



Mad Science Correlations to

**Minnesota
Academic Benchmarks
Science K- 6**

June 2013

Kindergarten

	Strand	Substrand	Code	Benchmark	Correlation
K	1. Nature of Science and Engineering	1. The Practice of Science	0.1.1.2.1	Use observations to develop an accurate description of a natural phenomenon and compare one's observations and descriptions with those of others.	All Mad Science Programs
		2. The Practice of Engineering	0.1.2.1.1	Sort objects into two groups: those that are found in nature and those that are human made. For example: Cars, pencils, trees, rocks.	Space Phenomena Slime Time Super Sticky Stuff
	2. Physical Science	1. Matter	0.2.1.1.1	Sort objects in terms of color, size, shape, and texture, and communicate reasoning for the sorting system.	Glow Show Super Sticky Stuff Lights, Color, Action Magnetic Magic Mix It Up
	3. Earth and Space Science	2. Interdependence Within the Earth System	0.3.2.2.1	Monitor daily and seasonal changes in weather and summarize the changes. For example: Recording cloudiness, rain, snow and temperature.	Walloping Weather
			0.3.2.2.2	Identify the sun as a source of heat and light. For example: Record the time of day when the sun shines into different locations of the school and note patterns.	Sun and Stars Walloping Weather
	4. Life Science	1. Structure and Function in Living Systems	0.4.1.1.1	Observe and compare plants and animals	Bugs! All About Animals Life in the Sea Decomposers Dinosaurs
			0.4.1.1.2	Identify the external parts of a variety of plants and animals including humans. For example: Heads, legs, eyes and ears on humans and animals; flowers, stems and roots on plants.	All About Animals Body Basics Bugs! Dinosaurs Life in the Sea
			0.4.1.1.3	Differentiate between living and nonliving things. For example: Sort organisms and objects (or pictures of these) into groups of those that grow, reproduce, and need air, food, and water; and those that don't.	Bugs! Life in the Sea
		2. Interdependence Among Living Systems	0.4.2.1.1	Observe a natural system or its model, and identify living and nonliving components in that system. For example: A wetland, prairie, garden or aquarium.	All About Animals Life in the Sea Decomposers

First Grade

	Strand	Substrand	Code	Benchmark	Correlation
1	1. Nature of Science and Engineering	1. The Practice of Science	1.1.1.1.1	When asked "How do you know?," students support their answer with observations. For example: Use observations to tell why a squirrel is a living thing.	All Mad Science Programs
			1.1.1.1.2	Recognize that describing things as accurately as possible is important in science because it enables people to compare their observations with those of others.	All Mad Science Programs
		3. Interactions Among Science, Technology Engineering, Mathematics, and Society	1.1.3.1.1	Observe that many living and nonliving things are made of parts and that if a part is missing or broken, they may not function properly.	All About Animals Bugs! Body Basics Mad Machines
			1.1.3.2.1	Recognize that tools are used by people, including scientists and engineers, to gather information and solve problems. For example: Magnifier, snowplow and calculator.	All Mad Science Programs
	3. Earth and Space Science	1. Earth Structure and Processes	1.3.1.3.1	Group or classify rocks in terms of color, shape and size.	Earthworks
			1.3.1.3.2	Describe similarities and differences between soil and rocks. For example: Use screens to separate components of soil and observe the samples using a magnifier.	Earthworks
			1.3.1.3.3	Identify and describe large and small objects made of Earth materials.	Earthworks
	4. Life Science	1. Structure and Function in Living Systems	1.4.1.1.1	Describe and sort animals into groups in many ways, according to their physical characteristics and behaviors.	All About Animals Bugs! Life in the Sea
			2. Interdependence Among Living Systems	1.4.2.1.1	Recognize that animals need space, water, food, shelter and air.
		1.4.2.1.2		Describe ways in which an animal's habitat provides for its basic needs. For example: Compare students' houses with animal habitats.	All About Animals Bugs! Life in the Sea
		3. Evolution in Living Systems	1.4.3.1.1	Demonstrate an understanding that animals pass through life cycles that include a beginning, development into adults, reproduction and eventually death. For example: Use live organisms or pictures to observe the changes that occur during the life cycle of butterflies, meal worms or frogs.	All About Animals Bugs!
			1.4.3.1.2	Recognize that animals pass through the same life cycle stages as their parents.	All About Animals Bugs!

Second Grade

	Strand	Substrand	Code	Benchmark	Correlation
2	1. Nature of Science and Engineering	1. The Practice of Science	2.1.1.2.1	Raise questions about the natural world and seek answers by making careful observations, noting what happens when you interact with an object, and sharing the answers with others.	All Mad Science Programs
		2. The Practice of Engineering	2.1.2.2.1	Identify a need or problem and construct an object that helps to meet the need or solve the problem. For example: Design and build a tool to show wind direction. Another example: Design a kite and identify the materials to use.	Super Sticky Stuff Mad Machines Movie Effects Walloping Weather Space Travel Space Technology Living in Space Super Structures Get Connected Radical Robots
			2.1.2.2.2	Describe why some materials are better than others for making a particular object and how materials that are better in some ways may be worse in other ways. For example: Objects made of plastic or glass.	Super Sticky Stuff Super Structures
			2.1.2.2.3	Explain how engineered or designed items from everyday life benefit people.	Space Travel Space Technology Living in Space Current Events Fantastic Fliers Science of Toys Super Structures Get Connected Mix It Up Radical Robots Super Power Sources Magnificent Magnets
		Super Sticky Stuff Harnessing Heat Detective Science Earthworks Mad Machines Movie Effects Walloping Weather			
		Matter	2.2.1.1.1	Describe objects in terms of color, size, shape, weight, texture, flexibility, strength and the types of materials in the object.	Dry Ice Capades Lights, Color, Action Mission: Nutrition Magnetic Magic Detective Science Earthworks Kitchen Chemistry Science of Toys Che-mystery Super Structures Life in the Sea Mix It Up Magnificent Magnets Measure for Measure Slippery Science
				Junior Reactors pH Phactor Slime Time Chem in a Flash Glow Show Super Sticky Stuff	

Second Grade

	Strand	Substrand	Code	Benchmark	Correlation
2	2. Physical Science	1. Matter	2.2.1.2.1	Observe, record and recognize that water can be a solid or a liquid and can change from one state to another.	Harnessing Heat Dry Ice Capades Wacky Water
		2. Motion	2.2.2.1.1	Describe an object's change in position relative to other objects or a background. For example: Forward, backward, going up, going down.	Science of Toys Mad Machines Movie Effects Planets and Moons Space Travel Rocket Science Fun-damental Forces Fantastic Fliers Energy Burst Moving Motion
			2.2.2.1.2	Demonstrate that objects move in a variety of ways, including a straight line, a curve, a circle, back and forth, and at different speeds. For example: Spinning toy and rocking toy. Another example: Construct objects that move in a straight line or a curve such as a marble or toy car on a track.	Science of Toys Mad Machines Movie Effects Planets and Moons Space Travel Rocket Science Fun-damental Forces Fantastic Fliers Energy Burst Moving Motion
			2.2.2.2.1	Describe how push and pull forces can make objects move. For example: Push and pull objects on smooth and rough surfaces.	Science of Toys Mad Machines Movie Effects Space Travel Rocket Science Fun-damental Forces Fantastic Fliers Energy Burst Moving Motion
			2.2.2.2.2	Describe how things near Earth fall to the ground unless something holds them up.	Planets & Moons Space Travel Rocket Science Fun-damental Forces Energy Burst Moving Motion Fantastic Fliers Great Gravity
	3. Earth and Space Science	2. Interdependence Within the Earth System	2.3.2.2.1	Measure, record and describe weather conditions using common tools. For example: Temperature, precipitation, sunrise/sunset, and wind speed/direction.	Wallopig Weather

Second Grade

	Strand	Substrand	Code	Benchmark	Correlation
	4. Life Science	1. Structure and Function in Living Systems	2.4.1.1.1	Describe and sort plants into groups in many ways, according to their physical	Not in Mad Science programming
		2. Interdependence Among Living Systems	2.4.2.1.1	Recognize that plants need space, water, nutrients and air, and that they fulfill these needs in different ways.	Not in Mad Science programming
		3. Evolution in Living Systems	2.4.3.1.1	Describe the characteristics of plants at different stages of their life cycles.	Not in Mad Science programming

Third Grade

	Strand	Substrand	Code	Benchmark	Correlation
3	1. Nature of Science and Engineering	1. The Practice of Science	3.1.1.1.1	Provide evidence to support claims other than saying “Everyone knows that,” or “I just know,” and question such reasons when given by others.	All Mad Science Programs
			3.1.1.2.1	Generate questions that can be answered when scientific knowledge is combined with knowledge gained from one's own observations or investigations. For example: Investigate the sounds produced by striking various objects.	All Mad Science Programs
			3.1.1.2.2	Recognize that when a science investigation is done the way it was done before, even in a different place, a similar result is expected.	All Mad Science Programs
			3.1.1.2.3	Maintain a record of observations, procedures and explanations, being careful to distinguish between actual observations and ideas about what was observed. For example: Make a chart comparing observations about the structures of plants and animals.	Lab Works Junior Reactors pH Phactor Chem in a Flash Super Sticky Stuff Detective Science Mix It Up Scientific Method Invention-ation Mineral Mania
			3.1.1.2.4	Construct reasonable explanations based on evidence collected from observations or experiments.	All Mad Science Programs
		3. Interactions Among Science, Technology Engineering, Mathematics, and Society	3.1.3.2.1	Understand that everybody can use evidence to learn about the natural world, identify patterns in nature, and develop tools. For example: Ojibwe and Dakota knowledge and use of patterns in the stars to predict and plan.	All Mad Science Programs
			3.1.3.2.2	Recognize that the practice of science and/or engineering involves many different kinds of work and engages men and women of all ages and backgrounds.	All Mad Science Programs
			3.1.3.4.1	Use tools, including rulers, thermometers, magnifiers and simple balances, to improve observations and keep a record of the observations made.	All Mad Science Programs

Third Grade

	Strand	Substrand	Code	Benchmark	Correlation
3	2. Physical Science	3. Energy	3.2.3.1.1	Explain the relationship between the pitch of a sound, the rate of vibration of the source and factors that affect pitch. For example: Changing the length of a string that is plucked changes the pitch.	Sonic Sounds Get Connected Good Vibrations
			3.2.3.1.2	Explain how shadows form and can change in various ways.	Lights, Color, Action Glow Show Movie Magic
			3.2.3.1.3	Describe how light travels in a straight line until it is absorbed, redirected, reflected or allowed to pass through an object. For example: Use a flashlight, mirrors and water to demonstrate reflection and bending of light.	Optical Illusions Glow Show Lights, Color, Action Movie Magic Space Phenomena Planets and Moons Space Technology
	3. Earth and Space Science	3. The Universe	3.3.3.1.1	Observe and describe the daily and seasonal changes in the position of the sun and compare observations.	Planets and Moons Space Phenomena Walloping Weather
			3.3.3.1.2	Recognize the pattern of apparent changes in the moon's shape and position.	Planets and Moons Space Phenomena Walloping Weather
			3.3.3.2.1	Demonstrate how a large light source at a great distance looks like a small light that is much closer. For example: Car headlights at a distance look small compared to when they are close.	Planets and Moons Space Phenomena Sun and Stars
			3.3.3.2.2	Recognize that the Earth is one of several planets that orbit the sun, and that the moon orbits the Earth.	Planets and Moons Sun and Stars
	4. Life Science	1. Structure and Function in Living Systems	3.4.1.1.1	Compare how the different structures of plants and animals serve various functions of growth, survival and reproduction. For example: Skeletons in animals and stems in plants provide strength and stability.	All About Animals Life in the Sea Bugs! Photosynthesis
			3.4.1.1.2	Identify common groups of plants and animals using observable physical characteristics, structures and behaviors. For example: Sort animals into groups such as mammals and amphibians based on physical characteristics. Another example: Sort and identify common Minnesota trees based on leaf/needle characteristics.	All About Animals Life in the Sea Bugs!
		3. Evolution in Living Systems	3.4.3.2.1	Give examples of likenesses between adults and offspring in plants and animals that can be inherited or acquired. For example: Collect samples or pictures that show similarities between adults and their young offspring.	All About Animals Life in the Sea Bugs! Ecosystem Explorations
			3.4.3.2.2	Give examples of differences among individuals that can sometimes give an individual an advantage in survival and reproduction.	All About Animals Life in the Sea Bugs! Ecosystem Explorations

Fourth Grade

	Strand	Substrand	Code	Benchmark	Correlation
4	1. Nature of Science and Engineering	2. The Practice of Engineering	4.1.2.1.1	Describe the positive and negative impacts that the designed world has on the natural world as more and more engineered products and services are created and used.	Wacky Water Space Travel Super Structures Super Power Sources Invention-ation Ecosystem Explorations Black and Blue Oceans
			4.1.2.2.1	Identify and investigate a design solution and describe how it was used to solve an everyday problem. For example: Investigate different varieties of construction tools.	Living in Space Rocket Science Fantastic Fliers Super Structures Energy Burst Mix It Up Moving Motion Radical Robots Super Power Sources Scientific Method Invention-ation
				Mad Machines Science of Toys Space Travel Space Technology	
			4.1.2.2.2	Generate ideas and possible constraints for solving a problem through engineering design. For example: Design and build an electromagnet to sort steel and aluminum materials for recycling.	Fantastic Fliers Super Structures Energy Burst Magnetic Magic Mix It Up Moving Motion Radical Robots Super Power Sources Invention-ation
		Living in Space Rocket Science Space Technology Space Travel			
		4.1.2.2.3	Test and evaluate solutions, considering advantages and disadvantages of the engineering solution, and communicate the results effectively	Super Structures Energy Burst Magnetic Magic Mix It Up Moving Motion Radical Robots Super Power Sources Scientific Method Invention-ation	
			Fantastic Fliers Living in Space Rocket Science Space Technology Space Travel		
	3. Interactions Among Science, Technology Engineering, Mathematics, and Society	4.1.3.3.1	Describe a situation in which one invention led to other inventions.	Mad Machines Movie Effects Fantastic Fliers Living in Space Get Connected Mix It Up Radical Robots Super Power Sources Invention-ation	

Fourth Grade

	Strand	Substrand	Code	Benchmark	Correlation
	2. Physical Science	1. Matter	4.2.1.1.1	Measure temperature, volume, weight and length using appropriate tools and units.	Scientific Method Turn Up the Volume Lab Works Junior Reactors Slime Time Harnessing Heat Chem in a Flash Walloping Weather Living in Space
			4.2.1.2.1	Distinguish between solids, liquids and gases in terms of shape and volume. For example: Liquid water changes shape depending on the shape of its container.	Lab Works Junior Reactors Chem in a Flash Dry Ice Capades Harnessing Heat Wacky Water
			4.2.1.2.2	Describe how the states of matter change as a result of heating and cooling.	Harnessing Heat Dry Ice Capades Wacky Water Walloping Weather
4	2. Physical Science	3. Energy	4.2.3.1.1	Describe the transfer of heat energy when a warm and a cool object are touching or placed near each other.	Harnessing Heat Dry Ice Capades
			4.2.3.1.2	Describe how magnets can repel or attract each other and how they attract certain metal objects.	Magnetic Magic Living in Space Mischievous Magnets
			4.2.3.1.3	Compare materials that are conductors and insulators of heat and/or electricity. For example: Glass conducts heat well, but is a poor conductor of electricity	Harnessing Heat Watts-Up Current Events Electricity
			4.2.3.2.1	Identify several ways to generate heat energy. For example: Burning a substance, rubbing hands together, or electricity flowing through wires.	Harnessing Heat Chem in a Flash Dry Ice Capades Electricity
			4.2.3.2.2	Construct a simple electrical circuit using wires, batteries and light bulbs.	Magnetic Magic Watts-Up Current Events Get Connected Radical Robots Living in Space Electricity
			4.2.3.2.3	Demonstrate how an electric current can produce a magnetic force. For example: Construct an electromagnet to pick up paperclips.	Magnetic Magic Mischievous Magnets

Fourth Grade

	Strand	Substrand	Code	Benchmark	Correlation
4	3. Earth and Space Science	1. Earth Structure and Processes	4.3.1.3.1	Recognize that rocks may be uniform or made of mixtures of different minerals.	Earthworks Mineral Mania
			4.3.1.3.2	Describe and classify minerals based on their physical properties. For example: Streak, luster, hardness, reaction to vinegar.	Mineral Mania
		2. Interdependence Within the Earth System	4.3.2.3.1	Identify where water collects on Earth, including atmosphere, ground and surface water, and describe how water moves through the Earth system using the processes of evaporation, condensation and precipitation.	Black and Blue Oceans Wacky Water Walloping Weather
		4. Human Interactions with Earth Systems	4.3.4.1.1	Describe how the methods people utilize to obtain and use water in their homes and communities can affect water supply and quality.	Not in Mad Science programming
	4. Life Science	4. Human Interactions with Living Systems	4.4.4.2.1	Recognize that the body has defense systems against germs, including tears, saliva, skin and blood.	Not in Mad Science programming
			4.4.4.2.2	Give examples of diseases that can be prevented by vaccination.	Not in Mad Science programming

Fifth Grade

	Strand	Substrand	Code	Benchmark	Correlation
5	1. Nature of Science and Engineering	1. The Practice of Science	5.1.1.1.1	Explain why evidence, clear communication, accurate record keeping, replication by others, and openness to scrutiny are essential parts of doing science.	All Mad Science programming
			5.1.1.1.2	Recognize that when scientific investigations are replicated they generally produce the same results, and when results differ significantly, it is important to investigate what may have caused such differences. For example: Measurement errors, equipment failures, or uncontrolled variables.	All Mad Science programming
			5.1.1.1.3	Understand that different explanations for the same observations usually lead to making more observations and trying to resolve the differences.	All Mad Science programming
			5.1.1.1.4	Understand that different models can be used to represent natural phenomena and these models have limitations about what they can explain. For example: Different kinds of maps of a region provide different information about the land surface.	Harnessing Heat Junior Reactors Mission: Nutrition Bugs! Slime Time Planets and Moons Sun and Stars Cells
				Dry Ice Capades Super Power Sources Playing with Polymers Black and Blue Oceans	Matter of Fact Mischievous Magnets Planets and Moons
			5.1.1.2.1	Generate a scientific question and plan an appropriate scientific investigation, such as systematic observations, field studies, open-ended exploration or controlled experiments to answer the question.	Scientific Method Chem in a Flash pH Phactor Junior Reactors Super Sticky Stuff Planets and Moons
				Slime Time Glow Show Harnessing Heat Tantalizing Taste Che-mystery Super Power Sources Ecosystem Explorations Electricity Black & Blue Oceans Mineral Mania	Space Phenomena Wacky Water Detective Science Kitchen Chemistry Science of Toys Energy Burst Mix It Up Space Travel Radical Robots Invention-ation Matter of Fact
5.1.1.2.2	Identify and collect relevant evidence, make systematic observations and accurate measurements, and identify variables in a scientific investigation.	All Mad Science programming			

Fifth Grade

	Strand	Substrand	Code	Benchmark	Correlation
5	1. Nature of Science and Engineering		5.1.1.2.3	Conduct or critique an experiment, noting when the experiment might not be fair because some of the things that might change the outcome are not kept the same, or that the experiment is not repeated enough times to provide valid results.	Scientific Method Chem in a Flash Super Sticky Stuff
		3. Interactions Among Science, Technology Engineering, Mathematics, and Society	5.1.3.2.1	Describe how science and engineering influence and are influenced by local traditions and beliefs. For example: Sustainable agriculture practices used by many cultures.	Invention-ation Sun and Stars Planets and Moons Mission: Nutrition
			5.1.3.4.1	Use appropriate tools and techniques in gathering, analyzing and interpreting data. For example: Spring scale, metric measurements, tables, mean/median/range, spreadsheets, and appropriate graphs.	All Mad Science programming
			5.1.3.4.2	Create and analyze different kinds of maps of the student's community and of Minnesota. For example: Weather maps, city maps, aerial photos, regional maps or online map resources.	Walloping Weather
	2. Physical Science	2. Motion	5.2.2.1.1	Give examples of simple machines and demonstrate how they change the input and output of forces and motion.	Mad Machines Science of Toys Moving Motion Scientific Method
			5.2.2.1.2	Identify the force that starts something moving or changes its speed or direction of motion. For example: Friction slows down a moving skateboard.	Fun-damental Forces Fantastic Fliers Science of Toys Energy Burst Moving Motion Space Travel Rocket Science Scientific Method
			5.2.2.1.3	Demonstrate that a greater force on an object can produce a greater change in motion.	Fantastic Fliers Space Travel Rocket Science Fun-damental Forces Science of Toys Energy Burst Moving Motion Scientific Method

Fifth Grade

	Strand	Substrand	Code	Benchmark	Correlation
5		1. Earth Structure and Processes	5.3.1.2.1	Explain how, over time, rocks weather and combine with organic matter to form soil.	Earthworks Mineral Mania
			5.3.1.2.2	Explain how slow processes, such as water erosion, and rapid processes, such as landslides and volcanic eruptions, form features of the Earth's surface.	Earthworks
		3. Earth and Space Science	4. Human Interactions with Earth Systems	5.3.4.1.1	Identify renewable and non-renewable energy and material resources that are found in Minnesota and describe how they are used. For example: Water, iron ore, granite, sand and gravel, wind and forests.
	5.3.4.1.2			Give examples of how mineral and energy resources are obtained and processed and how that processing modifies their properties to make them more useful. For example: Iron ore, biofuels, or coal.	Super Power Sources
	5.3.4.1.3			Compare the impact of individual decisions on natural systems. For example: Choosing paper or plastic bags impacts landfills as well as ocean life cycles.	Playing with Polymers Super Power Sources Black & Blue Oceans Ecosystem Explorations Life in the Sea
	4. Life Science	1. Structure and Function in Living Systems	5.4.1.1.1	Describe how plant and animal structures and their functions provide an advantage for survival in a given natural system. For example: Compare the physical characteristics of plants or animals from widely different environments, such as desert versus tropical, and explore how each has adapted to its environment.	All About Animals Bugs! Life in the Sea Cells Photosynthesis Build Your Bones Black and Blue Oceans Ecosystem Explorations
		4. Human Interactions with Living Systems	5.4.4.1.1	Give examples of beneficial and harmful human interaction with natural systems. For example: Recreation, pollution, or wildlife management.	Life in the Sea Wacky Water The Dirt on Garbage Black and Blue Oceans Ecosystem Explorations

Sixth Grade

	Strand	Substrand	Code	Benchmark	Correlation
6	1. Nature of Science and Engineering	2. The Practice of Engineering	6.1.2.1.1	1. Engineers create, develop and manufacture machines, structures, processes and systems that impact society and may make humans more productive.	All Mad Science programming
			6.1.2.1.2	Recognize that there is no perfect design and that new technologies have consequences that may increase some risks and decrease others. For example: Seat belts and airbags.	Space Travel Living in Space Mad Machines Moving Motion Super Structures Super Power Sources Invention-ation Scientific Method
			6.1.2.1.3	Describe the trade-offs in using manufactured products in terms of features, performance, durability and cost.	Super Power Sources Invention-ation
			6.1.2.1.4	Explain the importance of learning from past failures, in order to inform future designs of similar products or systems. For example: Space shuttle or bridge design.	Space Travel Living in Space Mad Machines Moving Motion Super Structures Super Power Sources Invention-ation Scientific Method
			6.1.2.2.1	Apply and document an engineering design process that includes identifying criteria and constraints, making representations, testing and evaluation, and refining the design as needed to construct a product or system that solves a problem. For example: Investigate how energy changes from one form to another by designing and constructing a simple roller coaster for a marble.	Space Travel Living in Space Energy Burst Mad Machines Moving Motion Super Structures Super Power Sources Invention-ation Scientific Method
		3. Interactions Among Science, Technology, Engineering, Mathematics and Society	6.1.3.1.1	Describe a system in terms of its subsystems and parts, as well as its inputs, processes and outputs.	Mad Machines Science of Toys Current Events Get Connected Radical Robots Life in the Sea Bugs! Planets and Moons Rocket Science Super Structures Chem in a Flash
				Cells Ecosystem Explorations Mission: Nutrition Photosynthesis Super Power Sources Under Pressure	
			6.1.3.1.2	Distinguish between open and closed systems. For example: Compare mass before and after a chemical reaction that releases a gas in sealed and open plastic bags.	Under Pressure Chem in a Flash

Sixth Grade

	Strand	Substrand	Code	Benchmark	Correlation
6	1. The Nature of Science and Engineering	3. Interactions Among Science, Technology, Engineering, Mathematics and Society	6.1.3.4.1	Determine and use appropriate safe procedures, tools, measurements, graphs and mathematical analyses to describe and investigate natural and designed systems in a physical science context.	All Mad Science programming
			6.1.3.4.2	Demonstrate the conversion of units within the International System of Units (SI, or metric) and estimate the magnitude of common objects and quantities using metric units.	Turn Up the Volume
	2. Physical Science	1. Matter	6.2.1.1.1	Explain density, dissolving, compression, diffusion and thermal expansion using the particle model of matter.	Junior Reactors pH Phactor Slime Time Chem in a Flash Glow Show Super Sticky Stuff Dry Ice Capades Harnessing Heat
				Che-mystery Wacky Water Under Pressure Matter of Fact	
			6.2.1.2.1	2. Substances can undergo physical changes which do not change the composition or the total mass of the substance in a closed system.	Junior Reactors Matter of Fact Chem in a Flash Dry Ice Capades Harnessing Heat Wacky Water
			6.2.1.2.2	Describe how mass is conserved during a physical change in a closed system. For example: The mass of an ice cube does not change when it melts.	Junior Reactors Matter of Fact Dry Ice Capades Wacky Water
			6.2.1.2.3	Use the relationship between heat and the motion and arrangement of particles in solids, liquids and gases to explain melting, freezing, condensation and evaporation.	Junior Reactors Matter of Fact Dry Ice Capades Harnessing Heat Wacky Water Walloping Weather
			2. Motion	6.2.2.1.1	Measure and calculate the speed of an object that is traveling in a straight line.
		6.2.2.1.2		For an object traveling in a straight line, graph the object's position as a function of time, and its speed as a function of time. Explain how these graphs describe the object's motion.	Not in Mad Science programming

Sixth Grade

6	2. Physical Science	2. Motion	6.2.2.2.1	Recognize that when the forces acting on an object are balanced, the object remains at rest or continues to move at a constant speed in a straight line, and that unbalanced forces cause a change in the speed or direction of the motion of an object.	Space Travel Rocket Science Fun-damental Forces Fantastic Fliers Moving Motion Scientific Method Great Gravity
			6.2.2.2.2	Identify the forces acting on an object and describe how the sum of the forces affects the motion of the object. For example: Forces acting on a book on a table or a car on the road.	Space Travel Rocket Science Fun-damental Forces Fantastic Fliers Moving Motion Scientific Method Great Gravity
			6.2.2.2.3	Recognize that some forces between objects act when the objects are in direct contact and others, such as magnetic, electrical and gravitational forces can act from a distance.	Space Travel Rocket Science Fun-damental Forces Fantastic Fliers Moving Motion Scientific Method Great Gravity Magnetic Magic Mischievous Magnets Super Power Sources
			6.2.2.2.4	Distinguish between mass and weight.	Living in Space
		3. Energy	6.2.3.1.1	Describe properties of waves, including speed, wavelength, frequency and amplitude.	Sonic Sounds Get Connected Good Vibrations
			6.2.3.1.2	Explain how the vibration of particles in air and other materials results in the transfer of energy through sound waves.	Sonic Sounds Get Connected Good Vibrations
			6.2.3.1.3	Use wave properties of light to explain reflection, refraction and the color spectrum.	Glow Show Lights, Color, Action Optical Illusions Atmosphere and Beyond
			6.2.3.2.1	Differentiate between kinetic and potential energy and analyze situations where kinetic energy is converted to potential energy and vice versa.	Science of Toys Space Travel Energy Burst Moving Motion Super Power Sources Scientific Method
			6.2.3.2.2	Trace the changes of energy forms, including thermal, electrical, chemical, mechanical or others as energy is used in devices. For example: A bicycle, light bulb or automobile.	Science of Toys Glow Show Space Travel Energy Burst Super Power Sources Scientific Method Mission: Nutrition
		6.2.3.2.3	Describe how heat energy is transferred in conduction, convection and radiation.	Harnessing Heat Walloping Weather Wacky Water	