Wallenpaupack Area School District

COURSE: Science

GRADE: First Grade

LENGTH OF COURSE: 36 Weeks/80 Minutes Per Week

TEXT: Scott Foresman Science – First Grade

PUBLISHER: Pearson Education, Inc.

COPYRIGHT: 2003

COURSE DESCRIPTION:

This course is designed to develop an awareness of the scientific process through hands-on activities, literature, problem solving and cooperative activities.

AREAS OF STUDY:

Unifying Themes
Inquiry and Design
Biological Science
Physical Science
Earth Science
Watersheds and Wetlands
Environmental Health
Agriculture and Society
Ecosystem and their Interactions
Threatened, Endangered and Extinct Species

CURRICULUM WRITING TEAM:

Brian Campbell
Deborah Bigart
Elizabeth Hawkins
Thomas McLaughlin
Harry Timmons

DATE OF REVISION:

2002

Wallenpaupack Area School District

Course: Science
Unit: Unifying Themes

Grade Level: Grade 1
PA Standard: 3.1.4.A
3.1.4.B
3.1.4.C
3.1.4.E

Topics:	**Skills:**
Systems System parts-natural, human made Purpose of systems Models for predication and insight Theories Patterns Change Relative motion	Identify and describe what parts make up a system Identify system parts that are natural and human made Describe the purpose of analyzing systems Know that technologies include physical technology systems, informational systems, and bio-chemical related systems Identify different types of models Identify and apply models as tools for predictions and insight Apply appropriate simple modeling tools and techniques Identify theories that serve as models Identify observable patterns Use knowledge of natural patterns to predict next occurrences Recognize change as fundamental to science and technology concepts Examine and explain change by using time and measurement Describe relative motion Describe the change to objects caused by heat, cold, light, or chemicals
Activities:	**Performance Assessments:**
	Unifying Themes and Inquiry and Design are addressed throughout this curriculum as they are inherent to the teaching of science

Course: Science
Unit: Inquiry and Design

Grade Level: Grade 1
PA Standard: 3.2.4.A
3.2.4.B
3.2.4.C

Topics:	**Skills:**
Facts and beliefs Scientific inquiry	Distinguish between a scientific fact and a belief Provide clear explanations that account for observations and results Relate how new information can change existing perceptions Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough) Use observations to develop a descriptive vocabulary Generate questions about objects, organisms and/or events that can be answered through scientific investigations Design an investigation Conduct an experiment State a conclusion that is consistent with the information
Activities:	**Performance Assessments:**
	Unifying Themes and Inquiry and Design are addressed throughout this curriculum as they are inherent to the teaching of science

Course: Science
Unit: Biological Sciences

Grade Level: Grade 1
PA Standard: 3.3.4.A
3.3.4.B
3.3.4.C

Topics:	**Skills:**
Living things Similarities and differences Plant and animal needs Plant and animal survival Learned and inherited characteristics	Identify life processes of living things Know that some organisms have similar external characteristics and that similarities and differences are related to environmental habitat Describe the basic needs of plants and animals Determine how different parts of a living thing work together to make the organism function Identify characteristics for animal and plant survival in different climates Distinguish between learned and inherited characteristics Identify physical characteristics that appear in both parents and offspring and differ between families, strains or species
Activities:	**Performance Assessments:**
Identify characteristics of living things Identify and describe life cycles of plants and animals Describe the basic needs of plants and animals Identify basic plant parts and their functions (e.g., roots, stems, leaves) Seed germination Describe characteristics of different animal habitats Identify the five senses Use observations to develop descriptive vocabulary	Teacher observations Experiments Rubrics Self-evaluation Data sheets

Course: Science
Unit: Physical Science, Chemistry and Physics

Grade Level: Grade 1
PA Standard: 3.4.4.A
3.4.4.B
3.4.4.C
3.4.4.D

Topics:	**Skills:**
Combination of substances Characteristics of materials Energy forms Motion Solar system	Know that combining two or more substances can make new materials with different properties Know different material characteristics (e.g., texture, state of matter, solubility) Identify energy forms and examples (e.g., sunlight, heat, stored, motion) Describe static electricity in terms of attraction, repulsion and sparks Recognize forces that attract or repel other objects and demonstrate them Describe various types of motions Compare the relative movement of objects and describe types of motion that are evident Recognize earth's place in the solar system Explain and illustrate the causes of seasonal changes Identify planets in our solar system and their general characteristics Describe the solar system motions and use them to explain time (e.g., days, seasons), major lunar phases and eclipses
Activities:	**Performance Assessments:**
Explore the physical characteristics or properties of objects Explore the attracting and repelling of magnets Design investigations Conduct matter experiments Conduct static electricity experiments Recognize and explain basic problems Recognize earth's place in the solar system Identify planets and their general characteristics Observe a model of the solar system Describe rotating and revolving Distinguish between a scientific fact and a belief	Teacher observation Experiments Rubrics Self-evaluation Data sheets

Course: Science
Unit: Earth Science

Grade Level: Grade 1
PA Standard: 3.5.4.C

Topics:	**Skills:**
Weather	Identify cloud types Identify weather patterns from data charts (including temperature, wind direction, speed and precipitation) and graphs of the data Explain how the different seasons affect plants, animals, food availability and daily human life
Activities:	**Performance Assessments:**
Describe and compare seasonal characteristics Explain how the different seasons affect plants, animals, food availability, and daily human life Identify cloud types Recognize the importance of the water cycle Recognize resources that originate from water	Teacher observations Experiments Rubrics Self-observations Data sheets

Course: Science
Unit: Watersheds and Wetlands

Grade Level: Grade 1
PA Standard: 4.1.4.A
4.1.4.B
4.1.4.C

Topics:	**Skills:**
Lotic and lentic system Water movement Precipitation Freshwater fish, insects, amphibians, and plants	Identify the lotic system (e.g., creeks, rivers, streams) Identify the lentic system (e.g., ponds, lakes, swamps) Explain why water moves or does not move Identify types of precipitation Identify fish, insects and amphibians that are found in fresh water Identify plants found in fresh water
Activities:	**Performance Assessments:**
Identify moving water systems Identify still water systems Identify types of precipitation Identify animals found in fresh water Identify plants found in fresh water	Teacher observations Experiments Rubrics Self-evaluation Data sheets

Course: Science
Unit: Environmental Health

Grade Level: Grade 1
PA Standard: 4.3.4.A
4.3.4.B
4.3.4.C
4.4.4.C

Topics:	**Skills:**
Needs for survival Pollution	Know that all living things need air and water to survive Identify pollutants Identify sources of pollution Identify litter and its effect on the environment Describe how people can reduce pollution Identify what plants and animals need to grow
Activities:	**Performance Assessments:**
Identify pollutants Identify sources of pollution Describe how people can reduce pollution	Teacher observations Experiments Rubrics Self-evaluation: Data sheets

Course: Science
Unit: Ecosystems and Their Interactions

Grade Level: Grade 1
PA Standard: 4.6.4.A

Topics:	**Skills:**
Living and non living things Plant needs Habitat Environmental variables Underground animals	Identify and categorize living and nonliving things Describe the basic needs of an organism Identify basic needs of a plant and an animal and explain how their needs are met Identify plants and animals with their habitat and food sources Identify environmental variables that affect plant growth Identify animals that live underground
Activities:	**Performance Assessments:**
Identify animals that live underground Identify plants and animals in their habitats Identify and categorize living and non-living things	Teacher observation Experiments Data sheets Self-evaluation Rubrics

Course: Science
Unit: Threatened, Endangered and Extinct Species

Grade Level: Grade 1
PA Standard: 4.7.4.A
4.7.4.B

Topics:	**Skills:**
Animal survival Habitat Local plants and animals Adaptations and survival	Explain why plants and animals are different colors, shapes and sizes and how these differences relate to their survival Explain why each of the four elements in a habitat is essential for survival Identify local plants or animals and describe their habitat Explain how specific adaptations can help a living organism to survive Explain what happens to a living thing when its food, water, shelter or space is changed
Activities:	**Performance Assessments:**
Explain why plants and animals are different colors, shapes and sizes Explain how adaptations can help an organism to survive	Teacher observation Rubrics Data sheets Experiments