

Galway Science Kindergarten Curriculum Guide

NYS PI	Major Understandings: The Physical Setting
1.1	Describe patterns of daily, monthly, and seasonal changes in their environment.
2.1	Describe the relationship among air, water, and land on Earth.
2.1a	Weather is the condition of the outside air at a particular moment.
	<ul style="list-style-type: none"> • temperature • form and amount of precipitation • general sky conditions (cloudy, sunny, partly cloudy)
3.1	Observe and describe properties of materials, using appropriate tools.
3.1b	Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses.
3.1c	Objects have properties that can be observed, described, and/or measured: length, width, volume, size, shape, mass or weight, temperature, texture, flexibility, reflectiveness of light.
3.1d	Measurements can be made with standard metric units and nonstandard units. (<i>Note: Exceptions to the metric system usage are found in meteorology.</i>)
3.1e	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.
3.1f	Objects and/or materials can be sorted or classified according to their properties.
3.1g	Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example:
	<ul style="list-style-type: none"> • temperature - hot or cold • lighting - shadows, color
4.2	Observe the way one form of energy can be transferred into another form of energy present in common situations (e.g., mechanical to heat energy, mechanical to electrical energy, chemical to heat energy).
4.2a	Everyday events involve one form of energy being changed to another.
	<ul style="list-style-type: none"> • animals convert food to heat and motion
5.1	Describe the effects of common forces (pushes and pulls) of objects, such as those caused by gravity, magnetism, and mechanical forces.
5.1a	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.).

NYS PI	Major Understandings: The Living Environment
1.1	Describe the characteristics of and variations between living and nonliving things.
1.1a	Animals need air, water, and food in order to live and thrive.
1.1b	Plants require air, water, nutrients, and light in order to live and thrive.
1.1c	Nonliving things do not live and thrive.
1.1d	Nonliving things can be human-created or naturally occurring.
1.2	Describe the life processes common to all living things.
1.2a	Living things grow, take in nutrients, breathe, reproduce, eliminate waste, and die.
2.1	Recognize that traits of living things are both inherited and acquired or learned.
2.1a	Some traits of living things have been inherited (e.g., color of flowers and number of limbs of animals).
2.1b	Some characteristics result from an individual's interactions with the environment and cannot be inherited by the next generation (e.g., having scars; riding a bicycle).
2.2	Recognize that for humans and other living things there is genetic continuity between generations.
2.2a	Plants and animals closely resemble their parents and other individuals in their species.
2.2b	Plants and animals can transfer specific traits to their offspring when they reproduce.
3.1	Describe how the structures of plants and animals complement the environment of the plant or animal.
3.1a	Each animal has different structures that serve different functions in growth, survival, and reproduction.
	<ul style="list-style-type: none"> • wings, legs, or fins enable some animals to seek shelter and escape predators • the mouth, including teeth, jaws, and tongue, enables some animals to eat and drink • eyes, nose, ears, tongue, and skin of some animals enable the animals to sense their surroundings

Based on NYS Core Curriculum Performance Indicators and Major Understandings. Prepared with teacher input summer curriculum work 2008.

NYS PI	Major Understandings: The Living Environment continued
	<ul style="list-style-type: none"> claws, shells, spines, feathers, fur, scales, and color of body covering enable some animals to protect themselves from predators and other environmental conditions, or enable them to obtain food
	<ul style="list-style-type: none"> the characteristics of some animals change as seasonal conditions change (e.g., fur grows and is shed to help regulate body heat; body fat is a form of stored energy and it changes as the seasons change)
	<ul style="list-style-type: none"> some animals have parts that are used to produce sounds and smells to help the animal meet its needs
3.1b	Each plant has different structures that serve different functions in growth, survival, and reproduction.
	<ul style="list-style-type: none"> roots help support the plant and take in water and nutrients
	<ul style="list-style-type: none"> leaves help plants utilize sunlight to make food for the plant
	<ul style="list-style-type: none"> stems, stalks, trunks, and other similar structures provide support for the plant
	<ul style="list-style-type: none"> some plants have flowers
	<ul style="list-style-type: none"> flowers are reproductive structures of plants that produce fruit which contains seeds
3.1c	In order to survive in their environment, plants and animals must be adapted to that environment.
	<ul style="list-style-type: none"> animal adaptations include coloration for warning or attraction, camouflage, defense mechanisms, movement, hibernation, and migration
4.1	Describe the major stages in the life cycles of selected plants and animals.
4.1a	Plants and animals have life cycles. These may include beginning of a life, development into an adult, reproduction as an adult, and eventually death.
4.1e	Each generation of animals goes through changes in form from young to adult. This completed sequence of changes in form is called a life cycle. Some insects change from egg to larva to pupa to adult.
4.2	Describe evidence of growth, repair, and maintenance, such as nails, hair, and bone, and the healing of cuts and bruises.
4.2a	Growth is the process by which plants and animals increase in size.
4.2b	Food supplies the energy and materials necessary for growth and repair.
5.1	Describe basic life functions of common living specimens (e.g., guppies, mealworms, gerbils).
5.1a	All living things grow, take in nutrients, breathe, reproduce, and eliminate waste.
5.2	Describe some survival behaviors of common living specimens.
5.2b	Animals respond to change in their environment, (e.g., perspiration, heart rate, breathing rate, eye blinking, shivering, and salivating).
5.2c	Senses can provide essential information (regarding danger, food, mates, etc.) to animals about their environment.
5.2e	Particular animal characteristics are influenced by changing environmental conditions including: fat storage in winter, coat thickness in winter, camouflage, shedding of fur.
5.2f	Some animal behaviors are influenced by environmental conditions. These behaviors may include: nest building, hibernating, and hunting, migrating, and communicating.
5.3	Describe the factors that help promote good health and growth in humans.
5.3a	Humans need a variety of healthy foods, exercise, and rest in order to grow and maintain good health.
5.3b	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.
6.1	Describe how plants and animals, including humans, depend upon each other and the nonliving environment.
6.1b	All animals depend on plants. Some animals (predators) eat other animals (prey).
6.1f	When the environment changes, some plants and animals survive and reproduce, and others die or move to new locations. Describe the relationship of the Sun as an energy source for living and nonliving cycles.
6.2	Describe the relationship of the Sun as an energy source for living and nonliving cycles.
6.2a	Plants manufacture food by utilizing air, water, and energy from the Sun.

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