182 making detailed observations
					184 collecting pH readings while adding carbon dioxide
					185 constructing a graph of drops of acid vs pH
					186 collecting temperature data
					186 measure temperature
					187 find equation for trend line
					187 construct a graphical model
					189 collecting time and temperature data
					189 construct a temperature vs. time graph
					193 collecting and recording time and temperature data
					197 constructing a graph from atmospheric pressure data
					197 calculating error between your barometer and a commercial barometer

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					199 importance of good record keeping in order to avoid error
					199 collecting Schönbein strips for detecting ozone
					201 predicting areas with high ozone concentration based on your data
					202 collecting data of temperature and sensations
					203 graphing water and ice temperature readings
					204 predicting what would happen if you place your ice/water test tube into a hot cup or a cold cup
					206 constructing a graph of time vs. temperature
					206 collecting temperature and time data
					210 collecting qualitative data of light intensity at scale distance from the sun
					217 collecting wet and dry bulb temperature readings
					217 determining relationship between temperature of the atmosphere and relative humidity

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					218 interpreting Doppler radar images
					231 evaluating your completed bathymetric map
					237 finding a pattern of volcanoes on a 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
					243 recording observations of crystal growing
					247 evaluate your ability to interpret rock formations
					249 using your sundial to collect accurate data
					251 recording the changes in the moon over a month
					253 calibrating your telescope
					257 inverse square law
					268 discovering the mathematical relationship between apparent brightness and distance

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
I.1.1.03 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.	Know how to recognize and explain anomalous data.	11	controlling variables in experiments	7	what variables should be controlled?
				19	did you run a controlled experiment?	11	calculate % error
				20	what factors could explain the variability in their data?	21	think about percent change
				491	what percentage comes from this source? (problem 4)	76	calculate % error
				549	determining distance to an epicenter	129	control the height of the liquid
				553	what explains the difference in density? (#5)	151	does your experiment agree with law of conservation of mass?
				611	how big is Earth?	169	why was plain water tested?
						169	what does the word control mean?
				197	calculating error between your barometer and a commercial barometer		
						199	importance of good record keeping in order to avoid error
						231	evaluating your completed bathymetric map
						247	evaluate your ability to interpret rock formations

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
I.I.II.01 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.	Examine alternative explanations for observations.		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 157 add new rules to list based on findings 197 evaluating your aneroid barometer design

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page		
I.I.II.02 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.	Describe ways in which science differs from other ways of knowing and from other bodies of knowledge (e.g., experimentation, logical arguments, skepticism).	10	the research question and hypothesis	6	how do we ask questions and get answers from nature?
				12	writing lab procedures	7	variables in an experiment
				326	the quests of alchemists	170	write a procedure
				397	scientific discovery and the atomic age	196	writing a procedure for constructing a pointer for an aneroid barometer
				435	why haven't we run out of water	198	contributions of Schönbein
				440	what is in your tap water	214	develop a procedure to create an underwater spring
				443	what is acid rain		
				447	why are oceans salty		
				454	forming a hypothesis and testing through experimentation (#5)		
				462	asking questions pertaining to specific heat and heat flow		
				478	why is Earth's atmosphere different from other planets		
				479	why do ears pop		
				498	why does Earth have seasons		
				507	how does rain form		
				515	how do animals survive in the desert		
				521	what is a carbon sink		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
				540	
					why doesn't Earth get bigger and bigger
				589	history of calendars
				591	counting the days in a year
				592	the history of clocks and the division of time
				594	what causes eclipses
				595	ancient beliefs about solar eclipses
				600	history of the telescope
				608	identify question, hypothesis, procedure, and results (#1)
				627	is Pluto a planet

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
I.I.II.03 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.	Know that scientific knowledge is built on questions posed as testable hypotheses, which are tested until the results are accepted by peers.	10	the research question and hypothesis	6	how do we ask questions and get answers from nature?
				19	which group did the best experiment?	6	predict which car will move fastest
				435	why haven't we run out of water	7	test the effect of one other variable
				440	what is in your tap water	9	devise a hypothesis
				443	what is acid rain	18	evaluate graphs as to whether or not they show relationships between variables
				447	why are oceans salty	21	evaluate percent change for data collected
				462	asking questions pertaining to specific heat and heat flow	27	think about the variables
				478	why is Earth's atmosphere different from other planets	34	where does the marble move the fastest?
				479	why do ears pop	43	how did A and B tapes acquire different charge?
				498	why does Earth have seasons	75	evaluate statistical significance
				507	how does rain form	75	investigate variables that affect the period of a pendulum
				515	how do animals survive in the desert	151	perform the experiment you designed
				521	what is a carbon sink	151	explain how hypothesis compares to results
				536	proving hypotheses for sea-floor spreading		
				540	why doesn't Earth get bigger and bigger		
				586	form a hypothesis (#7)		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page		
				594	what causes eclipses	170	devise hypothesis and explain
				627	is Pluto a planet	170	devise hypothesis and explain
						171	evaluate method based on data
						182	formulate hypothesis
						200	evaluating your qualitative ozone strips
						208	formulate a hypothesis about why the seasons occur
						208	testing hypothesis of why seasons occur against your observations in the investigation

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
I.I.III.01 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Use mathematical ideas, tools, and techniques to understand scientific knowledge	Use mathematical expressions and techniques to explain data and observations and to communicate findings (e.g., formulas and equations, significant figures, graphing, sampling, estimation, mean).	24	making a graph	6	compare results with other groups
				26	drawing a best fit curve	11	draw best fit curve
				26	creating graphs	11	analyze speed change of car
				31	determining slope of a line	11	graph speed vs. position
				38	determining slope of a line	11	use your graph to predict speed
				41	make a graph	13	graph distance vs. time
				42	interpreting distance/time graph	13	draw best fit curve
				42	analyze a speed/distance graph	15	construct a quantitative graphical model
				465	heat equation	15	calculating acceleration from the slope of the line
				553	average density (#5)	18	study data table for relationship between force and motion
				624	average distance from the sun	21	think about percent change
				651	inverse square law	25	create a mathematical model
						25	analyze block and tackle data
		27	find math rule for lever equilibrium				
		27	analyze lever equilibrium data				

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					28 derive a math formula
					35 does data support hypothesis?
					37 organize data into a graph of speed vs. height
					45 did battery voltage change?
					51 graph voltage vs. current
					76 analyze pendulum data
					121 graph mass vs. volume
					129 find average velocity
					147 organize observations into a category table
					147 students analyze chemical change lab results
					171 average dissolving rate
					185 constructing a graph of drops of acid vs pH
					187 construct a graphical model
					187 draw a line of best fit through temperature data points
					187 find slope of a trend line
					187 find equation for trend line
					189 calculate slope of a graph

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					189 construct a temperature vs. time graph
					197 graphing and drawing a trend line for atmospheric pressure data
					197 constructing a graph from atmospheric pressure data
					203 graphing water and ice temperature readings
					206 constructing a graph of time vs. temperature
					257 inverse square law
					268 discovering the mathematical relationship between apparent brightness and distance

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page		
I.I.III.02 Scientific Thinking and Practice	Understand the processes of scientific investigation and use inquiry and scientific ways of observing, experimenting, predicting, and validating, to think critically	Use mathematical ideas, tools, and techniques to understand scientific knowledge	Create models to describe phenomena.	23	why make models?	13	graph distance vs. time
				24	scientific models	15	construct a quantitative graphical model
				24	making a graph	25	create a mathematical model
				24	what is a scientific model?	27	find math rule for lever equilibrium
				26	creating graphs	28	derive a math formula
				41	make a graph	37	organize data into a graph of speed vs. height
				42	interpreting distance/time graph	51	graph voltage vs. current
				465	heat equation	121	graph mass vs. volume
				491	computer modeling to predict greenhouse effects	147	organize observations into a category table
				500	modeling air currents	185	constructing a graph of drops of acid vs pH
				524	create a model (#1)	187	find equation for trend line
				530	model of Earth's history	187	construct a graphical model
				539	modeling plate boundaries	189	construct a temperature vs. time graph
				582	rock cycle model	197	constructing a graph from atmospheric pressure data
				620	solar system modeling	202	modeling the effect of greenhouse gases on Earth's temperature
				630	model of the sun's anatomy		
				651	inverse square law		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
					203 graphing water and ice temperature readings 206 constructing a graph of time vs. temperature 212 modeling underwater rivers and waterfalls and springs 232 construct a model that simulates an earthquake 257 inverse square law 258 setting up a scale model of the solar system 268 discovering the mathematical relationship between apparent brightness and distance

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.1.01 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Know how to use density, boiling point, freezing point, conductivity, and color to identify various substances.	284	mixtures can be separated by physical means	114	separating a homogeneous mixture
				287	volume and mass contrasted	116	mass and volume measurements
				290	melting and boiling point explained	119	melting point of ice
				290	melting and boiling points	124	build a density column
				291	table of melting and boiling points	128	use CPO viscometer to study viscosity
				297	density is independent of amount of substance	212	investigate density changes in the oceans as the cause of ocean layering
				298	elasticity is a physical property of matter		
				298	hardness is a physical property of matter		
				299	brittleness is a physical property of matter		
				300	tensile strength is a physical property of matter		
				300	malleability is a physical property of matter		
				300	development of Kevlar brand fiber		
				301	relationship between mass volume and density		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
				463 engineers use specific heat of substances to design better products	
II.1.1.02 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Distinguish between metals and non-metals.	338 metals nonmetals and metalloids	
II.1.1.03 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Understand the differences among elements, compounds, and mixtures by: classification of materials as elements, compounds, or mixtures and interpretation of chemical formulas	284 compounds are composed of elements 284 mixtures can be separated by physical means 289 atoms and molecules 317 all matter is formed from atoms 317 all matter is formed from atoms 349 mole quantities	114 separating a homogeneous mixture 132 comparing atoms 140 why do atoms form chemical bonds? 141 compare and contrast elements and compounds 142 why do atoms combine in certain ratios? 144 show ratios in which elements combine to form a compound

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.1.04 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Identify the protons, neutrons, and electrons within an atom and describe their locations (i.e., in the nucleus or in motion outside the nucleus).	317	location/size/charge of subatomic particles	132	atomic number determines what element that atom is
				317	protons/neutrons/electrons	132	building atom models
				321	atoms of same element have same atomic number	133	protons and neutrons
				324	proton/electron attraction	133	location of electrons in atom
						136	model stable and neutral atoms
		137	importance of atomic number				
		137	build atomic models				
		140	review subatomic particles				

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.1.05 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Explain that elements are organized in the periodic table according to their properties.	326	groups of elements	133	using the periodic table
				327	groups of elements and valence shells	136	building and studying the periodic table
				327	studying the periodic table	141	build model of Na and Cl atoms and explain why they bond to form a molecule
				335	periodic table columns and valence electrons		
				336	bonding and periodic table position	142	arrangement of electrons and groups of elements
				338	periodic table and electronegativities		
				338	metals nonmetals and metalloids		
II.1.1.06 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Know that compounds are made of two or more elements, but not all sets of elements can combine to form compounds.	284	compounds are composed of elements	140	why do atoms form chemical bonds?
				330	use the periodic table to predict chemical formulas	141	modeling a chemical bond
				330	which element is more likely to combine with other elements?	142	why do atoms combine in certain ratios?
				341	chemical bonding and the periodic table	143	predict chemical formulas
				342	writing a chemical formula	144	show ratios in which elements combine to form a compound
				344	summary of chemical formula writing rules	145	determine empirical formula
				349	mole quantities		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.1.07 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Know that phase changes are physical changes that can be reversed (e.g., evaporation, condensation, melting).	290 504	changes of state phases changes in the atmosphere	119 119 204	create a temperature vs. time graph of phase change energy and phase changes compare the shape of the water line and the ice line on the temperature/time graph
II.1.1.08 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Describe various familiar physical and chemical changes that occur naturally (e.g., snow melting, photosynthesis, rusting, burning).	359 361 363 367 378	physical and chemical changes and digestion physical and chemical changes in tire recycling combustion reaction heartburn reaction determine if changes are chemical or physical	146	investigate and observe chemical and physical changes in the lab
II.1.1.09 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Identify factors that influence the rate at which chemical reactions occur (e.g., temperature, concentration).	370 428	formation of petroleum is a very slow chemical reaction acids and bases and enzymes in digestion	156	predict products in a double displacement reaction

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.1.10 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Know the forms and properties of matter and how matter interacts.	Know that chemical reactions can absorb energy (endothermic reactions) or release energy (exothermic reactions).	387	exothermic reactions and MREs	158	measure energy changes in 3 different reactions
				388	endothermic reactions and cold packs	158	investigate energy changes in chemical reactions
II.1.1.01 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Explain the physical processes involved in the transfer, change, and conservation of energy.	Know that energy exists in many forms and that when energy is transformed some energy is usually converted to heat.	86	work input and output	31	work output vs. work input
				87	some input work is converted to heat	38	explore energy transformations
				95	understand basic forms of energy	39	identify type of energy involved
				95	energy conversions		
				96	where does "spent" energy go?		
				102	explain the "lost" energy		
II.1.1.02 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Explain the physical processes involved in the transfer, change, and conservation of energy.	Know that kinetic energy is a measure of the energy of an object in motion and potential energy is a measure of an object's position or composition.	95	following an energy transformation	36	energy conservation and the roller coaster
				543	potential energy transformed to kinetic energy causes earthquakes	38	identify potential/kinetic energy conversions

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.II.03 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Explain the physical processes involved in the transfer, change, and conservation of energy.	Distinguish between renewable and nonrenewable sources of energy.	420	effect of electrical generating facilities on dissolved oxygen in water	178	predict the quality of surface water to be tested and justify your answer
				420	electrical generation facilities and ecosystems		
				449	impact of increased CO2 in oceans		
				485	effects of CFC's on the ozone layer		
				488	effects of burning fossil fuels		
				521	permafrost		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.II.04 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Explain the physical processes involved in the transfer, change, and conservation of energy.	Know that electrical energy is the flow of electrons through electrical conductors that connect sources of electrical energy to points of use, including: electrical current paths through parallel and series circuits.	107	concept of electric current	44	investigate concept of voltage
				108	concept of electric circuits	45	battery chemicals and electrical charge
				109	circuit diagrams	46	investigate concept of electric current
				119	battery uses chemical energy to produce electrical charge	48	measuring resistance
				120	voltage and potential energy	49	conductivity of aluminum vs. copper
				121	how to measure voltage	50	Ohm's law
				123	electrical current explained	56	build a parallel circuit
				125	how to measure current	56	build a series circuit
				127	electrical conductivity explained	57	compare brightness of bulbs in series vs. parallel
				129	understand the concept of electrical resistance	58	build a series circuit and find total resistance
				135	Ohm's law explained	60	parallel circuit and Ohm's law
				138	using Ohm's law to analyze circuits	61	compare current and voltage and resistance in each type of circuit
				141	potentiometer explained		
				151	series circuit defined		
				151	parallel circuit defined		
				151	holiday lights as series or parallel		
				151	single path vs. branching paths		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
				152 household wiring	
				153 current and voltage in series circuits	
				157 voltage and resistance in parallel circuits	
				161 analyze a parallel circuit	
				162 analyze a series circuit	

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.II.05 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Explain the physical processes involved in the transfer, change, and conservation of energy.	Understand how light and radio waves carry energy through vacuum or matter by: straight-line travel unless an object is encountered, and reflection by a mirror, refraction by a lens, absorption by a dark object.	240	what makes light?	100	study what makes light
				264	refraction in optical systems	106	tracing incident and reflected rays
				264	forming images with lenses	106	investigate reflection of light
				266	reflection and mirrors	107	investigate how light interacts with mirrors
				269	index of refraction	107	plot reflected rays from a mirror
				279	find the angle of reflection	107	plot reflected rays from a mirror
				486	absorption and emission	108	tracing incident and refracted rays
						108	explore refraction with lenses
		108	investigate how light interacts with a prism				
		110	finding focal point and focal length of a lens				
		111	plotting images formed when light is refracted by a lens				
		253	using a retractive telescope				

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.II.06 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Explain the physical processes involved in the transfer, change, and conservation of energy.	Understand that vibrations of matter (e.g., sound, earthquakes, water waves) carry wave energy, including: sound transmission through solids, liquids, and gases.	201 203 211 486 632	waves transmit energy transverse and longitudinal waves standing waves on a string energy and radiation relationships the sun's energy reaches Earth in the form of electromagnetic waves	82 84	study wave pulses on elastic cord make different types of waves in a ripple tank
II.1.III.01 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Know that there are fundamental forces in nature (e.g., gravity, electromagnetic forces, nuclear forces).	112 112 394 395 395 395	electrical force is incredibly strong! electrical forces nuclear vs chemical reactions electromagnetic force strong nuclear force forces in the nucleus	136 138 160	strong force nuclear reactions how do you simulate nuclear decay?
II.1.III.02 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Know that a force has both magnitude and direction.	46 49	force has potential to change motion force is related to acceleration	19	find correct relationship between force mass and acceleration

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.III.03 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Analyze the separate forces acting on an object at rest or in motion (e.g., gravity, elastic forces, friction), including how multiple forces reinforce or cancel one another to result in a net force that acts on an object.	45	Newton's third law summarized	14	exploring acceleration on a ramp
				45	Newton's second law summarized	16	unbalanced forces and acceleration of car
				45	Newton's first law summarized	16	thinking about force
				48	Newton's first law in detail	19	discover 2nd law of motion
				49	Newton's second law in detail	20	investigate effect of gravity on motion
				51	net force explained	21	effect of friction on the car
				51	balanced and unbalanced forces	22	car and ramp and Newton's 3rd law
				52	the effect of gravity	23	using 3rd law to explain common phenomena
				56	friction explained		
				59	Newton's third law in detail		
64	research effect of friction on human joints						
64	solving problems using $f=ma$						

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.III.04 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Know that electric charge produces electrical fields and magnets produce magnetic fields.	111	charge is a fundamental property of matter	42	investigate electric charge
				112	static charge discussed	62	describing forces that magnets exert on each other
				113	explanation of coulomb		
				114	how an electroscope works	64	testing materials to see if they are affected by magnets
				114	electroscopes		
				165	magnetism explained	66	compare electromagnets and permanent magnets
				169	understanding magnetic fields		
				537	interesting magnetic patterns on sea floor		
II.1.III.05 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Know how a moving magnetic field can produce an electric current (generator) and how an electric current can produce a magnetic field (electromagnet).	170	what is an electromagnet?	66	build an electromagnet
				172	increased current vs. strength of magnetic field	67	find out what happens to strength of electromagnet when current is increased
				172	building an electromagnet		
				174	how electric motors work	68	investigate how an electric motor works
				176	dissecting an electric motor	73	use magnetic induction to create an electric field
				177	electromagnetic induction explained	73	exploring electric generators

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.1.III.06 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Know that Earth has a magnetic field.	165 169 537 537	magnetism explained understanding magnetic fields interesting magnetic patterns on sea floor magnetic polarity of Earth	62 64 66	describing forces that magnets exert on each other testing materials to see if they are affected by magnets compare electromagnets and permanent magnets
II.1.III.07 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Know that an object's motion is always described relative to some other object or point (i.e., frame of reference).	13 18 25	speed is relative what is the speed of an object that is standing still? conceptual models of motion		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.I.III.08 Content of Science	Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	Describe and explain forces that produce motion in objects.	Understand and apply Newton's Laws of Motion: Objects in motion will continue in motion and objects at rest will remain at rest unless acted upon by an unbalanced force (inertia).	45	Newton's third law summarized	14	exploring acceleration on a ramp
				45	Newton's second law summarized	16	thinking about force
				45	Newton's first law summarized	19	discover 2nd law of motion
				48	Newton's first law in detail	22	car and ramp and Newton's 3rd law
				49	Newton's second law in detail	23	using 3rd law to explain common phenomena
				59	Newton's third law in detail		
				64	solving problems using $f=ma$		
II.III.I.01 Content of Science	Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.	Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.	Understand how energy from the sun and other stars, in the form of light, travels long distances to reach Earth.	486	distribution of incoming solar radiation		
				487	Earth's "energy budget"		
				491	Earth's internal energy		
				628	descriptions of the sun and comparisons to other stars		
				641	size of the sun compare to other stars		
				643	H-R diagrams comparing temperature and brightness of stars		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.III.I.02 Content of Science	Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.	Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.	Explain how the properties of light (e.g., emission, reflection, refraction) emitted from the sun and stars are used to learn about the universe, including: distances in the solar system and the universe and temperatures of different stars.	598	calculating and using light years	264	understand why spectroscopy is an important tool of astronomers
				599	light years and time		
				600	history of the telescope	268	calculating the distance to stars and galaxies using apparent brightness and absolute brightness
				601	types and uses of telescopes		
				602	photo from the Very Large Array	268	measuring apparent brightness to calculate the distance to stars and galaxies
				602	types and uses of telescopes		
				603	satellites as tools of astronomy		
				604	spacecraft as tools of astronomy		
			640	the use of spectroscopy to analyze stars			

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.III.I.03 Content of Science	Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.	Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.	Understand how gravitational force acts on objects in the solar system and the universe, including: similar action on masses on Earth and on other objects in the solar system and explanation of the orbits of the planets around the sun.	52	gravity depends on mass	256	simulate an object in orbit and investigate how orbital period varies within distance
				54	Newton's law of universal gravitation		
				55	calculating gravitational force between objects	257	relating the relationship between orbital speed and distance to the equation of universal gravitation
				612	Newton's law of universal gravitation		
				618	Johannes Kepler		
				618	orbits of planets around the sun	258	setting up a scale model of the solar system
				619	Kepler's elliptically shaped orbits	259	determining scale distances for the planets
				619	explanation and illustration of the solar system	260	determining scale sizes of the planets
				620	relative sizes and distances within the solar system		
				625	asteroids and comets		
626	meteors and meteorites and the Kuiper Belt						
647	the existence of other planetary systems						

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
II.III.II.01 Content of Science	Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.	Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.	Describe the role of pressure (and heat) in the rock cycle.	568 constructive and destructive processes 571 formation of soil 579 formation of igneous and sedimentary and metamorphic rocks 581 identifying igneous and sedimentary and metamorphic rocks 582 the rock cycle	242 understanding how igneous rocks are formed and growing crystals to investigate their formation 244 understanding how sedimentary rocks are formed and creating sedimentary deposits to investigate them 246 understanding and investigating how metamorphic rocks are formed 247 interpreting how different rock formations were formed

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
II.III.II.02 Content of Science	Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.	Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.	Understand the unique role water plays on Earth, including: ability to remain liquid at most Earth temperatures and properties of water related to processes in the water cycle: evaporation, condensation, precipitation, surface run-off, percolation.	435	groundwater and the water cycle	178	investigating groundwater
				435	the water cycle	178	investigating the water cycle
				437	aquifers contain groundwater	212	investigate how the ocean's salinity affects its density
				439	water quality standards		
				440	importance of water analysis		
				446	oceans in the water cycle		
				447	sources of salts in the ocean		
				448	composition of seawater		
				565	volcanoes and water vapor		
				570	landforms shaped by water		
II.III.II.03 Content of Science	Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.	Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.	Understand the geologic conditions that have resulted in energy resources (e.g., oil, coal, natural gas) available in New Mexico	539	activity of Earth's crust at plate boundaries		
				540	balance of creating and consuming Earth's crust		
				548	using seismic waves for oil and gas exploration		
				566	mineral deposits and diamonds		
				568	constructive and destructive processes		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
III.I.I.01 Science and Society	Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies	Explain how scientific discoveries and inventions have changed individuals and societies	Analyze the interrelationship between science and technology (e.g., germ theory, vaccines).	75	relationship between science and technology	70	using engineering design cycle
				122	batteries, energy, and voltage		
				125	circuit breakers		
				126	ground fault circuit interrupter		
				131	how a light bulb works		
				171	how does an electric doorbell work?		
				247	how an LCD display works		
				252	how color printers work		
				254	how a color TV works		
				273	fiber optics		
				422	the science of scuba diving		
				439	the clean water act		
				445	catalytic converters and scrubbing reduce acid rain		
				489	hydrogen powered cars		
				536	using echo sounders to map the sea floor		
				544	what we can learn from seismographs		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
				550 understanding earthquakes allows engineers to design safer buildings 603 using satellite technology 605 space shuttle	

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach

Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page	
III.I.1.02 Science and Society	Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies	Explain how scientific discoveries and inventions have changed individuals and societies	Describe how scientific information can help to explain environmental phenomena (e.g., floods, earthquakes, volcanoes, fire, extreme weather).	503	factors which influence the weather	219	use radar to detect a tornado
				505	cloud formation	219	describe what safety precautions the National Weather Service recommends for tornado conditions
				511	description of thunderstorms		
				512	description of hurricanes		
				513	description of tornadoes	220	using radar to track a hurricane
				524	write an action plan to stay safe during a tornado	228	reading a bathymetric map
				543	causes and descriptions of earthquakes	229	using a geologic hazard map of frequent earthquakes
				543	earthquakes and plate tectonics		
				545	earthquakes rating scales	236	understanding the Volcanic Explosivity Index
				546	where earthquakes occur		
				547	earthquake hazard map	237	finding a pattern of volcanoes related to the locations of plate boundaries
				557	structure of a volcano		
				558	geologic basis for volcanic eruptions		
				558	formation of magma in Earth's mantle		
				559	where volcanic activity occurs		
				560	types and shapes of volcanoes		

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page	Volume 2 Investigation Manual page
				560	
					figure showing structure of different types of volcanoes
				561	
					formation of shield volcanoes due to hot spots
				561	
					shield volcanoes
				561	
					geologic basis for shield volcanoes
				562	
					geologic basis for stratovolcanoes
				562	
					formation of stratovolcanoes due to subduction
				562	
					stratovolcanoes
				563	
					geologic bases for cinder cone volcanoes
				573	
					geologic hazard maps
				586	
					using a geologic hazard map

Correlation to New Mexico Grade 8 Science Content Standards, Benchmarks, and Performance Standards

Integrated Science: An Investigative Approach
Student Text and Investigation Manual

Standard #: Strand	Standard	Benchmark	Performance Standard	Volume 1 Student Text page		Volume 2 Investigation Manual page			
III.I.1.03 Science and Society	Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies	Explain how scientific discoveries and inventions have changed individuals and societies	Describe how technological revolutions have significantly influenced societies (e.g., energy production, warfare, space exploration).	141	circuit board explained	182	investigate effect of acid rain on microorganisms		
				178	generating electric power				
				443	acid rain explained				
				454	research the issue of acid rain				
				566	description of geothermal energy				
				605	how the space shuttle works				
633	the efficiency of photovoltaic cells	262	determine the efficiency of a photovoltaic cell						
III.I.1.04 Science and Society	Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies			Explain how scientific discoveries and inventions have changed individuals and societies	Critically analyze risks and benefits associated with technologies related to energy production.	178	generating electric power	52	the cost of using electrical appliances
						397	nuclear vs. fossil fuels		
						397	impact of nuclear energy		
						406	reducing pollution		
						420	environmental impact of electrical generating facilities		
		444	impact of using fossil fuels						
		566	description of geothermal energy						
		633	using photovoltaic cells			262	determine the efficiency of a photovoltaic cell		
633	the efficiency of photovoltaic cells								