New Jersey State Science Standards Correlation

Inquiry Investigations™ Physical Science Series I - 1013060

Standard #	Standard	Strand	Cumulative Progress	UNIT 1 THE WORLD OF PHYSICAL SCIENCE							UNIT 2 HEAT AND ENERGY					UNIT 3 LIGHT AND OPTICS					UNIT 4 ELECTRICITY		
				Exploring the Scientific Method LAB 1013080		Exploring the Science of Measurement LAB 1013082					Exploring Heat and Energy LAB 1013084					Exploring Light and Optics LAB 1013086					Exploring Electricity LAB 1013088		
				Effect of temperature on the emergence of sponge creatures	Effect of pH on the emergence of sponge creatures	The metric system (SI)	Measuring density	Measuring Temperature	Measuring pH	Measuring low concentrations of water pollutants	Heat of fusion of ice	Thermal conductivity of different metals	Thermal expansion	Demonstrating radiant heat and energy	Calibration of a thermometer	Visible light spectrum	What is color?	Reflection of light	Polarized light	The laser	The electroscope	Electrolytes	Resistors in series and parallel
08.5.1.A1	Scientific Processes	Habits of Mind	Evaluate the strengths and weaknesses of data, claims, and arguments.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.A2			Communicate experimental findings to others.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.A3			Recognize that the results of scientific investigations are seldom exactly the same and that replication is often necessary.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.A4			Recognize that curiosity, skepticism, open-mindedness, and honesty are attributes of scientists.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.B1		Inquiry and Problem Solving	Identify questions and make predictions that can be addressed by conducting investigations.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.B2			Design and conduct investigations incorporating the use of a control.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.B3			Collect, organize, and interpret the data that results from experiments.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.C1		Safety	Know when and how to use appropriate safety equipment with all classroom materials.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.C2			Understand and practice safety procedures for conducting science investigations.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.2.A1	Science and Society	Cultural Contributions	Recognize that scientific theories develop over time, depend on the contributions of many people, and reflect the social and political climate of their time.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.2.A2			Know that scientists are men and women of many cultures who often work together to solve scientific and technological problems.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.2.A3			Describe how different people in different cultures have made and continue to make contributions to science and technology.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.A1	Mathematical Applications	Numerical Operations	Express quantities using appropriate number formats, such as decimals, percents, and scientific notation.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.B1		Geometry and Measurement	Perform mathematical computations using labeled quantities and express answers in correctly derived units.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.C1		Patterns and Algebra	Express physical relationships in terms of mathematical equations derived from collected data.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.D1		Data Analysis and Probability	Represent and describe mathematical relationships among variables using graphs and tables.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.D2			Analyze experimental data sets using measure of central tendency mean, mode, and median.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.D3			Construct and use a graph of experimental data to draw a line of best fit and identify a linear relationship between variables when appropriate.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.D4			Use computer spreadsheets, graphing database applications to assist in quantitative analysis of data.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.7.B1	Physics	Energy Transformations	Recognize that the sun is a major source of the Earth's energy and that solar energy includes visible, infrared and ultraviolet radiation.								■	■	■	■	■	■	■	■	■	■			
08.5.7.B2			Describe the nature of various forms of energy, including heat, light, sound, chemical, mechanical, and electrical and trace energy transformations from one form to another.									■	■	■	■	■	■	■	■	■	■	■	■
08.5.7.B3			Describe how heat can be conducted through materials or transferred across space by radiation and know that if the material is a fluid, convection currents may aid the transfer of heat.			■	■	■	■	■	■	■	■	■	■								
08.5.7.B4			Show that light is reflected, refracted, or absorbed when it interacts with matter and that colors may appear as a result of this interaction.													■	■	■	■	■	■	■	■

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New Jersey State Science Standards Correlation

Inquiry Investigations™ Physical Science Series II - 1013061

Standard #	Standard	Strand	Cumulative Progress	UNIT 1 GRAVITY: Exploring Gravity LAB 1013090 — Determination of the density of a solid	Learning about gravitation	Archimedes principle	Teacher demonstration - pressure	UNIT 2 MAGNETISM: Exploring Magnetism LAB 1013092 — Investigating the behavior of the magnetic compass	The magnetic field of a bar magnet	Constructing an electromagnet	Electromagnetic induction	UNIT 3 PROPERTIES OF SOUND: Exploring Sound Waves LAB 1013094 — Investigating properties of sound	Interaction of sound waves	Doppler effect	Observing the properties of a wave	UNIT 4 FORCES, MOTION, AND SIMPLE MACHINES: Exploring Force and Motion LAB 1013096 — Investigating Newton's laws of motion	Friction	Rotational inertia	Collisions	Exploring Simple Machines LAB 1013098 — The lever	The pulley	The inclined plane
08.5.1.A1	Scientific Processes	Habits of Mind	Evaluate the strengths and weaknesses of data, claims, and arguments.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.A2			Communicate experimental findings to others.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.A3			Recognize that the results of scientific investigations are seldom exactly the same and that replication is often necessary.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.A4			Recognize that curiosity, skepticism, open-mindedness, and honesty are attributes of scientists.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.B1		Inquiry and Problem Solving	Identify questions and make predictions that can be addressed by conducting investigations.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.B2			Design and conduct investigations incorporating the use of a control.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.B3			Collect, organize, and interpret the data that results from experiments.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.C1		Safety	Know when and how to use appropriate safety equipment with all classroom materials.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.1.C2			Understand and practice safety procedures for conducting science investigations.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.2.A1	Science and Society	Cultural Contributions	Recognize that scientific theories develop over time, depend on the contributions of many people, and reflect the social and political climate of their time.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.2.A2			Know that scientists are men and women of many cultures who often work together to solve scientific and technological problems.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.A1	Mathematical Applications	Numerical Operations	Express quantities using appropriate number formats, such as decimals, percents, and scientific notation.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.B1		Geometry and Measurement	Perform mathematical computations using labeled quantities and express answers in correctly derived units.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.C1		Patterns and Algebra	Express physical relationships in terms of mathematical equations derived from collected data.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.D1		Data Analysis and Probability	Represent and describe mathematical relationships among variables using graphs and tables.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.D2			Analyze experimental data sets using measure of central tendency mean, mode, and median.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.3.D3			Construct and use a graph of experimental data to draw a line of best fit and identify a linear relationship between variables when appropriate.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
08.5.7.A1	Physics	Motions and Forces	Use quantitative data to show that when more than one force acts on an object at the same time, the forces can reinforce or cancel each other producing a net (unbalanced) force that will change speed and/or the direction of the object.													■	■	■	■	■	■	■
08.5.7.A2			Recognize that every object exerts a gravitational force on every other object, and that the force depends on how much mass the objects have and how far apart they are.	■	■	■	■									■	■	■	■	■	■	■
08.5.7.B1		Energy Transformations	Recognize that the sun is a major source of the Earth's energy and that solar energy includes visible, infrared and ultraviolet radiation.	■	■	■	■															
08.5.7.B2			Describe the nature of various forms of energy, including heat, light, sound, chemical, mechanical, and electrical and trace energy transformations from one form to another.									■	■	■	■							

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