New Paltz Central School District

Science
Kindergarten

TIME	CONTENT – ESSENTIAL QUESTIONS/ MAJOR UNDERSTANDINGS	SKILLS	ASSESSMENTS
September - June	**<u>Weather</u>** • How does weather change over time? • How are we affected by weather? • Why is the Sun important to us? - - - • Natural cycles and patterns include: weather changing from day to day and through the seasons. • The weather is the condition of the outside air at a particular moment. • Weather can be described and measured by: general sky conditions (cloudy, sunny, partly cloudy). • Everyday events involve one form of energy being changed to another: the Sun's energy warms air and water.	• Order and sequence objects and/or events. • Utilize senses optimally for making observations. • Observe, analyze, and report observations of objects and events. • Observe, identify, and communicate patterns. • Collect and organize data using journal entries and drawings/pictoral representations. • Make predictions based on prior experiences.	• Observation of process skills • Accurate recordings of observations • Student sharing – complete sentences, sequencing, full descriptions, vocabulary • Following directions

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December	**<u>Introduction to Living Things (including the Five Senses and Health)</u>** • What are the differences between living and non-living things? • What do plants need to live? • What do animals need to live? • How and why do living things use their senses? • How do we stay healthy? - - - • Animals need air, water, and food in order to live and thrive. • Plants require air, water, nutrients, and light in order to live and thrive. • Nonliving things do not live and thrive. • Nonliving things can be human-created or naturally occurring. • Living things grow, take in nutrients, breathe, reproduce, eliminate waste, and die. • Plants and animals closely resemble their parents and other individuals in their species. • Each animal has different structures that serve different functions in growth, survival, and reproduction: eyes, nose, ears, tongue, and skin of some animals enable the animals to sense their surroundings. • Plants and animals have life cycles. These may include beginning of life, development	• Safely and accurately use a hand lens. • Safely and accurately use a balance. • Estimate, find, and communicate measurements using nonstandard units. • Order and sequence objects and/or events. • Classify objects according to an established scheme. • Generate a scheme for classification. • Utilize senses optimally for making observations. • Observe, analyze, and report observations of objects and events. • Observe, identify, and communicate patterns. • Generate appropriate questions (teacher and student based) in response to observations, events, and other experiences.	• Unit Assessment • Observation of process skills • Accurate recordings of observations • Student sharing – complete sentences, sequencing, full descriptions, vocabulary • Following directions

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	into an adult, reproduction as an adult, and eventually death. • Each kind of plant goes through its own stages of growth and development that may include seed, young plant, and mature plant. • The length of time from beginning of development to death of the plant is called its life span. • Life cycles of some plants include changes from seed to mature plant. • Each kind of animal goes through its own stages of growth and development during its life span. • Growth is the process by which plants and animals increase in size. • Food supplies the energy and materials necessary for growth and repair. • All living things grow, take in nutrients, breath, reproduce, and eliminate waste. • Senses can provide essential information (regarding danger, food, mates, etc.) to animals about their environment. • Humans need a variety of healthy foods, exercise, and rest in order to grow and maintain good health.	• Collect and organize data using journal entries and drawings/pictorial representations. • Make predictions based on prior experiences.	

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	• Good health habits include hand washing and personal cleanliness; avoiding harmful substances (including alcohol, tobacco, illicit drugs); eating a balanced diet; engaging in regular exercise. • Green plants are producers because they provide the basic food supply for themselves and animals. • All animals depend on plants. Some animals (predators) eat other animals (prey).		
January - February	**Matter** • How are objects the same or different? • How can they be sorted? - - - • Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses. • Measurements can be made with standard metric units and nonstandard units. • The material(s) an object is made up of determine some specific properties of the object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders. • Objects and/or materials can be sorted or classified according to their properties.	• Safely and accurately use a hand lens, dropper, and balance. • Estimate, find, and communicate measurements using nonstandard units. • Classify objects according to an established scheme. • Generate a scheme for classification. • Utilize senses optimally for making observations. • Observe, analyze, and report observations of objects and events.	• Unit assessment • Observation of process skills • Accurate recordings of observations • Student sharing – complete sentences, sequencing, full descriptions, vocabulary • Following directions

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	• Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example: moisture-wet or dry. • Magnetism is a force that may attract or repel certain materials.	• Collect and organize data using journal entries and drawings/pictorial representations. • Make predictions based on prior experiences.	

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March - April	**Motion** • How can you make an object move? - - - • Energy exists in various forms: heat, electric, sound, chemical, mechanical, light. (*Kindergarten focuses on heat and light.*) • Energy can be transferred from one place to another. • Interactions with forms of energy can be either helpful or harmful. • The position of an object can be described by locating it relative to another object or the background (e.g., on top of, next to, over, under, etc.). • The position or direction of motion of an object can be changed by pushing or pulling. • The force of gravity pulls objects toward the center of Earth. • Magnetism is a force that may attract or repel certain materials.	• Safely and accurately use a hand lens, dropper, and balance. • Estimate, find, and communicate measurements using nonstandard units. • Classify objects according to an established scheme. • Generate a scheme for classification. • Utilize senses optimally for making observations. • Observe, analyze, and report observations of objects and events. • Generate appropriate questions (teacher and student based) in response to observations, events, and other experiences.	• Unit assessment • Observation of process skills • Accurate recordings of observations • Student sharing – complete sentences, sequencing, full descriptions, vocabulary • Following directions

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		• Collect and organize data using journal entries and drawings/pictorial representations. • Make predictions based on prior experiences. • Communicate procedures and conclusions through oral and written presentations.	

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April – May	**<u>Earth's Surface</u>** • What is the surface of the Earth made up of? - - - • Water is recycled by natural processes on Earth: run-off water flowing on Earth's surface. • Erosion and deposition result from the interaction among air, water, and land: o interaction between air and water breaks down earth materials. o pieces of earth material may be moved by air, water, wind, and gravity. o soil is composed of broken-down pieces of living and nonliving earth materials.	• Utilize senses optimally for making observations. • Observe, analyze, and report observations of objects and events. • Generate appropriate questions (teacher and student based) in response to observations, events, and other experiences. • Collect and organize data using journal entries and drawings/pictorial representations. • Make predictions based on prior experiences.	• Unit assessment • Observation of process skills • Accurate recordings of observations • Student sharing – complete sentences, sequencing, full descriptions, vocabulary • Following directions