Science Planned Course – Kindergarten

Unit: **Scientific Inquiry, Technology, and Tools**

Content Standard: **Apply the scientific process to solve real life problems.**

State Curriculum Standard: **3.2.4 Inquiry and Design**

Course Content	Student Performance	Resources	Assessments

A. Identify and use the nature of scientific and technological knowledge.
• Distinguish between:
  • Scientific fact
  • Belief.
	• Distinguish between scientific facts and misconceptions by completing activities listed in teacher's edition under science misconception	• Teacher's Edition pp. 3, 19, 35, 57, 89, 93, 97, 113, 149, and 151	• Teacher observations
			• Student discussion

Science Planned Course – Kindergarten

Unit**: Scientific Inquiry, Technology, and Tools**

Content Standard: **Apply the scientific process to solve real life problems**

State Curriculum Standard: **3.2.4 Inquiry and Design**

Course Content	Student Performance	Resources	Assessments
B. Describe objects in the world using the five senses. • Recognize observational descriptors from each of the five senses. (e.g., see-blue, feel-rough). • Use observations to develop a descriptive vocabulary.	• Identify how each of the five senses is used to make observations during experiments • Use and develop a descriptive vocabulary while recording experiment results	• Living and Nonliving: 4.6.4 A Discovery Walk • Seasons: 3.2.4 B Seasonal Walks • Seasons: 3.2.4.C Fall: Leaf Color Change • Winter: Snow Melt • Spring: How Strong is the Wind • Summer: Heat Absorption • Catching Pollution • Fossil Fuels • Smoking Machine • Fred Fish • Cleaning Oil Spills • Away With Waster • It's A Gas • In the Bag • Ice Melts • Does Matter Take Up Space? • Can Matter Change?	• Teacher observations • Student discussion

Science Planned Course – Kindergarten

Unit**: Scientific Inquiry, Technology, and Tools**

Content Standard: **Apply the scientific process to solve real life problems**

State Curriculum Standard: **3.2.4 Inquiry and Design**

Course Content	Student Performance	Resources	Assessments

C. Recognize and use the elements of scientific inquiry to solve problems.
• Generate questions
  • Objects
  • Organisms
  • Events answered through scientific investigations.
	• Identify the steps of the scientific method:
	  • Ask a question
	  • Identify a problem
	  • Make a hypothesis
	  • Control the variables
	  • Plan a fair test/experiment
	  • Conduct the test/experiment
	  • Collect and record data
	  • Make a conclusion
		• Living and Nonliving: 4.6.4 A Discovery Walk
		• Seasons: 3.2.4 B
		• Seasonal Walks
		• Seasons: 3.2.4.C
		• Fall: Leaf Color Change
		• Winter: Snow Melt
		• Spring: How Strong is the Wind
		• Summer: Heat Absorption
		• Catching Pollution
		• Fossil Fuels
		• Smoking Machine
		• Fred Fish
		• Cleaning Oil Spills
		• Away With Waster
		• It's A Gas
		• In the Bag
		• Ice Melts
		• Does Matter Take Up
		• Space?
		• Can Matter Change?
		• See above experiments
			• Teacher observations
			
			• Student discussion

• Conduct an experiment.	• Actively participate in steps of the scientific method when completing experiments		

Science Planned Course – Kindergarten

Unit: **Scientific Inquiry, Technology, and Tools**

Content Standard: **Apply the scientific process to solve real life problems.**

State Curriculum Standard: **3.2.4 Inquiry and Design**

Course Content	Student Performance	Resources	Assessments
D. Recognize and use the technological design process to solve problems. • Recognize and explain basic problems. • Identify possible solutions and their course of action. • Try a solution. • Describe the solution, identify its impacts and modify if necessary. • Show the steps taken and the results.	• Scientific Inquiry, Technology, and Tools 3.2.4.C	• Scientific Inquiry, Technology, and Tools 3.2.4.C	• Teacher observations • Student discussion

Science Planned Course – Kindergarten

Unit: **Scientific Inquiry, Technology, and Tools**

Content Standard: **Select appropriate technological tools to collect, analyze, and communicate information and ideas.**

State Curriculum Standard: **3.7.4 Technology Devices**

Course Content	Student Performance	Resources	Assessments

A. Explore the use of basic tools, simple materials and techniques to safely solve problems.
• Select and safely apply appropriate tools and materials to solve simple problems.
	• Identify science tools
	  • Discuss use
	  • Gather scientific data
		• Teacher's Edition Pages, FM16-21
		• Art Link –Teacher's Edition, page FM 21
			• Make poster of Safety Use of Science Tools

Science Planned Course – Kindergarten

Unit: **Life Science: Living and Nonliving**

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

State Curriculum Standard:

Course Content	Student Performance	Resources	Assessments
A. Understand that living things are dependent on nonliving things in the environment for survival • Identify and categorize living and nonliving things.	• Name characteristics of living and nonliving things • Name everything you can see in your classroom that is living or nonliving • Go for a "discovery walk" and look for living things and nonliving	• Teacher Edition: Chapter 1, variety of living and nonliving and nonliving things • Classroom • Neighborhood/school-yard	• Select, share, and explain a magazine picture as a living thing and nonliving object
• Identify basic needs of a plant and an animal and explain how their needs are met.	• Make a list of basic needs	• Teacher Edition: Chapter 1 • Teacher-generated basic need pictures	• Teacher observations • Assessment Book pp. 1-2

Science Planned Course – Kindergarten

Unit**: Life Science: Farm Animals**

Content Standard: **Describe living things, their appearance, different types of life, the scope of their similarities and differences, where and how life changed over time.**

State Curriculum Standard: **3.3.4 Biological Sciences**

Course Content	Student Performance	Resources	Assessments
A. Know the similarities and difference of living things. • Describe basic needs of plants and animals.	• Identify air, food, water, and space as basic needs of plants and animals	• Teacher's Edition pp 6-7, 16-23 • Flip Chart pp. 6-7, 16-23	• Activity Flip Chart – p. 21 • Teacher observations • Student discussion

Science Planned Course – Kindergarten

Unit: **Life Science: Farm Animals**

Content Standard: **Describe living things, their appearance, different types of life, the scope of their similarities and differences, where and how life changed over time.**

State Curriculum Standard: **3.3.4 Biological Science**

Course Content	Student Performance	Resources	Assessments
B. Know that characteristics are inherited and thus, offspring closely resemble their parents. • Identify physical characteristics that appear in both parents and offspring and differ between families, strain, or species.	• After sharing Hello, Farm Animals, Farm Animals, or Baby Animals, name farm animals and their babies	• Hello Farm Animals by Aileen Curan • Farm Animals located Farm Thematic Unit • Baby Animals Golden Book Staff	• Play: Mother and Babies memory game • Complete: Mother's Love • Teacher observations • Student discussion
	• Read and share Spots, Feathers, and Curly Tails, then rewrite covering each page with black paper containing an opening	• Spots, Feathers, and Curly Tails by Wendy Tafuri	
	• Use flannel board pieces to identify similarities between parents and offspring	• Flannel farm animal pieces	
	• After viewing A Day With Annie On The Farm video, name farm animals and their babies	• "A Day With Annie On The Farm" video	
	• Recognize farm animals and their offspring	• Mother, Mother, Can You Find Me?	

Science Planned Course – Kindergarten

Unit: **Life Science: Farm Animals**

Content Standard: **Design, create, use, evaluate, and modify systems of Biotechnologies, Information Technologies, and Physical Technologies**.

State Curriculum Standard: **3.6.4 Technology Education**

Course Content	Student Performance	Resources	Assessments
A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating, and converting. • Identify agricultural and industrial production processes that involve plants and animals.	• After viewing Let's Go to the Farm or Big Equipment, identify ways that farm products get to marker • After reading A Visit: To The Dairy Farm, read, discuss and complete individual student booklet, How Do We Get The Milk We Drink?	• Videos: "Let's Go to the Farm and Big Equipment" • A Visit to The Dairy Farm • How Do We Get The Milk We Drink?	• Student discussion • Teacher observations

Science Planned Course – Kindergarten

Unit: **Life Science: Farm Animals**

Content Standard: **Investigate the relationship of agricultural science and society's standard of living.**

State Curriculum Standard: **4.4.4 Agriculture and Society**

Course Content	Student Performance	Resources	Assessments
A. Know the importance of agriculture to humans. • Identify people's basic needs • Know how people depend on agriculture.	• Refer to Our Earth, Our Home 4.2.4.A • Share and discuss dairy products by hosting a Dairy Day to sample dairy products • Match farm products to their sources using a pocket chart and pictures	• Refer to Our Earth, Our Home 4.2.4.A • Various dairy products • Dairy Foods Survey • Pocket chart and product pictures • Match the Animals and Crops	• Student discussion • Complete: Dairy Foods Survey • Complete: Match the Animals and Crops

Science Planned Course – Kindergarten

Unit: **Life Science: Farm Animals**

Content Standard: **Investigate the relationship of agricultural science and society's standard of living.**

State Curriculum Standard: **4.4.4 Agriculture and Society**

Course Content	Student Performance	Resources	Assessments
B. Identify the role of the sciences in Pennsylvania agriculture. • Identify common animals found on Pennsylvania farms. • Identify common plants found on Pennsylvania farms.	• Refer to Farm 3.3.4 C • Identify corn, pumpkins, apples, squash, bean, and wheat as some of the crops grown on Pennsylvania by visiting a working farm • Compare and contrast local vegetables using a Venn Diagram • After reading <u>Tops and Bottoms</u>, identify the crops found in story that are also planted on Pennsylvania farms	• Refer to Farm 3.3.4 C • Local farms such as Elvern Farms • Venn Diagram • <u>Tops and Bottoms</u> by Janet Stevens	• Teacher observations • Student discussion

Science Planned Course – Kindergarten

Unit: **Life Science: Farms Animals**

Content Standard: **Investigate the relationship of agricultural science and society's standard of living**.

State Curriculum Standard: **4.4.4 Agriculture and Society**

Course Content	Student Performance	Resources	Assessments
D. Know that food and fiber originate from plants and animals. • Define and identify food and fiber. • Identify what plants and animals need to grow. • Identify agricultural products that are local and regional. • Describe several products and tell their origins. • Describe the journey of a local agricultural product from production in the consumer.	• Living and Nonliving: 4.6.4 A • Living and Nonliving 4.6.4 A • Farms: 4.4.4 B • Farms: 4.4.4.A • Farms: 4.4.4 A	• Living and Nonliving: 4.6.4 A • Living and Nonliving 4.6.4 A • Farms: 4.4.4 B • Farms: 4.4.4.A • Farms: 4.4.4 A	• Student discussion • Teacher observations

Science Planned Course – Kindergarten

Unit: **Life Science: Farms Animals**

Content Standard: **Investigate the relationship of agricultural science and society's standard of living.**

State Curriculum Standard: **4.4.4 Agriculture and Society**

Course Content	Student Performance	Resources	Assessments
D. Identify technology and energy use associated with agriculture. • Identify the various tools and machinery. necessary for farming. • Identify tools and machinery used in the production of agriculture products.	• Farms: 3.6.4 A	• Farms: 3.6.4 A	• Student discussion • Teacher observations

Science Planned Course – Kindergarten

Unit: **Life Science: Plants**

Content Standard: **Describe living things, their appearance, different types of life, the scope of their similarities and differences, where and how life changed over time**.

State Curriculum Standard: **3.3.4 Inquiry and Design**

Course Content	Student Performance	Resources	Assessments
A. Know the similarities and differences of living things. • Describe basic needs of plants and animals.	• After reading, The Reason for a Flower, identify what is a plant by completing What is A Plant? • Sort vocabulary cards into plants and not a plant groups • Recite Plants' Need… and illustrate student copy of chant to show a plant's basic needs • Recite I'm a Little Sunflower or Growing Seeds then identify the basic needs of a plant • Set up and observe Plant Needs experiments	• The Reason for a Flower by Ruth Heller • What is a Plant? • Vocabulary cards • Plants Need • What's Missing? • I'm a Little Sunflower • Growing Seeds	• Teacher observations • Student discussion • Complete: What's Missing?

Science Planned Course – Kindergarten

Unit: **Life Science: Plants**

Content Standard: **Describe living things, their appearance, different types of life, the scope of their similarities and differences, where and how life changed over time**.

State Curriculum Standard: **3.3.4 Biological Science**

Course Content	Student Performance	Resources	Assessments
B. Know that living things are made up of parts that have specific functions. • Determine how different parts of a living thing work together to make the organism functions.	• Read and discuss "What are the parts of a plant?" • Using flannel board pieces build and name the parts of a plant • After reading Seeds, Seeds, Seeds, identify what a seed is and its function • Complete Baby Beans to learn that a seed contains a baby plant • Plant seeds in Root-Vue • Observe roots of a plant and discuss their function • Observe various stems and discuss their functions • Make predictions, observe and record results of Color Up experiment • After reading Red Leaf, Yellow Leaf, discuss the functions of a leaf	• Teacher's Edition pp. 40-41 • Flannel board plant pieces. • Seeds, Seeds, Seeds • Baby Beans • Root-Vue, seeds • Plant with roots • What do roots do? • Various plant stems. • What do stems do? • Color Up, celery, food coloring, water, clear cup • Red Leaf, Yellow Leaf by Lois Ehlert	• Teacher observations • Student discussion • Complete: What do roots do? • Complete: What do stems do?

Science Planned Course – Kindergarten

Unit: **Life Science: Plants**

Content Standard: **Describe living things, their appearance, different types of life, the scope of their similarities and differences, where and how life changed over time**.

State Curriculum Standard: **3.3.4 Biological Science**

Course Content	Student Performance	Resources	Assessments
	• Complete What makes a red, orange, or yellow leaf? Experiment to reinforce functions of a leaf • Observe a flower to located seeds. Identify the function of a flower • Read and discuss: "How do plants grow?" to identify the parts of a plants and their functions • Sing Flower Garden to identify parts of a plant and the function of each • Read and complete "Packets of Plants" student booklet to identify parts of a plant and the functions of each • Read Plants We Eat and discuss the plants in the story, and which part each is • Look at a variety of plants and identify each part	• What makes a red, orange, or yellow leaf? white paper, green tempera, crayons, plastic spoons • Various flowers with visible seeds • Teacher's Edition pp. 42-43 • Picture of a plant • Flower Garden • Packets of Plants • Plants We Eat • Various edible parts of plants	• Label the parts of a plant

Science Planned Course – Kindergarten

Unit: **Life Science: Plants**

Content Standard: **Analyze the needs of people and factors affecting the availability of renewable and nonrenewable resources**.

State Curriculum Standard: **4.2.4 Renewable and Non renewable Resources**

Course Content	Student Performance	Resources	Assessments
A. Identify products derived from natural resources. • Identify by-products of plants and animals.	• After viewing video, The Importance of Plants, discuss the why plants are important • Plants 3.3.4 B • Farm 4.4.4 C	• Video: The Importance of Plants • Plants 3.3.4 B • Farm 4.4.4 C	• Student discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Seasons**

Content Standard: **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**

Course Content	Student Performance	Resources	Assessments

A. Illustrate patterns that regularly occur and reoccur in nature.
• Use knowledge of natural patterns to predict next occurrences (eg, seasons, leaf patterns, lunar phases).
	• Sing songs to identify:
	  • Days of the week
	  • Months of the year
	  • Four seasons
		• Dr. Jean & Friends CD, CD player	• Teacher observations

B. Recognize change in natural physical systems.
• Examine and explain change by using time and measurement.
	• Name:
	  • Seven days of the week
	  • Twelve months of the year
	  • Four seasons
		• Scott Foresman/Addison Wesley Mathematics Teacher Edition: Chapter 7	• Chapter 7 Assessment

Science Planned Course – Kindergarten

Unit: **Earth Science: Seasons**

Content Standard: **Apply the scientific process to solve real life problems.**

State Curriculum Standard: **3.2.4 Inquiry and Design**

Course Content	Student Performance	Resources	Assessments
A. Describe objects in the world using the five senses.			• Teacher observations
• Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough).	• After reading The Five Senses, identify the five senses • After taking a walk during each season identify sights, sounds, smells, and different textures of that season	• The Five Senses by Aliki	• Student discussion
	• List foods associated with each seasons	• Food picture cards or real foods	
• Use observations to develop a descriptive vocabulary.	• After returning from season walk record observations	• Chart paper	

Science Planned Course – Kindergarten

Unit: **Earth Science: Seasons**

Content Standard: **Apply the scientific process to solve real life problems**.

State Curriculum Standard: **3.2.4 Inquiry and Design**

Course Content	Student Performance	Resources	Assessments
B. Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and /or events that can investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information.	• Use the scientific process to complete the following experiments: • Fall: Leaf Color Change • Winter: Snow Melt • Spring: How strong is the Wind? • Summer: Heat Absorption	• Leaf Color Change • Snow Melt • How Strong is the Wind: Teacher's Edition pp. 128 - 129 • Heat Absorption	• Teacher observations

Science Planned Course – Kindergarten

Unit: **Earth Science: Seasons**

Content Standard: **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**

Course Content	Student Performance	Resources	Assessments

A. Know basic weather elements.
• Identify weather patterns from data charts:
  • Temperature
  • Wind
  • Direction
  • Speed
  • Precipitation
• Graph of the data.
• Explain how the different seasons affect:
  • Plant
  • Animals
  • Food availability
  • Daily human life.
	• Create a Seasons concept map to establish student's background knowledge of the four seasons
	• After reading Weather and Seasons name four seasons and characteristics of each
	• Identify particular weather patterns associated with each seasons
	• Use Rigby Seasonal Big Books to discuss the effects weather has on:
	  • Plants
	  • Animals
	  • Humans
		• Chart paper
		• Teacher's Edition p. 100
		• Science Reader: Weather and Seasons
		• Teacher's Edition
		• Pages 100 -116
		• Science Songs CD "Fun in the Weather"
		• Autumn by Pauline Cartwright
		• Winter by Pauline Cartwright
		• Spring by Pauline Cartwright
		• Summer by Pauline Cartwright
			• Chapter 5 Test – Pp. 11-12
			• Performance Assessment-Teacher's Edition p. 121C
			• Activity Flip Chart: Chapter 5 – Activity 2
			• Teacher observations

Science Planned Course – Kindergarten

Unit: **Earth Science: Seasons**

Content Standard: **Select appropriate technological tools to collect, analyze, and communicate information and ideas.**

State Curriculum Standard: **3.7.4 Technological Devices**

Course Content	Student Performance	Resources	Assessments
A. Explore the use of basic tool, simple, materials and techniques to safely solve problems. • Select tools and materials to solve simple problems. • Safely apply appropriate tools and materials to solve simple problems.	• Seasons: 3.2.4 B	• Seasons: 3.2.4 B	• Teacher observations
B. Select appropriate instruments to study materials. • Explain appropriate instrument selection for specific tasks.	• Through discussion and trial and error: • Identify tools needed to complete experiments • Justify selection	• Various science tools such as thermometers, magnifying glasses	• Student discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **Describe living things, their appearance, different types of life, the scope of their similarities and differences, where and how life changed over time.**

State Curriculum Standard: **3.5.4 Earth Sciences**

Course Content	Student Performance	Resources	Assessments
A. Describe the composition and structure of the universe and the earth's place in it. • Recognize earth's place in the solar system.	• Recognize that Earth is one of the planets in the solar system	• Reference materials from building library	• Teacher observations

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **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**

Course Content	Student Performance	Resources	Assessments
A. Know basic landforms and earth history. • Identify various earth structures through the use of models.	• Know that the surface of the Earth is composed of different types of solid materials (for example, sound, pebbles, rocks, clumps of dirt)	• Teacher Edition pp. 78 -83 and 86-89 • Workbook pp. 29 and 30	• Complete Earth's Land. • Complete Earth's Landforms • Teacher observations • Student discussion

B. Recognize the earth's different water resources.
• Know that approximately three-fourths of the earth is covered by water.
	• Use a globe to:
	  • Observe land and water parts of the earth's surface
	  • Discuss parts of the earth's surface
	  • Compare land and water parts of the earth's surface
	• Play Globe Beach Ball to identify land and water on earth's surface
		• Globe
		• Globe Beach Ball
			• Teacher observations
			• Student discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **Identify and explain the living and nonliving characteristics of water environments.**

State Curriculum Standard: **4.1.4 Watersheds and Wetlands**

Course Content	Student Performance	Resources	Assessments
A. Identify various types of water environments. • Identify the Lotic system.	• Recognize oceans, lakes, and rivers water environments	• Teacher's Edition – pp. 92-93 • Workbook page 32	• Complete Earth's Water • Teacher observations • Student discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Home, Our Earth**

Content Standard: **Analyze the needs of people and factors affecting the availability of renewable and nonrenewable resources.**

State Curriculum Standard: **4.2.4 Renewable and Nonrenewable resources**

Course Content	Student Performance	Resources	Assessments

A. Identify needs of people.
• Identify how the environment provides for the needs of people.
• Identify as natural resources:
  • Plants
  • Animals
  • Water
  • Air
  • Minerals
  • Fossils
  • Fuels.
	• Use a graphic organizer to list people's needs and how the environment provides them
	• Identify and discuss the importance of natural resources
		• Teacher's Edition – pp. EMiv or EMv, marker
		• Pictures or physical examples of the sun, water, wood and air
		• "Natural Resources Shield"
			• Teacher observations
			• Student discussion
			• Complete "Natural Resources Shield"
			• Student discussion

B. Know that some natural resources have limited life spans. • Identify various means of conserving natural resources.	• Read and discuss <u>Taking Care of the Earth</u> then make a class mural or collage titled "Saving Our Natural Resources" • Complete conservation experiment(s) to understand importance of conserving resources	• <u>Taking Care of the Earth</u> by Billy Goodman • Magazines • Are There Enough Peanuts Part A and B? • Is The Earth The Apple Of Your Eye?	• Student discussion • Teacher observations

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Home, Our Earth**

Content Standard: **Analyze the needs of people and factors affecting the availability of renewable and nonrenewable resources**.

State Curriculum Standard: **4.2.4. Renewable and Nonrenewable Resources**

Course Content	Student Performance	Resources	Assessments

C. Identify by-products and their use of natural resources.
• Identify items that:
  • Can be recycled
  • Cannot be recycled.
	• Sort various items into groups:
	  • Can be recycled
	  • Cannot be recycled
		• Groups of objects that can and cannot be recycled	• Teacher observations

• Identify use of reusable products.	• List items • Discuss ways that they can be reused such a can for a pencil holder	• Chart paper, markers • Recyclable Materials • Symbol Search • What is Recycling? • Reasons to Recycle • Ways You Can Reuse and Recycle • Recycle and Reuse	• Complete Recycle and Reuse
• Identify the use of compost, landfills, and incinerators.	• After reading Where Does the Garbage Go? • Identify a landfill as an enormous hole where garbage is dumped and buried	• Where Does The Garbage Go? By • Let Your Trash Can Overflow • Looking At Trash • Mini Landfills • Take a Garbage Poll • What Do You Throw Away? A Garbage Poll	

Science Planned Course – Kindergarten

Unit**: Earth Science: Our Earth, Our Home**

Content Standard: **Analyze the needs of people and factors affecting the availability of renewable and nonrenewable resources.**

State Curriculum Standard: **4.3.4 Environmental Health**

Course Content	Student Performance	Resources	Assessments
A. Identify how human actions affect environmental health. • Identify pollutants. • Identify sources of pollution. • Identify litter and its effect on environment. • Describe how people can reduce pollution.	• Brainstorm of complete graphic organizer • Lists types of pollutants • Pollutants' sources • Ways they can reduce pollution	• Graphic organizer, marker • Pollution in Our Neighborhood	• Pollution in Our Neighborhood • Student discussion • Teacher observations
B. Understand that the elements of natural systems are interdependent. • Identify the effects of a healthy environment on the ecosystem.	• Draw a picture or paint a mural that depicts a healthy environment	• Paper, paint, crayons, markers	• Student illustrations and discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **Identify the biological requirements of humans, and analyze the relationship between the use of natural resources and society's needs.**

State Curriculum Standard: **4.8.4 Humans and the Environment**

Course Content	Student Performance	Resources	Assessments
A. Identify the biological requirements of humans. • Identify several ways that people use natural resources. B. Know the importance of natural resources in daily life. • Identify items used in daily life that come from natural resources. • Identify ways to conserve our natural resources.	• After viewing Learning About Natural Resources, create a class web to identify natural resources and ways people use them	• Video: "Learning About Natural Resources"	• Student discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **Identify the biological requirements of humans, and analyze the relationship between the use of natural resources and society's needs.**

State Curriculum Standard: **4.8.4 Humans and the Environment**

Course Content	Student Performance	Resources	Assessments
A. Explain how human activities may change the environment. • Identify everyday human activities and how they affect the environment.	• Brainstorm list of daily activities that affect the environment • Use scientific process to complete one or more of the following experiments • Catching pollution • Fossil fuels • Smoking machine • Fried fish • Cleaning oil spills • Away with waste	• Chart paper • Our Earth, Our Home resource section of Activity Sheets Booklet	• Student discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **Identify and describe environmental laws and regulations**.

State Curriculum Standard: **4.9.4 Environmental Laws and Regulations**

Course Content	Student Performance	Resources	Assessments
A. Know that there are laws and regulations for the environment. • Explain how the recycling law impacts the school and home.	• After visiting the Twin Boro Recycling Center: • Discuss why the center exists (state law) • How recycling is handled in our homes and school	• Twin Boro Recycling Center • Science Songs	• Student discussion

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **Describe and evaluate how human actions affect environmental health issues.**

State Curriculum Standard: **4.3.4 Environmental Health**

Course Content	Student Performance	Resources	Assessments
A. Know that plants, animals and humans are dependent on air and water. • Identify different areas where health can be affected by air, water, or land pollution.	• After reading Just A Dream, identify the areas of Walter's environment that were affected by air, water, and land pollution	• Just A Dream by Chris Van Allsburg	• Student discussion • Teacher observations
• Identify actions that can prevent or reduce waste pollution.	• After reading Just A Dream, list actions that can be taken to prevent or reduce waste and pollution	• Just A Dream by Chris Van Allsburg	

Science Planned Course – Kindergarten

Unit: **Earth Science: Our Earth, Our Home**

Content Standard: **Describe the biological diversity of an ecosystem and explain how natural and human actions cause the loss of species**.

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

Course Content	Student Performance	Resources	Assessments
A. Define and understand extinction. • Identify plants and animals that are extinct. • Explain why some plants and animals are extinct.	• Read and discuss EarthSong • Then place story animal cards on the world map to show that animals are being affected across the world • Read Will We Miss Them? Endangered Species. Discuss reasons for endangerment	• EarthSong by Sally Rogers • Will We Miss Them? Endangered Species by Alexandra Wright	• Teacher observations • Student discussion

Science Planned Course – Kindergarten

Unit: **Physical Science: Matter**

Content Standard**: Investigate the structure and properties of objects.**

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

Course Content	Student Performance	Resources	Assessments
A. Recognize basic concepts about the structure and properties of matter. • Know different material characteristics (e.g., texture, state of matter, solubility).	• Read Matter and identify the three states of matter • Name and categorize classroom objects by states of matter • After viewing Properties of Matter: Part One name the states of matter	• Matter Independent Practice Reader • Variety of classroom objects • Videos: "Properties of Matter: Part One and Part Two"	• Student discussion • Teacher observations
• Describe properties of matter (e.g., hardness, reactions to simple chemical tests).	• Identify the properties of a solid, liquid, and gas	• Teacher's Edition: Chapter 6 pages 147-151 • Workbook pages 51-53 • Worksheet Solid, Liquid, Gas	
• Know that combining two or more substances can make new materials with different properties.	• Use the scientific process to complete one or more of the following matter experiments • It's A Gas • In the Bag • Ice Melts • Does Matter Take Up Space? • Can Matter Change?	• Matter resource section of Activity Sheets Book.	• On sheet of paper divided and labeled Solid, Liquid, Gas, children draw or glue a picture of each state of matter