

Wallenpaupack Area School District

Wallenpaupack Area North Primary and South Elementary

Course Title: Grade Three Elementary Science

Length of Course: 120 minutes per week

District Policies:

Academic Integrity:

Academic integrity is essential to the success of an educational community. Students are responsible for learning and upholding professional standards of research, writing, assessment, and ethics in their areas of study. Written or other work which students submit must be the product of their own efforts and must be consistent with appropriate standards of professional ethics. Academic dishonesty, which includes cheating, plagiarism, multiple submissions and other forms of dishonest or unethical behavior, is prohibited.

Assessment:

The goal of grading is to report student progress and achievement to the parents to strengthen the home-school connection. The grade should accurately reflect the student's performance in mastering the PA Standards and the WASD curriculum.

Attendance:

Regular school attendance is vitally important to academic success. Not only does attendance reinforce and enrich the learning process; it also establishes patterns and attitudes that will carry forward into adult work habits. Regular, consistent attendance is a prerequisite to successful school life. Children should be absent only in cases of illness or emergency.

Special Education:

Our commitment to each student is to ensure a free appropriate public education which begins with the general education setting, with the use of Supplementary Aids and Services. Inclusive education describes the successful education of all students with the appropriate supports and services to participate in and benefit from the general classroom settings and other educational environments.

Course Description:

The elementary science curriculum provides opportunities for students to develop understanding and skills to become problem solvers in a scientific world. Students will create models, observe, compare and contrast and classify plants and animals. During physical science students will create models, infer, interpret data, construct and manipulate materials. Students will observe, generalize conclusions, identify variables, recognize and discuss our changing Earth.

Pennsylvania State Standards:

Plants and Animals, Food Webs, and Energy

[3.1.4.A1](#)

Classify plants and animals according to the physical characteristics that they share.

[3.1.4.A2](#)

Describe the different resources that plants and animals need to live.

[3.1.4.A3](#)

Identify differences in the **life cycles** of plants and animals.

[3.1.4.A8](#)

MODELS

Construct and interpret **models** and diagrams of various animal and plant **life cycles**.

[3.1.5.A2](#)

Describe how life on earth depends on energy from the sun.

[3.1.5.A3](#)

Compare and contrast the similarities and differences in life cycles of different organisms.

[3.1.4.B2](#)

Recognize that reproduction is necessary for the continuation of life.

[3.1.3.C1](#)

Recognize that plants survive through adaptations, such as stem growth towards light and root growth downward in response to gravity.

Recognize that many plants and animals can survive harsh environments because of seasonal behaviors (e.g. hibernation, migration, trees shedding leaves).

[3.1.5.C2](#)

Give examples of how inherited characteristics (e.g., shape of beak, length of neck, location of eyes, shape of teeth) may change over time as adaptations to changes in the environment that enable organisms to survive.

[3.2.3.B6](#)

ENERGY Recognize that light from the sun is an important source of energy for living and nonliving systems and some source of energy is needed for all organisms to stay alive and grow.

[4.1.3.A](#)

Differentiate between the living and non-living components in an **environment**.

[4.1.4.C](#)

Explain how most life on earth gets its energy from the sun.

[4.1.4.E](#)

Explain that **ecosystems** change over time due to natural and/ or human influences.

[4.4.3.C](#)

Use scientific inquiry to investigate what animals and plants need to grow.

[4.5.3.A](#)

Identify resources humans take from the **environment** for their survival.

[4.5.3.B](#)

Define the term **pest** and identify various plants and animals that humans may call **pests**.

[S3.A.2.1.1](#)

Generate questions about objects, organisms, or events that can be answered through scientific investigations.

[S3.A.2.1.2](#)

Make predictions based on observations.

[S3.A.2.2.1](#)

Identify appropriate tools or instruments for specific tasks, and describe the information they provide (i.e., measuring [length—ruler; mass— balance scale] and making observations [hand lenses—very small objects]).

[S3.A.3.1.2](#)

Identify changes in natural or human made systems.

[S3.B.1.1.1](#)

Identify and describe the functions of basic structures of animals and plants (e.g., animals [skeleton, heart, lungs]; plants [roots, stem, and leaves]).

[S3.B.1.1.2](#)

Classify living things based on their similarities and differences.

[S3.B.1.1.3](#)

Describe the basic needs of plants and animals and their dependence on light, food, air, water, and shelter.

[S3.B.1.1.4](#)

Describe how plants and animals go through life cycles.

[S3.B.2.1.1](#)

Identify adaptations of plants and animals that have helped them to survive.

[S3.B.2.1.2](#)

Identify and describe plant and animal characteristics that are necessary for survival.

[S3.B.2.1.3](#)

Identify characteristics for plant and animal survival in different environments (e.g., desert, forest, and ocean).

[S3.B.2.2.1](#)

Identify physical characteristics (e.g., height, hair color, eye color) that could be passed on to offspring.

[S3.B.2.2.2](#)

Identify similar physical characteristics in parents and their offspring.

[S3.B.3.1.1](#)

Identify the living and nonliving components of an ecosystem (e.g., living [plants, animals]; nonliving [water, soil, air]).

[S3.B.3.1.2](#)

Describe the interactions between living and nonliving components of an ecosystem (e.g., plants [water, sunlight]; animals [air, shelter]).

- [S3.B.3.2.1](#) Describe what happens to an animal when its habitat is changed.
- [S3.B.3.2.2](#) Describe how changes in the environment (e.g., fire, flood) can affect an ecosystem.
- [S3.B.3.2.3](#) Describe how human interactions with the environment impact an ecosystem (e.g., road construction, pollution, urban development, dam building).
- [S3.C.3.1.1](#) Identify and describe an object's motion (e.g., start/stop, push/pull, up/down, left/right, faster/slower, spinning).
- [S4.A.1.1.1](#) Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results (e.g., a scientific fact can be supported by making observations).
- [S4.A.1.1.2](#) Identify and describe examples of common technological changes past to present in the community (e.g., energy production, transportation, communications, agriculture, and packaging materials) that have either positive or negative impacts on society or the environment.
- [S4.A.1.3.3](#) Observe and describe the change to objects caused by temperature change or light.
- [S4.A.1.3.4](#) Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., it might die, migrate, change behavior, eat something else).
- [S4.A.1.3.5](#) Provide examples, predict, or describe how everyday human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) may change the environment.
- [S4.A.2.1.4](#) State a conclusion that is consistent with the information/data.
- [S4.A.3.1.2](#) Explain a relationship between the living and nonliving components in a system (e.g., food web, terrarium).
- [S4.A.3.2.3](#) Use appropriate, simple modeling tools and techniques to describe or illustrate a system (e.g., two cans and string to model a communications system, terrarium to model an ecosystem).
- [S4.A.3.3.1](#) Identify and describe observable patterns (e.g., growth patterns in plants, weather, and water cycle).
- [S4.B.1.1.1](#) Identify life processes of living things (e.g., growth, digestion, respiration).
- [S4.B.1.1.2](#) Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering, body segments).
- [S4.B.1.1.3](#) Describe basic needs of plants and animals (e.g., air, water, food).

[S4.B.1.1.4](#) Describe how different parts of a living thing work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves).

[S4.B.1.1.5](#) Describe the life cycles of different organisms (e.g., moth, grasshopper, frog, seed-producing plant).

[S4.B.2.1.1](#) Identify characteristics for plant and animal survival in different environments (e.g., wetland, tundra, desert, prairie, deep ocean, forest).

[S4.B.2.1.2](#) Explain how specific adaptations can help a living organism survive (e.g., protective coloration, mimicry, leaf sizes and shapes, ability to catch or retain water).

[S4.B.3.1.1](#) Describe the living and nonliving components of a local ecosystem (e.g., lentic and lotic systems, forest, cornfield, grasslands, city park, playground).

[S4.B.3.1.2](#) Describe interactions between living and nonliving components (e.g. plants – water, soil, sunlight, carbon dioxide, temperature; animals – food, water, shelter, oxygen, and temperature) of a local ecosystem.

[S5.A.1.1.3](#) Describe how explanations, predictions, and models are developed using evidence.

[S5.B.3.2.3](#) Explain how different items are recycled and reused.

Force and Motion

[3.2.3.B1](#) Explain how movement can be described in many ways.

Design Process

[3.2.3.B2](#) Explore energy's ability to cause motion or create change.

Explore how energy can be found in moving objects, light, sound, and heat.

[3.2.4.B1](#) Explain how an object's change in motion can be observed and measured.

[3.4.4.C1](#) Understand that there is no perfect **design**.

[3.4.4.C2](#) Describe the **engineering design process**:

Define a problem. Generate ideas. Select a solution and test it. Make the item. Evaluate the item. Communicate the solution with others. Present the results

	<p>3.4.4.D1 Investigate how things are made and how they can be improved.</p> <p>3.4.4.D3 Investigate and assess the influence of a specific technology or system on the individual, family, community, and environment.</p> <p>S3.C.3.1.1 Identify and describe an object’s motion (e.g., start/stop, push/pull, up/down, left/right, faster/slower, spinning).</p> <p>S4.A.1.3.2 Describe relative size, distance, or motion.</p> <p>S4.A.2.1.4 State a conclusion that is consistent with the information/data.</p> <p>S4.A.3.1.3 Categorize the parts of an ecosystem as either living or nonliving and describe their roles in the system.</p> <p>S4.B.3.3.3 Identify biological pests (e.g., fungi – molds, plants – foxtail, purple loosestrife, Eurasian water milfoil; animals – aphides, ticks, zebra mussels, starlings, mice) that compete with humans for resources.</p> <p>S4.B.3.3.4 Identify major land uses in the urban, suburban and rural communities (e.g., housing, commercial, recreation).</p> <p>S4.C.3.1.1 Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction).</p> <p>S4.C.3.1.2 Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round).</p>
<p>Fossils and Earth's Resources</p>	<p>3.1.3.C3 CONSTANCY AND CHANGE Recognize that fossils provide us with information about living things that inhabited the Earth long ago</p> <p>3.3.4.A3 Recognize that fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time.</p> <p>3.3.7.A3 Explain and give examples of how physical evidence, such as fossils and surface features of glaciation support theories that the Earth has evolved over geologic time.</p> <p>Compare geologic processes over time.</p>

[4.3.4.A](#)

Identify ways humans depend on **natural resources** for survival.

[4.3.4.B](#)

Identify the geographic origins of various **natural resources**.

[4.5.3.A](#)

Identify resources humans take from the **environment** for their survival.

[S3.B.1.1.1](#)

Identify and describe the functions of basic structures of animals and plants (e.g., animals [skeleton, heart, lungs]; plants [roots, stem, and leaves]).

[S3.B.1.1.2](#)

Classify living things based on their similarities and differences.

[S3.B.1.1.3](#)

Describe the basic needs of plants and animals and their dependence on light, food, air, water, and shelter.

[S3.B.1.1.4](#)

Describe how plants and animals go through life cycles.

[S3.B.2.1.1](#)

Identify adaptations of plants and animals that have helped them to survive.

[S3.B.2.1.2](#)

Identify and describe plant and animal characteristics that are necessary for survival.

[S3.B.2.1.3](#)

Identify characteristics for plant and animal survival in different environments (e.g., desert, forest, and ocean).

[S3.B.3.1.1](#)

Identify the living and nonliving components of an ecosystem (e.g., living [plants, animals]; nonliving [water, soil, air]).

[S3.B.3.1.2](#)

Describe the interactions between living and nonliving components of an ecosystem (e.g., plants [water, sunlight]; animals [air, shelter]).

[S3.B.3.2.1](#)

Describe what happens to an animal when its habitat is changed.

[S3.B.3.2.2](#)

Describe how changes in the environment (e.g., fire, flood) can affect an ecosystem.

[S3.B.3.2.3](#)

Describe how human interactions with the environment impact an ecosystem (e.g., road construction, pollution, urban development, dam building).

[S4.A.1.3.4](#)

Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., it might die, migrate, change behavior, eat something else).

[S4.A.3.2.3](#)

Use appropriate, simple modeling tools and techniques to describe or illustrate a system (e.g., two cans and string to model a communications system, terrarium to model an ecosystem).

- [S4.A.3.3.1](#) Identify and describe observable patterns (e.g., growth patterns in plants, weather, and water cycle).
- [S4.A.3.3.2](#) Predict future conditions/events based on observable patterns (e.g., day/night, seasons, sunrise/sunset, and lunar phases).
- [S4.B.1.1.1](#) Identify life processes of living things (e.g., growth, digestion, respiration).
- [S4.B.1.1.2](#) Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering, body segments).
- [S4.B.1.1.3](#) Describe basic needs of plants and animals (e.g., air, water, food).
- [S4.B.1.1.4](#) Describe how different parts of a living thing work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves).
- [S4.B.1.1.5](#) Describe the life cycles of different organisms (e.g., moth, grasshopper, frog, seed-producing plant).
- [S4.B.2.1.1](#) Identify characteristics for plant and animal survival in different environments (e.g., wetland, tundra, desert, prairie, deep ocean, forest).
- [S4.B.2.1.2](#) Explain how specific adaptations can help a living organism survive (e.g., protective coloration, mimicry, leaf sizes and shapes, ability to catch or retain water).
- [S4.B.3.3.2](#) Describe the human dependence on the food and fiber systems from production to consumption (e.g., food, clothing, shelter, products).
- [S4.B.3.3.3](#) Identify biological pests (e.g., fungi – molds, plants – foxtail, purple loosestrife, Eurasian water milfoil; animals – aphides, ticks, zebra mussels, starlings, mice) that compete with humans for resources.
- [S4.D.1.1.2](#) Identify various Earth structures (e.g., mountains, watersheds, peninsulas, lakes, rivers, valleys) through the use of models.
- [S4.D.1.2.2](#) Identify the types and uses of Earth materials for renewable, nonrenewable, and reusable products (e.g., human-made products: concrete, paper, plastics, fabrics).
- [S4.D.1.2.3](#) Recognize ways that humans benefit from the use of water resources (e.g., agriculture, energy, recreation).
- [S4.D.1.3.1](#) Describe types of freshwater and saltwater bodies (e.g., lakes, rivers, wetlands, oceans).
- [S4.D.1.3.3](#) Describe or compare lentic systems (i.e., ponds, lakes, and bays) and lotic systems (i.e., streams, creeks, and rivers).

Standards to teach in All Areas

[S5.B.3.2.2](#)

Describe the usefulness of Earth's physical resources as raw materials for the human-made world.

[S5.B.3.2.3](#)

Explain how different items are recycled and reused.

[S7.D.1.1.2](#)

Explain how fossils are formed and how they can provide evidence about plants and animals that once lived on Earth.

[3.4.4.A1](#)

Understand that tools, materials, and skills are used to make things and carry out tasks.

[3.4.4.A2](#)

Understand that systems have parts and components that work together.

[3.4.3.B1](#)

Describe how using **technology** can be good or bad.

[3.4.3.B3](#)

Identify and define products made to meet individual needs versus wants.

[3.4.3.B4](#)

Illustrate how people have made tools to provide food, clothing, and shelter.

[3.4.4.B2](#)

Explain how the use of **technology** affects the environment in good and bad ways.

[3.4.4.B3](#)

Explain why new **technologies** are developed and old ones are improved in terms of needs and wants.

[3.4.4.C3](#)

Explain how asking questions and making observations help a person understand how things work and can be repaired.

[S3.A.1.1.1](#)

Distinguish between fact and opinion.

[S3.A.1.1.2](#)

Identify examples of common technological changes, past and present, in the community (e.g., energy production, transportation, communication, recycling).

[S3.A.2.2.1](#)

Identify appropriate tools or instruments for specific tasks, and describe the information they provide (i.e., measuring [length—ruler; mass—balance scale] and making observations [hand lenses—very small objects]).

[S4.A.1.1.1](#)

Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results (e.g., a scientific fact can be supported by making observations).

[S4.A.1.3.4](#)

Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., it might die, migrate, change behavior, eat something else).

[S4.A.2.1.4](#)

State a conclusion that is consistent with the information/data.

[S4.A.2.2.1](#)

Identify appropriate tools or instruments for specific tasks and describe the information they can provide (e.g., measuring: length - ruler, mass - balance scale, volume - beaker, temperature - thermometer; making observations: hand lens, binoculars, and telescope).

[S4.A.3.1.1](#)

Categorize systems as either natural or human-made (e.g., ballpoint pens, simple electrical circuits, plant anatomy, water cycle).

[S4.A.3.1.2](#)

Explain a relationship between the living and nonliving components in a system (e.g., food web, terrarium).

[S4.A.3.1.3](#)

Categorize the parts of an ecosystem as either living or nonliving and describe their roles in the system.

[S4.B.3.3.3](#)

Identify biological pests (e.g., fungi – molds, plants – foxtail, purple loosestrife, Eurasian water milfoil; animals – aphides, ticks, zebra mussels, starlings, mice) that compete with humans for resources.

[S4.B.3.3.5](#)

Describe the effects of pollution (e.g., litter) in the community.

Course Objectives:
Students will demonstrate the ability to:

