

DeRuyter Central School District

Science

Kindergarten

38 Benchmarks

Key:

LE=Living Environment

PS= Physical Setting

AID= Analysis, Inquiry & Design

I= Interconnectedness

►Standard 4: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and the living environment and recognize the historical development of ideas in science.

ESK.LE.1 Animals need air, water and food in order to live and thrive.

ESK.LE.2 Plants require air, nutrients, and light in order to live and thrive.

ESK.LE.3 Nonliving things do not live and thrive.

ESK.LE.4 Non-living things can be human-created or naturally occurring.

ESK.LE.5 Living things grow, take in nutrients, breathe, reproduce, eliminate waste, and die.

ESK.LE.6 Each animal has different structures that serve different functions in growth, survival, and reproduction.

ESK.LE.7 Each plant has different structures that serve different functions in growth, survival, and reproduction.

ESK.LE.8 In order to survive in their environment, plants and animals must be adapted to that environment.

ESK.LE.9 All individuals have variations, and because of these variations individuals of a species may have an advantage in surviving and reproducing.

ESK.LE.10 Each kind of plant goes through its own stages of growth and development that may include seed, young plant, and mature plant.

ESK.LE.11 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 larvae to pupa to adult.

ESK.LE.12 Each kind of animal goes through its own stages of growth and development during its life span.

ESK.LE.13 Growth is the process by which plants and animals increase in size.

ESK.LE.14 Senses can provide essential information (regarding danger, food, mates, etc.) to animals about their environment.

ESK.LE.15 Some animals, including humans, move from place to place to meet their needs.

ESK.LE.16 Particular animal characteristics are influenced by changing environmental conditions including: fat storage in winter, coat thickness in winter, camouflage, shedding of fur.

ESK.LE.17 Some animal behaviors are influenced by environmental conditions. These behaviors may include: nest building, hibernation, hunting, migration, and communicating.

ESK.LE.18 Humans need a variety of healthy foods, exercise, and rest in order to grow and maintain good health.

ESK.LE.19 All animals depend on plants. Some animals (predators) eat other animals (prey).

ESK.LE.20 Animals that eat plants for food may in turn become food for other animals. This sequence is called a food chain.

ESK.LE.21 An organism's pattern of behavior is related to the nature of that organism's environment, including the kinds and numbers of other organisms present, the availability of food and other resources, and the physical characteristics of the environment.

►Standard 4: The Physical Setting: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and the living environment and recognize the historical development of ideas in science.

ESK.PS.1 Weather is the condition of the outside air at a particular moment.

ESK.PS.2 Weather can be described and measured by: temperature, wind speed and direction, form and amount of precipitation, general sky conditions (cloudy, sunny, partly cloudy).

ESK.PS.3 Matter takes up space and has mass. Two objects cannot occupy the same place at the same time.

ESK.PS.4 Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses.

ESK.PS.5 Objects have properties that can be observed, described, and/or measured: length, width, volume, size, shape, mass or weight, temperature, flexibility, reflectivity of light.

ESK.PS.6 The materials an object is made up of determine the specific properties of an object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets.

ESK.PS.7 Objects and/or materials can be sorted or classified according to their properties.

ESK.PS.8 Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example: temperature, lighting, moisture.

ESK.PS.9 Matter exists in three states: Solid, liquid, gas. Solids have a definite shape and volume. Liquids do not have a definite shape, but have a definite volume. Gases do not hold their shape or volume.

ESK.PS.10 Temperature can affect a state of matter of a substance.

ESK.PS.11 Changes in the properties or materials of objects can be observed and described.

►Standard 6: Interconnectedness: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

ESK.I.1 Discover that a model of something is different than the real thing, but can be used to study the real thing.

ESK.I.2 Observe that things in nature and things that people make have very different sizes, weight and ages.

ESK.I.3 Recognize that almost anything has limits on how big or small it can be.

ESK.I.4 Observe that things can change in some ways and stay the same in some ways.

ESK.I.5 Recognize that things can change in different ways such as size, weight, color, and movement. Some small changes can be detected by taking measurements.

ESK.I.6 Use simple instruments to measure such quantities as distance, size, and weight, and to look for patterns in the data.