WEST JEFFERSON HILLS SCHOOL DISTRICT
SCIENCE & TECHNOLOGY CURRICULUM

GRADE 1

PA Academic Standards Student must be able to do	**Objective** Content or process student will be able to know and do	**Instructional Methods**	**Materials/ Resources** Textbooks, trade books, workbooks, software, hardware, etc.	***Assessment Procedures** *Additional adaptations, modifications, accommodations, and enrichment/ acceleration will be provided per IEP	***Additional Learning** Opportunities for students who do not meet basic standards *Additional adaptations, modifications, and accommodations will be provided per IEP	***Extended Learning** Opportunities for students who can go beyond the basic standards. *Additional enrichment/acceleration will be provided per IEP
3.1 Science & Technology 3.1.4. Unifying Themes						
A. Know that natural and human-made objects are made up of parts. Identify and describe what parts make up a system. • Identify system parts that are natural and human-make (e.g., ball point pen, simple electrical circuits, plant anatomy). • Describe the purpose of analyzing systems. • Know that technologies include physical technology systems (e.g., construction, manufacturing, transportation), informational systems and biochemical-related systems.	• Students will know that natural objects and human made objects are made up of parts. • Students will read about and discuss the historical development of the umbrella. • Students will conduct an experiment with fabrics and water. • Students will read about and discuss the history of the Mackintosh Raincoat.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks • Current events	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.1 Science & Technology 3.1.4. Unifying Themes						
B. Know models as useful simplifications of objects or processes. • Identify different types of models. • Identify and apply models as tools for prediction and insight. • Apply appropriate simple modeling tools and techniques. • Identify theories that serve as models (e.g., molecules).	• Students will build model terraria and aquaria	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.1 Science & Technology 3.1.4. Unifying Themes						
C. Illustrate patterns that regularly occur and reoccur n nature. • Identify observable patterns (e.g., growth patterns in plants, crystal shapes in minerals, climate, structural patterns in bird feathers). • Use knowledge of natural patterns to predict next occurrences (e.g., seasons, leaf patterns, lunar phases).	• Students will know patterns that occur in nature • Students will identify patterns. • Students will observe and describe weather. • Students will compare a weather forecast from the newspaper with the day's actual weather. • Students will discuss the fact that forecasts are predictions based on observed and recorded data. • Students will discuss ways that forecasts can help make decisions about outdoor activities. • Students will review and discuss the data from the weather calendar and the temperature graph.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.1 Science & Technology 3.1.4. Unifying Themes						
	• Students will tally collected weather data. • Students will use their data. • Students will summarize characteristics of the weather over a long period of time. • Students will understand basic elements of weather and climate. • Students will observe the freshwater and wood land plants. • Students will identify the way plants and animals are alike. • Students will identify the ways plants and animals are different.					

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3.1 Science & Technology 3.1.4. Unifying Themes						
D. Know that scale is an important attribute of natural and human made objects, events, and phenomena. • Identify the use of scale as it relates to the measurement of distance, volume, and mass. • Describe scale as a ration (e.g., map scales). • Explain the importance of scale in producing models and apply it to a model.	• Students will identify changes in natural systems. • Students will organize information about their favorite types of weather on a class graph. • Students will measure the temperatures of hot and cold weather. • Students will recognize that measurements and long term records are useful and help us learn more about weather.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.1 Science & Technology 3.1.4. Unifying Themes						
E. Recognize change in natural and physical systems. • Recognize change as fundamental to science and technology concepts. • Examine and explain change by using time and measurement. • Describe relative motion. • Describe the change to objects caused by heat, cold, light, or chemicals.	• Students will recognize change in natural and physical systems. • Students will have an increasing awareness of weather.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.2 Science & Technology 3.2.4 Inquiry & Design						
A. Identify and use the nature of scientific and technological knowledge. • Distinguish between a scientific fact and a belief. • Provide clear explanations that account for observations and results. • Relate how new information can change existing perceptions.	• Students will provide clear explanations for observations. • Students will record their data on a graph. • Students will interpret the data. • Students will understand weather changes from day to day and week to week. • Students will discuss what they think plants need to live. • Students will use a Venn Diagram to discuss ways the freshwater and woodland plants are alike and different. • Students will observe the freshwater and woodland plants.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.2 Science & Technology 3.2.4 Inquiry & Design						
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.	• Students will describe objects using 5 senses. • Students will use their senses to observe the weather. • Students will discuss and record data about observable weather features. • Students will understand how weather affects the decisions people make about the clothing they wear and about their outside activities. • Students will understand daily weather, recognize and name weather conditions. • Students will use their senses to observe a variety of seeds. • Students will identify the ways the plants are different: -size -shape -texture	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.2 Science & Technology 3.2.4 Inquiry & Design						
C. Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms, an/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information.	• Students will use elements of scientific inquiry. • Students will brainstorm questions they have about weather. • Students read about and discuss how meteorologists study the weather. • Students will conduct a weather experiment and discuss the results. • Students will set up a simple experiment with thermometers. • Students will apply the results of the experiment to draw practical conclusions. • Students will begin their exploration of the needs of living things, students plant their seeds.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.2 Science & Technology 3.2.4 Inquiry & Design						
C. Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms, an/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information.	• Student will begin a record of their seeds' growth and changes in drawings and words. • Students will predict what they think will happen to their seeds. • Students will share their observations, discussing the similarities and differences between the guppies. • Students will use a Venn Diagram to discuss the similarities and differences between the guppies and snails.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.2 Science & Technology 3.2.4 Inquiry & Design						
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.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.3 Science & Technology 3.3.4 Biological Sciences						
A. Know the similarities and differences of living things. • Identify life processes of living things (e.g., growth, digestion, react to environment). • Know that some organisms have similar external characteristics (e.g., anatomical characteristics; appendages, type of covering, body segments) and that similarities and differences are related to environmental habitat. • Describe basic needs of plants and animals.	• Students will know similarities and differences of living things. • Students will understand the basic needs of living things. -Investigate the dependence of living things on the sun's energy. -Investigate the dependence of living things on water, food/nutrients, and air. -Investigate the dependence of living things on living space and shelter. • Students will understand that organisms generally are made of one or more cells.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.3 Science & Technology 3.3.4 Biological Sciences						
	• Students will understand that organisms grow, change, or develop. • Students will understand that organisms reproduce. • Students will become aware of the diversity of organisms. • Students will discuss what they found out about the seeds they have planted. • Students will understand: -There are many kinds of seeds. -Plants can grow from seeds. -Seeds contain a tiny plant waiting to grow. -Seeds need warmth and water to grow. -Seeds are good for many animals. -Plants need water, light, and air to grow.					

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3.3 Science & Technology 3.3.4 Biological Sciences						
	• Students will add to their "Needs of Plants" list. • Students will understand that organisms can be grouped based on their characteristics. • Students will understand that: -Fish are vertebrates -Fish are covered with scales. -Fish have jaws and paired fins. -Fish have a well-developed sense of sight, touch, smell, taste, and hearing. -Fish has a sixth sense, provided by a lateral line that runs the length of the body and detects any movement of water around the fish. • Students will identify ways organism's structure and functions of their parts related to their behavior. • Students will investigate the dependence of living things on the sun's energy.					

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3.3 Science & Technology 3.3.4 Biological Sciences						
	• Students will investigate the dependence of living things on living space and shelter. • Students will investigate the dependence of living things on water, food/nutrients, and air.					

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PA Academic Standards Student must be able to do	**Objective** Content or process student will be able to know and do	**Instructional Methods**	**Materials/ Resources** Textbooks, trade books, workbooks, software, hardware, etc.	***Assessment Procedures** *Additional adaptations, modifications, accommodations, and enrichment/ acceleration will be provided per IEP	***Additional Learning** Opportunities for students who do not meet basic standards *Additional adaptations, modifications, and accommodations will be provided per IEP	***Extended Learning** Opportunities for students who can go beyond the basic standards. *Additional enrichment/acceleration will be provided per IEP
3.3 Science & Technology 3.3.4 Biological Sciences						
B. Know that living things are made up of parts that have specific functions. • Identify examples of unicellular and multi-cellular organisms. • Determine how different parts of a living thing work together to make the organism function.	•Students will know living things are made up of parts. •Students will understand that the roots grow first, then the stem and leaves. •Students will understand seeds contain a tiny plant waiting to grow. •Students will understand plants need water, light, and air to grow. •Students will identify the ways the plants are alike. -They are mostly green and brown. -They need air, water, and light. -They are living. -They need a place to live. -They can die.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	•Graphic organizers •Pre/post unit assessments •Class list and charts •Class discussion •Record sheets •Teacher observation •Weather calendar data •Class web on clouds •Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings •Oral presentations •Student experiments •Individual drawings •Weather calendar data •Temperature graph data •Class charts •Test/quizzes •Study guides •Rubrics •Journal/notes •Teacher made materials	•Instructional games •Re-read •Re-teach •Individual instruction •Small group instruction •Pre-teach •Alternative assignments •Extended time •Structure study guides •Support resource kits •Grow sponge gardens	•Create class mural •Art projects •Peer tutoring •Trade books •Create games •Computer software •Real life application •Record forecast •Research projects •Field trips •Guest speakers •Conduct experiments •Interpreting and summarize data •Set up a demonstration center

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3.3 Science & Technology 3.3.4 Biological Sciences						
C. Know that characteristics are inherited and, thus, offspring closely resemble their parents. • Identify characteristics for animal and plan survival in different climates. • Identify physical characteristics that appear in both parents and offspring and differ between families, strains, or species.	• Students will be able to understand that organisms can be grouped based on their characteristics. -Group organisms based on structure and function of their body parts. -Identify ways organisms, structure and functions of their parts relate to their behavior. -Compare and contrast behavior of different organisms. Students will complete their pictorial record of the aquarium. • Students observe, discuss, and record any changes in the aquarium and its organisms. • Students will write about one or more organisms in the aquarium.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.3 Science & Technology 3.3.4 Biological Sciences						
D. Identify changes in living things over time. • Compare extinct life forms with living organisms.	• Students will identify changes in living things over time. • Students observe, draw, and describe a land animal, the pill bug. • Students share their observations of the pill bug in a class discussion. • Students discuss what a pill bug needs to live. • Students will identify ways plants and animals are alike. -They are living. -They need food, air, and water. -They can die. -They need a place to live. -They can grow. • Students will identify ways plants and animals are different. • Animals move from place to place. • Plants need light to live.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.4 Science & Technology 3.4.4 Physical Science, Chemistry and Physics						
A. Recognize basic concepts about the structure and properties of matter. • Describe properties of matter (e.g., hardness, reactions to simple chemical tests). • Know that combining two or more substances can make new materials with different properties. • Know different material characteristics (e.g., texture, state of matter, solubility).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.4 Science & Technology 3.4.4 Physical Science, Chemistry and Physics						
B. Know basic energy types, sources, and conversions. • Identify energy forms and examples (e.g., sunlight, heat, stored, motion). • Know the concept of the flow of energy by measuring flow through an object or system. • Describe static electricity in terms of attraction, repulsion, and sparks. • Apply knowledge of the basic electrical circuits to design and construct simple direct current circuits.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.4 Science & Technology 3.4.4 Physical Science, Chemistry and Physics						
• Classify materials as conductors and nonconductors. • Know and demonstrate the basic properties of heat by producing it in a variety of ways. • Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color, or a virtual image.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.4 Science & Technology 3.4.4 Physical Science, Chemistry and Physics						
C. Observe and describe different types of force and motion. • Identify characteristics of sound (pitch, loudness, and echoes). • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.4 Science & Technology 3.4.4 Physical Science, Chemistry and Physics						
D. Describe the composition and structure of the universe and the earth's place in it. • Recognize earth's place in the solar system. • Explain and illustrate the causes of seasonal changes. • Identify planets in our solar system and their general characteristics. Describe the solar system motions and use them to explain time (e.g., days, seasons), major lunar phases, and eclipses.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.5 Science & Technology 3.5.4 Earth Sciences						
A. Know basic land-forms and earth history. • Describe earth processes (e.g., rusting, weathering, erosion) that have affected selected physical features in students' neighborhoods. • Identify various earth structures (e.g., mountains, faults, drainage basins) through the use of models. • Identify the composition of soil as weathered rock and decomposed organic remains. • Describe fossils and the type of environment they lived in (e.g., tropical, aquatic, desert).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.5 Science & Technology 3.5.4 Earth Sciences						
B. Know types and uses of earth materials. • Identify uses of various earth materials (e.g., buildings, highways, fuels, growing plants). • Identify and sort earth materials according to a classification key (e.g., soil/rock type).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.5 Science & Technology 3.5.4 Earth Sciences						
C. Know basic weather elements. • Identify cloud types. • Identify weather patterns from data charts (including temperature, wind direction, and speed, precipitation) and graphs of the data. • Explain how the different seasons affect plants, animals, food availability, and daily human life.	• Students will understand the basic weather elements. • Students read about and discuss how meteorologists study the weather. • Students will observe and discuss cloud cover and precipitation. • Students will collect data about cloud cover and precipitation. • Students will record weather data on a calendar. • Students will describe how they know when the wind is blowing. • Students will observe and describe a flag moving in the wind.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.5 Science & Technology 3.5.4 Earth Sciences						
	• Students will discuss and record the speed of the wind. • Students will apply a wind scale to the movement of the flag. • Students will observe and record cloud cover, precipitation, and wind on the weather calendar. • Students will observe and discuss clouds. • Students will make three-dimensional pictures to record their observations of clouds. • Students will create their own classification schemes for sorting clouds. • Students will sort the clouds photographs using the categories stratus, cumulus, and cirrus. • Students will organize information about clouds on a classification chart. • Students will understand the features of weather include cloud cover, precipitation, wind, and temperature.					

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3.5 Science & Technology 3.5.4 Earth Sciences						
D. Recognize the earth's different water resources. • Know that approximately three-fourths of the earth is covered by water. • Identify and describe types of fresh and salt-water bodies. • Identify examples of water In the form of solid, liquid, and gas on or near the surface of the earth. • Explain and illustrate evaporation and condensation. • Recognize other resources available form water (e.g., energy, transportation, minerals, food).	• Students will recognize the earth's different water resources. • Students will measure and record the amount of rainfall in the rain gauges. • Students will observe the process of evaporation. • Students will record the changes in puddles that take place as the water evaporates.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.6 Science & Technology 3.6.4 Technology Education						
A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating, and converting. • Identify agricultural and industrial production processes that involve plants and animals. • Identify waste management treatment processes. • Describe how knowledge of the human body influences or impacts ergonomic design. • Describe how biotechnology has impacted various aspects of daily life (e.g., health care, agriculture, waste treatment).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.6 Science & Technology 3.6.4 Technology Education						
B. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving, and decoding. • Identify electronic communication methods that exist in the community (e.g., digital cameras, telephone, internet, television, fiber optics). • Identify graphic reproduction methods. • Describe appropriate image generating techniques (e.g., photography, video). • Demonstrate the ability to communicate an idea by applying basic sketching and drawing techniques.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.6 Science & Technology 3.6.4 Technology Education						
C. Know physical technologies of structural design, analysis, and engineering, finance, production, marketing, research, and design. • Identify and group a variety of construction tasks. • Identify the major construction systems present in a specific local building. • Identify specific construction systems that depend on a each other in order to complete a project. • Know skills used in construction. • Identify examples of manufactured goods present in the home and school.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.6 Science & Technology 3.6.4 Technology Education						
• Identify basic resources needed to produce a manufactured item. • Identify basic component operations in a specific manufacturing enterprise (e.g., cutting, shaping, attaching). • Identify waste and pollution resulting from a manufacturing enterprise.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.6 Science & Technology 3.6.4 Technology Education						
• Explain and demonstrate the concept of manufacturing (e.g. assemble a set of papers or ball point pens sequentially, mass produce an object). • Identify transportation technologies of propelling, structuring, suspending, guiding, controlling, and supporting. • Identify and experiment with simple machines used in transportation systems. • Explain how improved transportation systems have changed society.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.7 Science & Technology 3.7.4 Technology Devices						
A. Explore the use of basic tools, simple materials, and techniques to safely solve problems. • Describe the scientific principles on which various tools are based. • Group tools and machines by their function. • Select and safely apply appropriate tools and materials to solve simple problems.	• Students will explore the use of basic tools, simple materials, and techniques to safely solve problems. • Students will read temperature on model thermometers. • Students will read and record the temperature shown on an illustration of a thermometer. • Students will relate a specific temperature to appropriate activities and clothing. • Students will construct rain gauges. The class results will be recorded on the chart.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.7 Science & Technology 3.7.4 Technology Devices						
B. Select appropriate instruments to study materials. • Develop simple skills to measure, record, cut, and fasten. • Explain appropriate instrument selection for specific tasks.	• Students will select appropriate instruments to study materials. • Students will select appropriate instruments for specific tasks. • Students will observe and discuss thermometers as tools that measure temperature. • Students will read the numbers of the thermometer scale. • Students will relate the numbers on the scale to hotter or colder temperatures. • Students will read the scale on a real thermometer. • Students will measure, record, and compare the temperature in the classroom and outside. • The class will compile temperature data on a graph.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.7 Science & Technology 3.7.4 Technology Devices						
C. Identify basic computer operations and concepts. • Identify the major parts necessary for a computer to input and output data. • Explain and demonstrate the basic use of input and output devices (e.g., keyboard, monitor, printer, mouse). • Explain and demonstrate the use of external and internal storage devices (e.g., disk drive, CD drive).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.7 Science & Technology 3.7.4 Technology Devices						
D. Use basic computer software. • Apply operating system skills to perform basic computer tasks. • Apply basic word processing skills. • Identify and use simple graphic and presentation graphic materials generated by the computer. • Apply specific instructional software.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.7 Science & Technology 3.7.4 Technology Devices						
E. Identify basic computer communications systems. • Apply a web browser. • Apply basic electronic mail functions. • Use on-line searches to answer age appropriate questions.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.8 Science & Technology 3.8.4. Science, Technology, and Human Endeavors						
A. Know that people select, create, and use science and technology and that they are limited by social and physical restraints. • Identify and describe positive and negative impacts that influence or result form new tools and techniques. • Identify how physical technology (e.g., construction, manufacturing, transportation), informational technology and biotechnology are used to meet human needs.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.8 Science & Technology 3.8.4. Science, Technology, and Human Endeavors						
• Describe how scientific discoveries and technological advancements are related. • Identify interrelationships among technology, people, and their world. • Apply the technological design process to solve a simple problem.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.8 Science & Technology 3.8.4. Science, Technology, and Human Endeavors						
B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life. • Identify and distinguish between human needs and improving the quality of life. • Identify and distinguish between natural and human-made resources. • Describe a technological invention and the resources that were used to develop it.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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3.8 Science & Technology 3.8.4. Science, Technology, and Human Endeavors						
C. Know the pros and cons of possible solutions to scientific and technological problems in society. • Compare the positive and negative expected and unexpected impacts of technological change. • Identify and discuss examples of technological change I the community that have both positive and negative impacts.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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ENVIRONMENT AND ECOLOGY CURRICULUM

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PA Academic Standards Student must be able to do	**Objective** Content or process student will be able to know and do	**Instructional Methods**	**Materials/ Resources** Textbooks, trade books, workbooks, software, hardware, etc.	***Assessment Procedures** *Additional adaptations, modifications, accommodations, and enrichment/ acceleration will be provided per IEP	***Additional Learning** Opportunities for students who do not meet basic standards *Additional adaptations, modifications, and accommodations will be provided per IEP	***Extended Learning** Opportunities for students who can go beyond the basic standards. *Additional enrichment/acceleration will be provided per IEP
4.1 Watersheds and Wetlands 4.1.4 Environment & Ecology Grade 1						
A. Identify various types of water environments. • Identify the lotic system (e.g., creeks, rivers, streams). • Identify the lentic system (e.g., ponds, lakes, swamps).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.1 Watersheds and Wetlands 4.1.4 Environment & Ecology Grade 1						
B. Explain the differences between moving and still water. • Explain why water moves or does not move. • Identify types of precipitation.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.1 Watersheds and Wetlands 4.1.4 Environment & Ecology Grade 1						
C. Identify living things found in water environments. • Identify fish, insects, and amphibians that are found in fresh water. • Identify plants found in fresh water.	• Students observe, draw, and describe two freshwater plants. • Students will observe and draw a fresh-water home, and the two freshwater plants and begin an ongoing pictorial record of the aquarium. • Students discuss how the two freshwater plants are alike and different. • Students will use a Venn Diagram to discuss ways the freshwater and wood-land plants are alike and different. • Students will add to their "weeds of plants" list. • Students will learn more about the variety among plants by reading about some unusual ones.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.1 Watersheds and Wetlands 4.1.4 Environment & Ecology Grade 1						
D. Identify a wetland and the plants and animals found there. • Identify different kinds of wetlands. • Identify plants and animals found in wetlands. • Explain wetlands as habitats for plans and animals.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.1 Watersheds and Wetlands 4.1.4 Environment & Ecology Grade 1						
E. Recognize the impact of watersheds and wetlands on animals and plants. • Explain the role of watersheds in everyday life. • Identify the role of watersheds and wetlands for plants and animals.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.2 Renewable and Nonrenewable Resources 4.2.4. Environment & Ecology Grade 1						
A. Identify needs of people. • Identify plants, animals, water, air, minerals, and fossil fuels as natural resources. • Explain air, water, and nutrient cycles. • Identify how the environment provides for the needs of people.	• Students will identify needs of people. • Students will draw a living thing and add the elements they think it needs to live and be healthy.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.2 Renewable and Nonrenewable Resources 4.2.4 Environment & Ecology Grade 1						
B. Identify products derived from natural resources. • Identify products made from trees. • Identify by-products of plants and animals. • Identify the sources of manmade products (e.g., plastics, metal, aluminum, fabrics, paper, cardboard).		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.2 Renewable and Nonrenewable Resources 4.2.4. Environment & Ecology Grade 1						
C. Know that some natural resources have limited life spans. • Identify renewable and nonrenewable resources used in the local community. • Identify various means of conserving natural resources. • Know that natural resources have varying life spans.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.2 Renewable and Nonrenewable Resources 4.2.4. Environment & Ecology Grade 1						
D. Identify by-products and their use of natural resources. • Understand the waste stream. • Identify those items that can be recycled and those that cannot. • Identify use of reusable products. • Identify the use of compost, landfills, and incinerators.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.3 Environmental Health 4.3.4. Environment & Ecology Grade 1						
A. Know that plants, animals, and humans are dependent on air and water. • Know that all living things need air and water to survive. • Describe potentially dangerous pest controls used in the home. • Identify things that cause sickness when put into the air, water, or soil. • Identify different areas where health can be affected by air, water, or land pollution. • Identify actions that can prevent or reduce waste pollution.	• Students will know that plants, animals and humans are dependent on air and water. • Students will share the ways they think all plants and animals are alike. • Students will share the way they think all plants and animals are different. • Students will discuss what they think the plants need to live. • Students will understand the way plants are alike. -They are mostly green and brown. -They need air, water, and light to grow. -They are living. • Students will identify the way plants are different. -Size -Shape	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.3 Environmental Health 4.3.4. Environment & Ecology Grade 1						
B. Identify how human actions affect environmental health. • Identify pollutants. • Identify sources of pollution. • Identify litter and its effect on the environment. • Describe how people can reduce pollution.	• Students will identify how human actions affect environmental health.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.3 Environmental Health 4.3.4. Environment & Ecology Grade 1						
C. Understand that the elements of natural systems are interdependent. • Identify some of the organisms that live together in an ecosystem. • Understand that the components of a system all play a part in a healthy natural system. • Identify the effects of a healthy environment on the ecosystem.	• Students will understand that the elements of natural systems are interdependent.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.4 Agriculture and Society 4.4.4. Environment & Ecology Grade 1						
A. Know the importance of agriculture to humans. • Identify people's basic needs. • Explain the influence of agriculture on food, clothing, shelter, and culture form one area to another. • Know how people depend on agriculture.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.4 Agriculture and Society 4.4.4. Environment & Ecology Grade 1						
B. Identify the role of the sciences in Pennsylvania agriculture. • Identify common animals found on Pennsylvania farms. • Identify common plants found on Pennsylvania farms. • Identify the parts of important agriculture related plants.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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PA Academic Standards Student must be able to do	**Objective** Content or process student will be able to know and do	**Instructional Methods**	**Materials/ Resources** Textbooks, trade books, workbooks, software, hardware, etc.	***Assessment Procedures** *Additional adaptations, modifications, accommodations, and enrichment/ acceleration will be provided per IEP	***Additional Learning** Opportunities for students who do not meet basic standards *Additional adaptations, modifications, and accommodations will be provided per IEP	***Extended Learning** Opportunities for students who can go beyond the basic standards. *Additional enrichment/acceleration will be provided per IEP
4.4 Agriculture and Society 4.4.4. Environment & Ecology Grade 1						
C. Know that food and fiber originate from plants and animals. • Define and identify food and fiber. • Identify agriculture products that are local and regional. • Identify an agricultural product based on its origin.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.4 Agriculture and Society 4.4.4. Environment & Ecology Grade 1						
D. Identify technology and energy use associated with agriculture. • Identify the various tools and machinery necessary for farming. • Identify the types of energy used in producing food and fiber. • Identify tools and machinery used in the production of agricultural products.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.5 Integrated Pest Management 4.5.4. Environment & Ecology Grade 1						
A. Know types of pests. • Identify classifications of pests. • Identify and categorize pests. • Know how pests fit into a food chain.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.5 Integrated Pest Management 4.5.4. Environment & Ecology Grade 1						
B. Explain pest control. • Know reasons why people control pests. • Identify different methods for controlling specific pests in the home, school, and community.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.5 Integrated Pest Management 4.5.4. Environment & Ecology Grade 1						
C. Understand society's need for integrated pest management. • Identify integrated pest management practices in the home. • Identify integrated pest management practices outside the home.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.6 Ecosystems and their Interactions 4.6.4. Environment & Ecology Grade 1						
A. Understand that living things are dependent on nonliving things in the environment for survival. Identify and categorize living and nonliving things. • Describe the basic needs of an organism. • Identify basic needs of a plant and an animal and explain how their needs are met. • Identify plants and animals with their habitat and food sources. • Identify environmental variables that affect plant growth. • Describe how animals interact with plants to meet their needs for shelter.	• Students will understand that living things are dependent on nonliving things in the environment for survival. • Students will understand that organisms use energy. • Students will understand that organisms must maintain themselves by using food and excreting waste. • Students will understand that organisms have a life span. • Students will observe, draw, and describe two woodland plants; loblolly pine and pillow moss.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.6 Ecosystems and their Interactions 4.6.4. Environment & Ecology Grade 1						
• Describe how certain insects interact with soil for their needs. • Understand the components of a food chain. • Identify a local ecosystem and its living and nonliving components. • Identify a simple ecosystem and its living and nonliving components. • Identify common soil textures. • Identify animals that live underground.	• Students will discuss the similarities and differences between the two woodland plants.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.6 Ecosystems and their Interactions 4.6.4. Environment & Ecology Grade 1						
B. Understand the concept of cycles. • Explain the water cycle. • Explain the carbon dioxide/oxygen cycle (photosynthesis).	• Students will understand the concept of cycles.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.6 Ecosystems and their Interactions 4.6.4. Environment & Ecology Grade 1						
C. Identify how ecosystems change over time.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.7 Threatened, Endangered and Extinct Species 4.7.4. Environment & Ecology Grade 1						
A. Identify differences in living things. • Explain why plants and animals are different colors, shapes, and sizes and how these differences relate to their survival. • Identify characteristics that living things inherit form their parents. • Explain why each of the four elements in a habitat is essential for survival. • Identify local plants or animals and describe their habitats.	• Students will identify differences in living things. • Students will discuss the similarities and differences between the loblolly pine and pillow moss plants. • Students will discuss the similarities and differences between their plants. • Students will identify the ways the animals are alike: -They need air, water, food, and light to grow. -They have babies -They are living -They need places to live • Students will identify the ways the plants are different. -Size -Shape -Object	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.7 Threatened, Endangered and Extinct Species 4.7.4. Environment & Ecology Grade 1						
B. Know that adaptations are important for survival. • Explain how specific adaptations can help a living organism to survive. • Explain what happens to a living thing when its food, water, shelter, or space is changed.	• Students will know that adaptations are important for survival. • Students will understand that organisms interact with their surroundings. • Students will understand that organisms have a life span.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.7 Threatened, Endangered and Extinct Species 4.7.4. Environment & Ecology Grade 1						
C. Define and understand extinction. • Identify plants and animals that are extinct. • Explain why some plants and animals are extinct. • Know that there are local and state laws regarding plants and animals.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.8 Humans ad the Environment 4.8.4. Environment & Ecology Grade 1						
A. Identify the biological requirements of humans. • Explain how a dynamically changing environment provides for sustainability of living systems. • Identify several ways that people use natural resources.	• Students will identify the biological requirements of humans. • Students will observe and describe humans. • Students will compare themselves to other animals and plants. • Through words and drawings, students express ways in which they think we are like other animals, and ways in which we are like plants. • Students will identify ways people are similar to plants and animals. -We are living. -We need food, water, air, and living space. -We grow	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.8 Humans ad the Environment 4.8.4. Environment & Ecology Grade 1						
B. Know that environmental conditions influence where and how people live. • Identify how regional natural resources influence what people use. • Explain the influence of climate on how and where people live.	• Students will know that environmental conditions influence where and how people live.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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ENVIRONMENT AND ECOLOGY CURRICULUM

GRADE 1

PA Academic Standards Student must be able to do	**Objective** Content or process student will be able to know and do	**Instructional Methods**	**Materials/ Resources** Textbooks, trade books, workbooks, software, hardware, etc.	***Assessment Procedures** *Additional adaptations, modifications, accommodations, and enrichment/ acceleration will be provided per IEP	***Additional Learning** Opportunities for students who do not meet basic standards *Additional adaptations, modifications, and accommodations will be provided per IEP	***Extended Learning** Opportunities for students who can go beyond the basic standards. *Additional enrichment/acceleration will be provided per IEP
4.8 Humans ad the Environment 4.8.4. Environment & Ecology Grade 1						
C. Explain how human activities may change the environment. • Identify everyday human activities and how they affect the environment. • Identify examples of how human activities within a community affect the natural environment.	• Students will explain how human activities may change the environment. • Students will understand that organisms grow, change, or develop.	• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.8 Humans ad the Environment 4.8.4. Environment & Ecology Grade 1						
D. 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. • Identify major land uses in the community.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center

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4.9 Environmental Laws and Regulations 4.9.4. Environment & Ecology Grade 1						
A. Know that there are laws and regulations for the environment. • Explain how the recycling law impacts the school and home. • Identify and describe the role of a local or state agency that deals with environmental laws and regulations.		• Webbing • Brainstorming • Flexible grouping • Research projects • Mini project • Direct instruction • Modeling • Guided practice • Independent practice • Learning centers • Newspaper • Graphic organizers • Dramatization • Journals • KWL charts • Outlining • Cooperative learning groups	• Organisms kit and materials • Weather materials • Weather kits • Transparencies • Blackline masters • Posters • Study prints • Organism kits • Teacher resource library • Video library • Websites • Library of resources, print, and electronics • Software • Simulations • Simple tasks	• Graphic organizers • Pre/post unit assessments • Class list and charts • Class discussion • Record sheets • Teacher observation • Weather calendar data • Class web on clouds • Student products: -wind flag -model thermometer -rain gage -cloud pictures -individual drawings • Oral presentations • Student experiments • Individual drawings • Weather calendar data • Temperature graph data • Class charts • Test/quizzes • Study guides • Rubrics • Journal/notes • Teacher made materials	• Instructional games • Re-read • Re-teach • Individual instruction • Small group instruction • Pre-teach • Alternative assignments • Extended time • Structure study guides • Support resource kits • Grow sponge gardens	• Create class mural • Art projects • Peer tutoring • Trade books • Create games • Computer software • Real life application • Record forecast • Research projects • Field trips • Guest speakers • Conduct experiments • Interpreting and summarize data • Set up a demonstration center