

Grade level: 4

Course Title: Science

Topic/Concept: Scientific Process

Time Allotment: On-going

Unit Sequence: Weekly

Major Concepts to be learned:

1. Generate questions about objects, organisms, or events that can be answered through scientific investigations.
2. Design and describe an investigation (a fair test) to test one variable.
3. Observe and record change by using time and measurement.
4. Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results.
5. State a conclusion that is consistent with the information/data.

Expected Skills to be demonstrated:

1. Identify the steps in the Scientific Process.
2. Set up experiments to demonstrate the Scientific Process.
3. Interpret and record information presented during experiments in a Science Notebook.

PA Standards/Anchors:

Eligible Content:

S4.A.1.3	S4.A.1.1.1	S4.A.2.1.2
S4.A.1.1	S4.A.1.3.1	S4.A.2.1.4
S4.A.2.1	S4.A.2.1.1	

Instructional Strategies:

Assessments:

Direct instruction	Peer tutoring	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
Group discussion	Guided practice	
Oral/Written Practice	Cooperative learning	
Modeling/Demonstrating	Videos and Note taking	
Hands on manipulatives		
Hands on experiments/Science Lab		
Individual/group practice		
Computer individual review		

Grade level: 4

Course Title: Science

Time Allotment: 2 Weeks

Topic/Concept: Insects/Metamorphosis/Pest Management

Unit Sequence: 1

Major Concepts to be learned:

1. Describe the life cycles of different organisms (butterfly, grasshopper).
2. Observe a natural phenomenon (animal migrations), record observations, and then make a prediction based on those observations.
3. Compare similar functions of external characteristics of organisms (anatomical characteristics: appendages, type of covering, body segments).
4. Explain how specific adaptations can help a living organism survive (protective coloration, mimicry).
5. Identify biological pests (plants – foxtail, mold, purple loosestrife, Eurasian water milfoil; animals – aphides, ticks, zebra mussels, starlings, mice) that compete with humans for resources.

Expected Skills to be demonstrated:

1. Identify simple, imcomplete, and complete metamorphosis insect life cycles.
2. Label insect external body parts.
3. Explain adaptations that living organisms use to survive.
4. Categorize specific insects as pests or non-pests.

PA Standards/Anchors:

Eligible Content:

S4.A.2.1	S4.B.3.3	S4.B.1.1.2	S4.A.2.1.3
S4.B.1.1		S4.B.1.1.5	S4.B.3.3.3
S4.B.2.1		S4.B.2.1.2	

Instructional Strategies:

Assessments:

Direct instruction	Peer tutoring	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
Group discussion	Guided practice	
Oral/Written Practice	Cooperative learning	
Modeling/Demonstrating	Videos and Note taking	
Hands on manipulatives		
Hands on experiments/Science Lab		
Individual/group practice		
Computer individual review		

Grade level: 4

Course Title: Science

Topic/Concept: Trees and Plants

Time Allotment: 4 Weeks

Unit Sequence: 2

Major Concepts to be learned:

1. Categorize/group objects using physical characteristics.
2. Describe basic needs of plants (and animals) air, water, food.
3. Describe how different parts of a living thing work together to provide what the organism needs (roots, stems, leaves).
4. Describe the life cycles of different organisms (seed producing plant).
5. Identify life processes of living things (growth).
6. Identify and describe observable patterns (growth patterns in plants).
7. Explain how specific adaptations can help a living organism survive (leaf sizes and shapes, ability to catch or retain water).

Expected Skills to be demonstrated:

1. Label parts of a tree/plant.
2. Identify and categorize leaves using a dichotomous key and submit a leaf project.
3. Explain and illustrate a diagram of photosynthesis.

PA Standards/Anchors:

Eligible Content:

S4.A.3.3	S4.C.1.1	S4.A.3.3.1	S4.B.1.1.4	S4.C.1.1.2
S4.B.1.1		S4.B.1.1.1	S4.B.1.1.5	
S4.B.2.1		S4.B.1.1.3	S4.B.2.1.2	

Instructional Strategies:

Assessments:

Direct instruction	Peer tutoring	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
Group discussion	Guided practice	
Oral/Written Practice	Cooperative learning	
Modeling/Demonstrating	Videos and Note taking	
Hands on manipulatives		
Hands on experiments/Science Lab		
Individual/group practice		
Computer individual review		

Grade level: 4

Course Title: Science

Topic/Concept: Magnetism

Time Allotment: 1 Week

Unit Sequence: 3

Major Concepts to be learned:

1. Describe changes in motion caused by forces (magnetic, pushes/pulls, gravity, friction).

Expected Skills to be demonstrated:

1. Illustrate how magnets attract and repel.

PA Standards/Anchors:

Eligible Content:

S4.C.3.1

S4.C.3.1.1

Instructional Strategies:

Assessments:

- | | |
|----------------------------------|------------------------|
| Direct instruction | Peer tutoring |
| Group discussion | Guided practice |
| Oral/Written Practice | Cooperative learning |
| Modeling/Demonstrating | Videos and Note taking |
| Hands on manipulatives | |
| Hands on experiments/Science Lab | |
| Individual/group practice | |
| Computer individual review | |

- Teacher observation
- Authentic tasks
- Practice/skill pages and quizzes
- Practice applications
- Student self-assessment
- Homework check
- Conferencing

Grade level: 4

Course Title: Science

Topic/Concept: Scientific Tools/Microscopes/Cells

Time Allotment: 4 Weeks

Unit Sequence: 4

Major Concepts to be learned:

1. Identify appropriate tools or instruments for specific tasks and describe the information they can provide (measuring: length-ruler, mass-balance scale, volume-beaker, temperature-thermometer; making observations: microscope, hand lens, binoculars).
2. Describe the position of an object by locating it relative to another object or the background (geographic direction, left, up).
3. Identify what different models represent (maps show physical features, directions, distances; globes represent Earth; drawings of watersheds depict terrain; dioramas show ecosystems; concept maps show relationships of ideas).
4. Use appropriate, simple modeling tools and techniques to describe or illustrate a system (two cans and string to model a communications system, terrarium to model an ecosystem).
5. Categorize systems as either natural or human-made (ballpoint pens, simple electrical circuits, plant anatomy, water cycle).
6. Explain a relationship between the living and nonliving components in a system (food web, terrarium, bicycle).

Expected Skills to be demonstrated:

1. Match scientific tools with their names and explain the function of each tool and create a microscope slide.
2. Identify types of models and use relative location terms to explain them.
3. Create a model of a simple system and identify it as natural or man-made and if the parts are living or non-living.
4. Illustrate a plant and animal cell.

PA Standards/Anchors:

Eligible Content:

S4.A.2.2	S4.A.3.2	S4.A.2.2.1	S4.A.3.1.2	S4.A.3.2.3
S4.A.3.1	S4.C.3.1	S4.A.3.1.1	S4.A.3.2.1	S4.C.3.1.3

Instructional Strategies:

Assessments:

Direct instruction	Peer tutoring	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
Group discussion	Guided practice	
Oral/Written Practice	Cooperative learning	
Modeling/Demonstrating	Videos and Note taking	
Hands on manipulatives		
Hands on experiments/Science Lab		
Individual/group practice		
Computer individual review		

Grade level: 4

Course Title: Science

Topic/Concept: Human Genetics

Time Allotment: 1 Week

Unit Sequence: 5

Major Concepts to be learned:

1. Identify physical characteristics (height, hair color, eye color, attached earlobes, ability to roll tongue) that appear in both parents and could be passed on to offspring.

Expected Skills to be demonstrated:

1. Complete a list of traits identifying personal physical characteristics using a provided chart.
2. Predict characteristics of offspring from known parents.
3. Differentiate between genetic and learned traits/behaviors.

PA Standards/Anchors:

Eligible Content:

S4.B.2.2

S4.B.2.2.1

Instructional Strategies:

Assessments:

Direct instruction
Group discussion
Oral/Written Practice
Modeling/Demonstrating
Hands on manipulatives
Hands on experiments/Science Lab
Individual/group practice
Computer individual review

Peer tutoring
Guided practice
Cooperative learning
Videos and Note taking

- Teacher observation
- Authentic tasks
- Practice/skill pages and quizzes
- Practice applications
- Student self-assessment
- Homework check
- Conferencing

Grade level: 4

Course Title: Science

Topic/Concept: Water Cycle

Time Allotment: 2 Weeks

Unit Sequence: 6

Major Concepts to be learned:

1. Describe or compare lentic systems (i.e., ponds, lakes, bays) and lotic systems (i.e., streams, creeks, rivers).
2. Describe types of freshwater and saltwater bodies (e.g., lakes, rivers, wetlands, oceans).
3. Identify and describe observable patterns (water cycle).
4. Use models to make observations to explain how systems work (water cycle).
5. Explain the role and relationship of a watershed or a wetland on water sources (e.g., water storage, groundwater recharge, water filtration, water source, water cycle).
6. Recognize ways that humans benefit from the use of water resources (e.g., agriculture, energy, recreation).
7. Identify everyday human activities (washing, eating, industry, farming) within a community that depend on the natural environment.

Expected Skills to be demonstrated:

1. Identify lentic (still water) and lotic (moving water) water systems and sort into freshwater versus salt water systems.
2. Create and label a diagram of a water cycle.
3. Make a web showing benefits and uses of water in daily life.

PA Standards/Anchors:

Eligible Content:

S4.A.3.2	S4.B.3.3	S4.D.1.3	S4.A.3.2.2	S4.B.3.3.1	S4.D.1.3.1	S4.D.1.3.4
S4.A.3.3	S4.D.1.2		S4.A.3.3.1	S4.D.1.2.3	S4.D.1.3.3	

Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none"> • Teacher observation • Authentic tasks • Practice/skill pages and quizzes • Practice applications • Student self-assessment • Homework check • Conferencing
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Grade level: 4

Course Title: Science

Topic/Concept: Weather

Time Allotment: 2 Weeks

Unit Sequence: 7

Major Concepts to be learned:

1. Identify and describe observable patterns (weather).
2. Observe a natural phenomenon (weather changes), record observations, and then make a prediction based on those observations.
3. Observe and record change by using time and measurement.
4. Identify appropriate instruments (i.e., thermometer, rain gauge, weather vane, anemometer, and barometer) to study weather and what they measure.
5. Identify basic clouds types (i.e., cirrus, cumulus, stratus, cumulonimbus) and make connections to basic elements of weather (e.g., changes in temperature, precipitation).
6. Identify weather patterns from data charts or graphs of the data (e.g., temperature, wind direction, wind speed, cloud types, precipitation).

Expected Skills to be demonstrated:

1. Name and label weather instruments and their uses.
2. Make and label cloud types using cotton and identify the type of weather associated with them.

PA Standards/Anchors:

Eligible Content:

S4.A.1.3	S4.D.2.1	S4.A.1.3.1	S4.D.2.1.1
S4.A.2.1	S4.D.2.2	S4.A.2.1.3	S4.D.2.1.2
S4.A.3.3		S4.A.3.3.1	S4.D.2.1.3

Instructional Strategies:

Assessments:

Direct instruction	Peer tutoring	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
Group discussion	Guided practice	
Oral/Written Practice	Cooperative learning	
Modeling/Demonstrating	Videos and Note taking	
Hands on manipulatives		
Hands on experiments/Science Lab		
Individual/group practice		
Computer individual review		

Grade level: 4

Course Title: Science

Topic/Concept: Pollution

Time Allotment: 1 Week

Unit Sequence: 8

Major Concepts to be learned:

1. 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.
2. Identify and describe examples of common technological changes past to present in the community (that is energy production, transportation, communications, agriculture, packaging materials) that have either positive or negative impacts on society/environment.
3. Describe the effects of pollution (litter) in the community.

Expected Skills to be demonstrated:

1. Create a poster showing how pollution changes or harms the environment.
2. Create a comic strip showing ways to help the environment.

PA Standards/Anchors:

Eligible Content:

S4.A.1.1	S4.B.3.3	S4.A.1.1.2	S4.B.3.3.5
S4.A.1.3		S4.A.1.3.5	

Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
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Grade level: 4

Course Title: Science

Topic/Concept: Soil/Erosion/Weathering

Time Allotment: 2 Weeks

Unit Sequence: 9

Major Concepts to be learned:

1. Describe how prominent Earth features in Pennsylvania (e.g., mountains, valleys, caves, sinkholes, lakes, rivers) were formed.
2. Identify various Earth structures (e.g., mountain, watershed, peninsula, lake, river, valley) through the use of models.
3. Describe the composition of soil as weathered rock and decomposed organic remains.
4. Identify the types and uses of Earth materials for renewable, nonrenewable, and reusable products (human-made products: concrete, paper, plastics, metal, fabrics, buildings, highways).

Expected Skills to be demonstrated:

1. Draw a landform map and label various Earth structures.
2. Create a chart of renewable, nonrenewable, and reusable products.
3. Analyze soil samples.

PA Standards/Anchors:

Eligible Content:

S4.D.1.1 S4.D.1.2	S4.D.1.1.1 S4.D.1.1.2 S4.D.1.1.3	S4.D.1.2.2
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Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
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Grade level: 4

Course Title: Science

Topic/Concept: Solar System/Seasons

Time Allotment: 1 Week

Unit Sequence: 10

Major Concepts to be learned:

1. Describe motions of the sun-Earth-moon system.
2. Use models to make observations to explain how systems work (sun-Earth-moon system).
3. Explain how the motion of the sun, earth, moon system relates to time (days, months, years).
4. Observe a natural phenomenon (length of daylight/night, movement of shadows), record observations, and then make a prediction based on those observations.
5. Predict future conditions/events based on observable patterns (day/night, seasons, sunrise/sunset, lunar phases).
6. Describe the causes of seasonal change as it relates to the rotation of the Earth and the tilt of the Earth's axis.
7. Explain and predict how changes in seasons affect plants, animals, or daily human life (food availability, shelter, mobility).

Expected Skills to be demonstrated:

1. Model the position and movement of the sun-Earth-moon and relate it to natural phenomenon (day/night/season/year/etc.)
2. Discuss how plants, animals, and humans are affected by seasonal changes.

PA Standards/Anchors:

Eligible Content:

S4.A.2.1	S4.B.3.2	S4.A.2.1.3	S4.B.3.2.3	S4.D.3.1.3
S4.A.3.2	S4.D.3.1	S4.A.3.2.2	S4.D.3.1.1	
S4.A.3.3		S4.A.3.3.2	S4.D.3.1.2	

Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
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Grade level: 4

Course Title: Science

Topic/Concept: Matter-Solids, Liquids, Gases

Time Allotment: 1 Week

Unit Sequence: 11

Major Concepts to be learned:

1. Use physical properties [mass, shape, size, volume, color, texture, magnetic property, state (solid, liquid, and gas), conductivity (electrical and heat)] to describe matter.
2. Explain how water goes through phase changes (evaporation, condensation, freezing, melting).

Expected Skills to be demonstrated:

1. Select an item from an assortment of objects and identify its physical properties.
2. Create a drawing showing the phase changes of water.

PA Standards/Anchors:

Eligible Content:

S4.C.1.1
S4.D.1.3

S4.C.1.1.1
S4.D.1.3.2

Instructional Strategies:

Assessments:

Direct instruction
Group discussion
Oral/Written Practice
Modeling/Demonstrating
Hands on manipulatives
Hands on experiments/Science Lab
Individual/group practice
Computer individual review

Peer tutoring
Guided practice
Cooperative learning
Videos and Note taking

- Teacher observation
- Authentic tasks
- Practice/skill pages and quizzes
- Practice applications
- Student self-assessment
- Homework check
- Conferencing

Grade level: 4

Course Title: Science

Topic/Concept: Matter-Force, Motion

Time Allotment: 2 Weeks

Unit Sequence: 12

Major Concepts to be learned:

1. Describe relative size, distance, or motion.
2. Compare the relative movement of objects or describe types of motion that are evident (bouncing ball, moving in a straight line, back and forth, merry-go-round).
3. Describe changes in motion caused by forces (magnetic, pushes or pulls, gravity, friction).

Expected Skills to be demonstrated:

1. Select items and identify relative size, distance, and motion.
2. Compare relative movement and changes caused by forces.

PA Standards/Anchors:

Eligible Content:

S4.A.1.3
S4.C.3.1

S4.A.1.3.2
S4.C.3.1.1
S4.C.3.1.2

Instructional Strategies:

Assessments:

Direct instruction
Group discussion
Oral/Written Practice
Modeling/Demonstrating
Hands on manipulatives
Hands on experiments/Science Lab
Individual/group practice
Computer individual review

Peer tutoring
Guided practice
Cooperative learning
Videos and Note taking

- Teacher observation
- Authentic tasks
- Practice/skill pages and quizzes
- Practice applications
- Student self-assessment
- Homework check
- Conferencing

Grade level: 4

Course Title: Science

Topic/Concept: Agriculture

Time Allotment: 2 Weeks

Unit Sequence: 13

Major Concepts to be learned:

1. Identify the parts of the food and fiber systems as they relate to agricultural products from the source to the consumer.
2. Describe the human dependence on the food and fiber systems from production to consumption (food, clothing, shelter, products).
3. Identify products and by-products of plants and animals for human use (food, clothing, building materials, paper products).
4. Identify everyday human activities (driving, eating, industry, farming, littering) within a community that depend on the natural environment.
5. Identify major land uses in the urban, suburban and rural communities (housing, commercial, recreation).

Expected Skills to be demonstrated:

1. Create a flow chart showing an agricultural product's development from source to consumer, including by-products.
2. Name human activities that depend on the natural environment, and name major ways land is used in various communities.

PA Standards/Anchors:

Eligible Content:

S4.A.3.1 S4.B.3.3 S4.D.1.2	S4.A.3.1.4 S4.B.3.3.1 S4.B.3.3.2	S4.B.3.3.4 S4.D.1.2.1
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Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
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Grade level: 4

Course Title: Science

Topic/Concept: Ecosystems-Habitats/Adaptations

Time Allotment: 2 Weeks

Unit Sequence: 14

Major Concepts to be learned:

1. Categorize the parts of an ecosystem as either living or non-living and describe their roles in the system.
2. Describe the living and nonliving components of a local ecosystem (e.g., lentic and lotic systems, forest, cornfield, grasslands, city park or playground).
3. Describe interactions between living and nonliving components (plants – water, soil, sunlight, carbon dioxide, temperature) of a local ecosystem.
4. Identify characteristics for plant survival in different environments (e.g., wetland, tundra, desert, prairie, deep ocean, forest).
5. Describe what happens to a living thing when its habitat is changed.
6. Describe and predict how changes in the environment (e.g., fire, pollution, flood, building dams) can affect systems.

Expected Skills to be demonstrated:

1. Identify different environments and classify their components as living or nonliving.
2. Describe and predict how environmental changes affect the habitats of living things.

PA Standards/Anchors:

Eligible Content:

S4.A.3.1	S4.B.3.1	S4.A.3.1.3	S4.B.3.1.1	S4.B.3.2.1
S4.B.2.1	S4.B.3.2	S4.B.2.1.1	S4.B.3.1.2	S4.B.3.2.2

Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
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Grade level: 4

Course Title: Science

Topic/Concept: Energy-Heat, Light, Sound

Time Allotment: 1 Week

Unit Sequence: 15

Major Concepts to be learned:

1. Observe and describe the change to objects caused by heat, cold, or light.
2. Identify energy forms and examples (light, heat, electrical).
3. Identify characteristics of sound (pitch, loudness, echoes).

Expected Skills to be demonstrated:

1. List examples of each form of energy.
2. Discuss characteristics of sound.

PA Standards/Anchors:

Eligible Content:

S4.A.1.3
S4.C.2.1

S4.A.1.3.3
S4.C.2.1.1
S4.C.2.1.4

Instructional Strategies:

Assessments:

Direct instruction
Group discussion
Oral/Written Practice
Modeling/Demonstrating
Hands on manipulatives
Hands on experiments/Science Lab
Individual/group practice
Computer individual review

Peer tutoring
Guided practice
Cooperative learning
Videos and Note taking

- Teacher observation
- Authentic tasks
- Practice/skill pages and quizzes
- Practice applications
- Student self-assessment
- Homework check
- Conferencing

Grade level: 4

Course Title: Science

Topic/Concept: Electricity

Time Allotment: 3 Weeks

Unit Sequence: 16

Major Concepts to be learned:

1. Describe the flow of energy through an object or system (feeling radiant heat from a light bulb, using a battery to light a bulb).
2. Recognize or illustrate simple direct current series and parallel circuits composed of batteries, light bulbs, wire, and on/off switches.

Expected Skills to be demonstrated:

1. Create series and parallel circuits composed of batteries, light bulbs, wires, and on/off switches.

PA Standards/Anchors:

Eligible Content:

S4.C.2.1	S4.C.2.1.2 S4.C.2.1.3
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Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
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Grade level: 4

Course Title: Science

Topic/Concept: Animal Life Processes

Time Allotment: 2 Weeks

Unit Sequence: 17

Major Concepts to be learned:

1. Describe basic needs of animals (air, water, food).
2. Identify life processes of living things (e.g., growth, digestion, respiration).
3. Describe the life cycles of different organisms (chicken, frog).
4. Describe interactions between living and nonliving components (food, water, shelter, oxygen, temperature) of a local ecosystem.
5. Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., they might die, migrate, change behavior, eat something else).
6. Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering).
7. Explain how specific adaptations can help a living organism survive (e.g., protective coloration, mimicry, ability to catch or retain water).
8. Identify characteristics for plant and animal survival in different environments (e.g., wetland, tundra, desert, prairie, deep ocean, forest).

Expected Skills to be demonstrated:

1. Describe the basic needs, processes, and life cycles of different organisms.
2. Create a diagram of external characteristics of an organism and explain how the characteristics are similar to other organisms.
3. Discuss how specific adaptations help an organism survive.

PA Standards/Anchors:

Eligible Content:

S4.A.1.3	S4.B.3.1	S4.A.1.3.4	S4.B.1.1.3	S4.B.2.1.2
S4.B.1.1		S4.B.1.1.1	S4.B.1.1.5	S4.B.3.1.2
S4.B.2.1		S4.B.1.1.2	S4.B.2.1.1	

Instructional Strategies:

Assessments:

Direct instruction Group discussion Oral/Written Practice Modeling/Demonstrating Hands on manipulatives Hands on experiments/Science Lab Individual/group practice Computer individual review	Peer tutoring Guided practice Cooperative learning Videos and Note taking	<ul style="list-style-type: none">• Teacher observation• Authentic tasks• Practice/skill pages and quizzes• Practice applications• Student self-assessment• Homework check• Conferencing
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