Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **3.1 Unifying Themes: Integrate the fundamental concepts of science and technology; motion in force, energy, structure of matter, change over time, and simple machines.**

State Curriculum Standard**: 3.1.4 Unifying Themes**

Cross Curricular Integration: **Communication Arts: 1.1.3D Read text using self-monitoring comprehension skills**
1.1.3G After reading, demonstrate understanding and interpretation of nonfiction text

Course Content	Student Performance	Resources	Assessments
A. Know that natural and human-made objects are made up of parts.	• Identify the differing parts of a habitat (plant life, animal life)	• Macmillan –McGraw Hill Unit B: Animals are Living Things pages 40 – 43 • *Reading in Science Resources* pages 105 - 110	• Teacher observation • Student discussion

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **3.3 Biological Sciences: Describe living things, their appearance, different types of life, the scope of their similarities and differences, where and how they live, and how life has changed over time.**
4.7 Threatened, Endangered and Extinct Species: Describe the biological diversity of an ecosystem and explain how natural or human actions cause the loss of species.

State Curriculum Standard: **3.3.4 Biological Sciences**
4.7.4 Threatened, Endangered and Extinct Species

Course Content	Student Performance	Resources	Assessments
3.34 A. Know the similarities and differences of living things. **4.74** A. Identify differences in living things.	• Explain the different classification of animals (mammals, reptiles, amphibians, fish, birds) • Compare characteristics of the animals classifications • Identify how animals move • Draw animals that either fly, walk or swims • Sort animals by similar physical characteristics	• Amphibians are Animals • Birds of Animals • Fish are Animals • Mammals are Animals • Reptiles are Animals • Macmillan –McGraw Hill Unit B: Animals are Living Things Big Book pages 10 – 19 • Macmillan –McGraw Hill *Reading in Science Resources* pages 74 – 86 • *File Folder Game*: Animal Pick 'N Put (see appendix • Animal Classification Mini Books (see appendix) • Feet, Fins and Wings booklet (see appendix) • How Do I Move? (appendix) • Flies, Walks or Swims (see appendix) • Magnetic Animal Sorting Center	• List three characteristics of each animal classification • Student discussion • Teacher observation • Student illustrations

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **3.3 Biological Sciences: Describe living things, their appearance, different types of life, the scope of their similarities and differences, where, and how they live, and how life has changed over time.**
4.7 Threatened, Endangered and Extinct Species: Describe the biological diversity of an ecosystem and explain how natural or human actions cause the loss of species.
4.8 Humans and the Environment: Identify the biological requirements of humans, and analyze the relationship between the use of natural resources and society's needs.

State Curriculum Standard: **3.3.4 Biological Sciences**

Course Content	Student Performance	Resources	Assessments
3.3.4 B. Know that living things are made up of parts that have specific functions. C. Know that characteristics are inherited and thus offspring closely resemble their parents. D. Identify changes in living things over time.	• Explain how particular animals protect themselves in the wild • Match animals' mothers with their offspring Name animal young • Identify the life cycle of a frog • Recognize how animals change throughout their life cycle	• Macmillan –McGraw Hill Unit B: Animals are Living Things: 46 – 49 • Animal Defense Riddle Book (see appendix) • What I Use for Protection (see appendix) • Video: "That's My Baby" • Life Sequence Cards • *File Folder Games*: I Want My Mommy and Baby Buddies • Fish is Fish by L. Lionni • Macmillan –McGraw Hill Unit B: Animals are Living Things Big Book pages 20 – 26 • Reading in Science Resources pages 87 – 94 • Scott Foresman Reading Series Anthology: Tadpole to Frog • Becoming a Butterfly Mini Book (see appendix) • From Tadpole to Frog Mini Book (see appendix)	• Teacher observation • Student discussion • Animal Defense Riddle Book • What I Use for Protection • File Folder Game completion • Life Cycle Completion • Learning Center Participation

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **3.3 Biological Sciences: Describe living things, their appearance, different types of life, the scope of their similarities and differences, where, and how they live, and how life has changed over time.**
4.7 Threatened, Endangered and Extinct Species: Describe the biological diversity of an ecosystem and explain how natural or human actions cause the loss of species.
4.8 Humans and the Environment: Identify the biological requirements of humans, and analyze the relationship between the use of natural resources and society's needs.

State Curriculum Standard: **3.3.4 Biological Sciences**

Course Content	Student Performance	Resources	Assessments
		• Watch a Grow Series (see appendix) *chicken, butterfly, frog, rabbit, turtle* • Instant Learning Center: Life Cycles • Animals Grow and Change Booklet (see appendix) • Life Cycles Book Set	• Teacher observation • Student discussion • Animal Defense Riddle Book • What I Use for Protection • File Folder Game completion • Life Cycle Completion • Learning Center Participation

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard:

State Curriculum Standard: **4.7.4 Threatened, Endangered and Extinct Species**
4.8.4 Humans and the Environment

Course Content	Student Performance	Resources	Assessments
A. Know that adaptations are important for survival.	• Explain why some birds migrate	• Migration by M. Berger • *File Folder Game:* Animals Move (see appendix)	• Student discussion • Teacher observation
B. Define and understand extinction.	• Create an informative poster about endangered animals encourage people to help save their favorite endangered animal	• Endangered Animals by L. Stone	• Student discussion • Student poster
C. Explain how human activities may change the environment.	• Explain what human actions contribute to animal endangerment or extinction	• The Return of the American Bison from Macmillan – McGraw Hill Unit D: Caring for Our Earth Big Book, pages 54 – 55	• Teacher observation • Student discussion

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **3.5 Earth Science Use principles from physical sciences, geography, and mathematics to study the forces of nature that build the earth and wear down the earth.**

State Curriculum Standard: **3.5.4 Earth Sciences**
3.6.4.ATechnology Education
4.2.4 Renewable and Nonrenewable Resources
4.3.4 Environmental Health
4.8.4 Humans and the Environment

Course Content	Student Performance	Resources	Assessments
A. Know basic weather elements.	• Identify animals that hibernate • Explain why animals hibernate	• Who Hibernates Mini Book (see appendix) • Good Night, Bear • Snoozers (see appendix) • *File Folder Game:* Animals Actions (see appendix)	• Teacher Observation • Student Discussion • Snoozers

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **3.6 Technology Education: Design, create, use, evaluate, and modify systems of Biotechnologies, Information Technologies, and Physical Technologies.**
4.2 Renewable and Nonrenewable Resources: Analyze the needs of people and factors affecting the availability of renewable and nonrenewable resources.
4.3 Environmental Health: Describe and evaluate how human actions affect environmental health issues.
4.4 Agriculture and Society: Investigate the relationship of agricultural science and society's standard of living
4.8 Humans and the Environment: Identify the biological requirements of humans, and analyze the relationship between the use of natural resources and society's needs.

State Standard:

Course Content	Student Performance	Resources	Assessments
3.6.4 B. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting. **4.2.4** B. Identify products derives from natural resources D. Identify by-products and their use of natural resource. **4.3.4** A. Identify by-products and their use of natural resource. **4.8.4** A. Identify the biological requirements of humans. D. Know the importance of natural resources in daily life.	• Identify the resources that a cow provides us (beef, milk, leather, etc). • Write about natural resources that they use on a daily basis • Grade 1 Social Studies Curriculum page 23 • Identify natural resources yielded from a sheep after a visit to Quiet Valley Living Historical Farm	• Macmillan –McGraw Hill Unit D: Caring for Earth Big Book pages 8 – 9, 26 – 31 • *Reading in Science Resources* pages 182 –183 • Charlie Needs A Cloak by T. DePaola • The Giving Tree by S. Silverstein • Quiet Valley Living Historical Farm • Which Foods Are Made From My Milk • "Dairy Farming for Kids" Video	• Student writing • Student discussion • Teacher Observation • Which Foods Are Made From My Milk

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **4.1 Watersheds and Wetlands - Identify and explain the living and nonliving characteristics of water environments.**
4.2 Renewable and Nonrenewable Resources - Analyze the needs of people and factors affecting the availability of renewable and nonrenewable resources.
4.3 Environmental Health - Describe and evaluate how human actions affect environmental health issues.

State Curriculum Standard: **4.1.4 Watersheds and Wetlands:**
4.2.4 Renewable and Nonrenewable Resources
4.3.4 Environmental Health

Course Content	Student Performance	Resources	Assessments
4.1.4 D. Identify a wetland and the plants and animals found there. E. Recognize the impact of watersheds and wetlands on animals and plants. **4.2.4** A. Identify needs of people. **4.3.4** A. Know that plants, animals and humans are dependent on air and water. **4.6.4** A. Understand that living things are dependent on nonliving things in the environment for survival.	• Write a descriptive explanation of plant and animal life around a pond • Water color a wetland habitat, including plants and animals that live in or around a pond • Categorize items that are living and non-living using a t-chart • Identify what animals need to survive	• <u>In a Small, Small Pond</u> by D. Fleming • Pond Picture cards (see appendix) • Macmillan –McGraw Hill Explore Activity: Are Birds Living Things, TM B5 • *Reading in Science Resources* pages 11 – 17 • Living / Non-Living t-chart • What Things Need Air (see appendix) • Living Things Need Water (see appendix)	• Teacher observation • Student writing • Student wetland habitat • Student generated t-chart • What Things Need Air • Living Things Need Water

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **4.6 Ecosystems and their Interactions: Examine the flow of energy within an ecosystem and how its organisms have changed over time.**

State Curriculum Standard: **4.6.4 Ecosystems and their Interactions**

Course Content	Student Performance	Resources	Assessments
A. Understand that living things are dependent on nonliving things in the environment for survival. B. Understand that the elements of natural systems are interdependent.	• Sequence and construct an animal food chain	• Macmillan –McGraw Hill Explore Activity: Are Birds Living Things: Unit B: Animals are Living Things Big Book: pages 32 – 37	• Teacher Observation • Completion of food chain

Science Planned Course: Grade 1

Unit: **Animals and their Needs**

Content Standard: **4.4 Agriculture and Society**: **Investigate the relationship of agricultural science and society's standard of living**
4.5 Integrated Pest Control: Explain various integrated pest management concepts and practices used in society.

State Curriculum Standard: **4.4.4 Agriculture and Society**
4.5.4 Integrated Pest Management

Course Content	Student Performance	Resources	Assessments
4.4.4 B. Identify the role of the sciences in Pennsylvania agriculture.	• Distinguish between farm and wild animals. • After the visit to Quiet Valley Living Historical Farm, identify the importance of farm animals in our lives • After visiting Space Farms, Claws and Paws or Lehigh Valley Zoo, differentiate between wild and domestic animals • Compare the different types of animals from a farm and a zoo	• Quiet Valley Living Historical Farm • Local Zoo • Kidspiration Farm & Wild Animal Sort	• Student discussion • Kidspiration software
4.5.4 C. Know types of pests.	• After the Monroe County Vector Control presentation, students will be able to list 3 pests and identify what makes them a pest • Identify what makes a bug or animal a pest • Draw a picture of their home and locate where pests could hide and what pests could live there	• Monroe County Vector Control	• Student illustration and explanation

Science Planned Course: Grade 1

Unit: **Air and Water**

Content Standard: **3.1 Unifying Themes Integrate the fundamental concepts of science and technology; motion in force, energy, structure of matter, change over time, and simple machines.**
3.5 Earth Science Use principles from physical sciences, geography, and mathematics to study the forces of nature that build the earth wear down the earth.
4.6 Ecosystems and their Interactions Examine the flow of energy within an ecosystem and how its organisms have changed over time.

State Curriculum Standard: **3.1.4 Unifying Themes**
3.5.4 Earth Sciences
4.6.4 Ecosystems and their Interactions

Cross Curricular Integration: **Communication Arts 1.1.3D: Read text using self-monitoring comprehension skills**
1.1.3G: After reading, demonstrate understanding and interpretation of nonfiction text
Math 2.3 Measurement and Estimation
Social Studies Basic 7.1.3 Geographic Literacy

Course Content	Student Performance	Resources	Assessments
3.5.4 B. Recognize the Earth's different water resources. **3.1.4** B. Know models as useful simplifications of objects or processes.	• Differentiate between land and water on a globe or map	• Social Studies Curriculum • Macmillan –McGraw Hill Unit D: Caring for Earth Big Book Pages 16 – 21 • Earth – The Water Planet (see appendix)	• Teacher observation
3.5.4 E. Know basic landforms and Earth history. **3.1.4** C. Illustrate patterns that regularly occur and reoccur in nature. E. Recognize change in natural and physical systems. **4.6.4** B. Understand the concept of cycles.	• Identify and illustrate the steps of the water cycle. • Explain the water cycle using the terms: evaporation, condensation, and precipitation • Act out the water cycle using Water-Go-Round Wheel	• Water-Go-Round Wheel (see appendix) • The Water Cycle (see appendix) • Water Cycle Illustration (see appendix) • A Drop of Water by W. Wick • What Makes It Rain • The Water Cycle	• Teacher observation • Student performance • Student discussion

Science Planned Course: Grade 1

Unit: **Air and Water**

Content Standard: **3.2 Inquiry and Design: Apply the scientific process to solve real life problems.**
3.4 Physical Science, Chemistry, and Physics: Investigate the structure and properties of objects.

State Curriculum Standard: **3.2.4 Inquiry and Design**
3.4.4 Physical Science, Chemistry and Physics

Course Content	Student Performance	Resources	Assessments
3.2.4 B. Describe objects in the world using the five senses.	• Using a KWL chart, students will share their knowledge of water • Using a their five senses, students will record descriptions of water on the Exploring Water in a Cup page • Explain that air is all around and describe it using their 5 senses	• KWL Chart • Exploring Water in a Cup (see appendix) • I Am Water • Where is Water? • What is Water? • Air Log (see appendix) on-going journal to be used with various lessons	• KWL Chart • Exploring Water in a Cup page • Air Log Book
A. Identify and use the nature of scientific and technological knowledge. C. Recognize and use the elements of scientific inquiry to solve problems. C. Recognize and use the technological design process to solve problems. **3.4.4** A. Recognize basic concepts about the structure and properties of matter.	• Complete the Explore Activities to demonstrate how water changes forms • Using the Scientific Process, have students explore how water changes forms (solid, liquid, gas) • Using the Scientific Process, students will predict, observe and explain how water changes forms	• Macmillan –McGraw Hill Unit E Matter, Matter Everywhere Big Book • Macmillan –McGraw Hill *Activity Resources* Explore Activity Lesson 7 • Macmillan –McGraw Hill *Reading in Science Resources* pages 287 – 297 • Freezing and Melting • What is Water • Scientific Process banner	• Teacher observation • Student discussion • Participation in scientific experiments

Science Planned Course: Grade 1

Unit: **Air and Water**

Content Standard: **3.4 Physical Science, Chemistry, and Physics**: **Investigate the structure and properties of objects.**

State Curriculum Standard: **3.4.4 Physical Science, Chemistry and Physics:**

Course Content	Student Performance	Resources	Assessments
3.4.4 A. Recognize basic concepts about the structure and properties of matter.	• Explore that water has no shape • Using the Rainbow Surprise experiment, students will explain that water can be absorbed	• Macmillan –McGraw Hill *Activity Resource* Book: Explore Activity Lesson 3 • Water Has No Shape (see appendix) • Rainbow Surprise (see appendix)	• Student participation in science experiments • Student discussion • Teacher observation • Air Log Book
D. Describe the composition and structure of the universe and Earth's place in it.	• Complete the Stir It Up activity to demonstrate what substances dissolve, suspend, float or sink in water • After the hands-on exploration with the Sink and Float Kit, students will identify items that float and sink in water • Make Stone Soup "Sink and Float Soup" to help reinforce what objects sink or float in water • Review the Scientific Process while completing above-mentioned activities. • Recognize that air takes the shape of its container • Observe objects that are being moved my air • Describe what moving air is called and how there can be good and bad wind	• Macmillan –McGraw Hill Unit E Matter, Matter Everywhere Big Book • Stir It Up Experiment (see appendix) • Sink & Float Kit • Stone Soup by A. McGovern • Corresponding Sink and Float Soup activity (see appendix) • Floating and Sinking • Simple Science Exploration Water Tub • Feel the Wind by A. Dorros • Air Log Book (see appendix) • The Shape of Air (see appendix) • Science experiment: Pressure Power • Pinwheel (see appendix) • Whirly Birds (see appendix)	

Science Planned Course: Grade 1

Unit: **Air and Water**

Content Standard: **3.5 Earth Science: Use principles from physical sciences, geography, and mathematics to study the forces of nature that build the earth and wear down the earth.**
3.6 Technology Education: Design, create, use, evaluate, and modify systems of Biotechnologies, Information Technologies, and Physical Technologies.
4.1 Watersheds and Wetlands: Identify and explain the living and nonliving characteristics of water environments.

State Curriculum Standard**: 3.5.4 Earth Sciences**
3.6.4 Technology Education
4.1.4 Watersheds and Wetlands

Course Content	Student Performance	Resources	Assessments
3.5.4 B. Know types and uses of Earth materials. **3.6.4** C. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design.	• Identify that air surrounds us and makes up the Earth's atmosphere • Identify and write about how water and air help us. • Brainstorm daily uses of water using the Count the Ways activity • Recognize that manufacturing and human activity can pollute the Earth and its resources • On Earth Day, students plan and complete a pro-active project to clean up their school environment • Identify and analyze the pollutants in their school environment	• Air is All Around You (see appendix) • Air poem (see appendix) • Drawing Them In Experiment (see appendix) • Amazing Water • Count the Ways (see appendix) • Everyday is Earth Day mini book (see appendix) • It's Mine by L. Lionni • Macmillan –McGraw Hill Unit D: Caring for Earth Big Book pages 36 – 53 • Macmillan –McGraw Hill *Reading in Science Resources* pages 218 – 226 • Macmillan –McGraw Hill Explore Activity, TM page 39	• Teacher observation • Student planning and participation in the Earth Day Clean Up Project • Count the Way Activity • Explore Activity
4.1.4 A. Identify various types of water environments. B. Explain the differences between moving and still water.	• Differentiate between water environments that move and stand still (stream vs. pond). • Identify various places that water could be found	• Follow the Water from Brook to Ocean by A. Dorros	• Student discussion • Teacher observation

Science Planned Course: Grade 1

Unit: **Air and Water**

Content Standard: **3.5 Earth Science: Use principles from physical sciences, geography, and mathematics to study the forces of nature that build the earth and wear down the earth.**
4.3 Environmental Health: Describe and evaluate how human actions affect environmental health issues.
4.4 Agriculture and Society: Investigate the relationship of agricultural science and society's standard of living

State Curriculum Standard: **4.3.4 Environmental Health**
4.4.4 Agriculture and Society

Course Content	Student Performance	Resources	Assessments
4.3.4 A. Know that plants, animals and humans are dependent on air and water. **4.4.4** A. Know the importance of agriculture to humans.	• Performance also measuring during Animals Unit • Identify that air and water are necessary components to support life	• What Things Need Air (see appendix) • Living Things Need Water (see appendix) • Why is Water Important (see appendix) • <u>We Use Water</u>	• What Things Need Air (see appendix) • Living Things Need Water (see appendix) • Why is Water Important (see appendix)

Science Planned Course: Grade 1

Unit: **Air and Water**

Content Standard: **3.5 Earth Science**: **Use principles from physical sciences, geography, and mathematics to study the forces of nature that build the earth and wear down the earth.**
4.3 Environmental Health: Describe and evaluate how human actions affect environmental health issues.
4.9 Environmental Laws and Regulations: Identify and describe environmental laws and regulations.

State Curriculum Standard: **3.5.4 Earth Sciences**
4.3.4 Environmental Health
4.9.4 Environmental Laws and Regulations

Course Content	Student Performance	Resources	Assessments
3.5.4 B. Know types and uses of Earth materials. **4.3.4** B. Identify how human actions affect environmental health. **4.9.4** A. Know that there are laws and regulations for the environment.	• Write about how they use water • Teacher generates a graph for students to contribute how they use water • Identify how and why water is important to us • Explain what pollution is • Create a list of ways to prevent pollution • Brainstorm ideas to take better care of our environment • Discuss the process and importance of recycling and how many communities are making recycling a law. • Plan and participate in an event to coincide with Earth Day to be proactive about taking care of our environment	• I Am Water • How we use water at home (see appendix) • Macmillan –McGraw Hill Unit D: Caring for Earth Big Book pages 16 – 21, 38 - 43 • *Reading in Science Resources* pages 197 – 202 • Macmillan –McGraw Hill Explore Activity TM D39: What is in the air? • Macmillan –McGraw Hill *Activity Resource* Book page 104: Water Watching • Macmillan –McGraw Hill *Cross-Curricular Projects* page 25 • Reduce, Reuse, Recycle by R. Lanczak Williams	• Student's writing • Teacher observation • Student discussion • Participation in Scientific Experiments • Planning and implementation of Earth Day event

Science Planned Course: Grade 1

Unit: **Color and Light**

Content Standard: **3.1 Unifying Themes: Integrate the fundamental concepts of science and technology; motion in force, energy, structure of matter, change over time, and simple machines.**
3.2 Inquiry and Design: Apply the scientific process to solve real life problems.

State Curriculum Standard: **3.1.4 Unifying Themes**
3.2.4 Inquiry and Design

Cross Curricular Integration: **Communication Arts: 1.1.3D: Read text using self-monitoring comprehension skills**
1.1.3G: After reading, demonstrate understanding and interpretation of nonfiction text
Math: 2.3: Measurement and estimation
Social Studies: 7.1.3 Basic Geographic Literacy

Course Content	Student Performance	Resources	Assessments
3.1.4. E. Recognize change in natural and physical systems. **3.2.4** A. Identify and use the nature of scientific and technological knowledge. C. Recognize and use the elements of scientific inquiry to solve problems.	• Identify the three primary colors and how to blend to make secondary colors • Using vanilla cake icing that has been tinted with primary color food dye, mix primary colors to make secondary colors • Respond to color experiments through the use of the Scientific Process • Using cups of water, add primary color food dye to make secondary colors • Use the Color Discovery Tubes to mix primary colors • Use prisms or pie plate on overhead to create a rainbow • Identify and sequence the colors of a rainbow (ROY G BIV)	• Little Blue and Little Yellow by L. Lioni • Color Dance • Paintbox Penguins • Food dye • Water • Cake Icing • Making Secondary Colors through Scientific Process (see appendix) • Color Discovery Tubes • ROY G. BIV Poem (see appendix) • My Favorite Color mini book (see appendix) • Teacher-created Rainbow Ring (see appendix) • All the Colors of the Rainbow by A. Fowler • Magic School House: Makes a Rainbow video • Simple Science Exploration Color Tub	• Teacher observation • Student performance of making secondary colors • Student Recording Sheet • Participation in Science experiments and discussion

Science Planned Course: Grade 1

Unit: **Color and Light**

Content Standard: **3.2 Inquiry and Design: Apply the scientific process to solve real life problems.**
3.4 Physical Science, Chemistry, and Physics: Investigate the structure and properties of objects.

State Curriculum Standard: **3.2.4 Inquiry and Design**
3.4.4 Physical Science, Chemistry and Physics

Course Content	Student Performance	Resources	Assessments
B. Describe objects in the world using the five senses. D. Recognize and use the technological design process to solve problems.	• Identify objects in the room that are the primary and secondary colors • Using the sensory chart or Kidspiration software, students can create a chart of objects that they can see and touch that are the colors of the rainbow • Operate Sammy School House Science to understand the Scientific Process	• *Reading in Science Resources* pages 5 – 10 • Kidspiration • Sensory Chart (see appendix) • Sammy School House Science Software program	• Teacher observation • Students' Kidspiration work • Sensory Chart

Science Planned Course: Grade 1

Unit: **Color and Light**

Content Standard: **3.2 Inquiry and Design**: **Apply the scientific process to solve real life problems.**
3.4 Physical Science, Chemistry, and Physics: Investigate the structure and properties of objects.

State Curriculum Standard: **3.2.4 Inquiry and Design**
3.4.4 Physical Science, Chemistry and Physics

Course Content	Student Performance	Resources	Assessments
A. Know basic energy types, sources and conversions.	• Identify the sun as a source of energy and natural light. • Distinguish between natural and artificial light by listing or illustrating examples of each • Using a flashlight shine the light at various materials and note results. Then, in small groups complete Can You Make Light Bounce • To prove how light travels in a straight line, conduct the Ready, Aim Bounce Experiment • Use mirrors and small objects to demonstrate reflection and symmetry. • Compare properties of transparent, translucent, and opaque materials using Shining Through and Looking for Light • Describe that opaque objects cast shadows. • Recognize that humans cast shadows because are opaque • Read *Shadow* poem	• Our Sun wheel (see appendix) • Light • All About Light by M.Berger • *Reading in Science Resources pages* 129 – 132 • Can You Make Light Bounce (see appendix) • Ready, Aim . . . Bounce (see appendix) • Mirrors • Mirror Multiplication (see appendix) • Fun With Mirrors (see appendix) • Shining Through (see appendix) • Looking for Light (see appendix) • Mirror Maze (see appendix) • Translucent, Opaque and Transparent Flip Book (see appendix) • Bear Shadow by F. Asch • Investigating Our Shadows (see appendix) • Shadow poem (see appendix) • Trace student's profile shadow	• Students' writing / illustrations • Teacher observation • Participation in Science Experiments

Science Planned Course: Grade 1

Unit: **Technology**

Content Standard: **3.6 Technology Education: Design, create, use, evaluate, and modify systems of Biotechnologies, Information Technologies, and Physical Technologies.**
3.7 Technological Devices: Select appropriate technological tools to collect, analyze, and communicate information and ideas.

State Curriculum Standard: **3.6.4 Technology Education**
3.7.4 Technological Devices

Cross Curricular Connections*:* **Technology 2.1: Students will use software as related to content area curricula**
Social Studies Historical Analysis and Skill Development
Math: 2.3: Measurement and Estimation

Course Content	Student Performance	Resources	Assessments
3.6.4 B. Know that information technologies involve encoding, transmitting, receiving, storing and retrieving and decoding.	• Identify technological devices that have improved communication over the course of history	• Social Studies Curriculum: Now & Then Unit, the advancements of communication	• Student discussion • Teacher observation
3.7.4 A. Explore the use of basic tools, simple materials and techniques to safely solve problems. B. Select appropriate instruments to study materials.	• Properly use rulers, thermometers and calculators • Explain each tool's purpose and when to use it • Identify how a thermometer's temperature	• Rulers, Calculators, Thermometers • E-tools • Grade 1 Math Curriculum • Macmillan –McGraw Hill Unit E: Matter, Matter Everywhere Big Book, chapter 10 • Macmillan –McGraw Hill *Cross-Curricular Projects* page 33: How Hot	• Student performance • Teacher observation
3.6.4 C. Identify basic computer operations and concepts. D. Use basic computer software. E. Identify basic computer communication systems.	• Identify how a thermometer's temperature reading can be an indicator for the physical changes of water (solid, liquid, gas) • Identify the mouse and keyboard of a computer and their purpose	• Grade 1 Computer Curriculum • Software programs: Kidspiration, E-tools, Kids College and Sammy Science Software	• Students' usage of computer software programs

Science Planned Course: Grade 1

Unit: **Technology**

Content Standard: **3.6 Technology Education: Design, create, use, evaluate, and modify systems of Biotechnologies, Information Technologies, and Physical Technologies.**
3.7 Technological Devices: Select appropriate technological tools to collect, analyze, and communicate information and ideas.

State Curriculum Standard: **3.6.4 Technology Education**
3.7.4 Technological Devices

Cross Curricular Connections*:* **Technology 2.1: Students will use software as related to content area curricula**
Social Studies Historical Analysis and Skill Development
Math: 2.3: Measurement and Estimation

Course Content	Student Performance	Resources	Assessments
	• Experience and use software approved Internet sites to enhance their knowledge of Science concepts and computer usage	• Grade 1 Computer Curriculum • Software programs: Kidspiration, E-tools, Kids College and Sammy Science Software	• Students' usage of computer software programs

Science Planned Course: Grade 1

Unit: **Technology**

Content Standard: **3.8 Science, Technology, and Human Endeavors: Recognize and evaluate the relationship between technological advances and society**

State Curriculum Standard: **3.8.4 Science, Technology, and Human Endeavors**

Course Content	Student Performance	Resources	Assessments
A. Know that people select, create and use science and technology and that they are limited by social and physical restraints. B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.	• Identify the technological advances that have been made from long ago that make our lives easier • Choose one invention or technological advance and write about what life without it would be like • Brainstorm a list of inventions of the future • Design an invention for the future and explain how it would improve the quality of life-	• Grade 1 Social Studies Curriculum: Now & Then Unit	• Students' writing • Student discussion