

**SCIENCE – GRADE 3
PLANNED COURSE CURRICULUM GUIDE**

I. COURSE DESCRIPTION AND INTENT:

II. INSTRUCTIONAL TIME:

Class Periods:

Length of Class Periods (minutes):

Length of Course:

Unit of Credit:

Course Weight:

A GREAT PLACE TO LEARN!



PINE GROVE AREA SCHOOL DISTRICT
PINE GROVE, PENNSYLVANIA

PINE GROVE AREA SCHOOL DISTRICT
Pine Grove, Pennsylvania 17963

PLANNED COURSE ADAPTATIONS/MODIFICATIONS
Introduction

The instructional adaptations that follow are provided as suggestions to be implemented with all students, particularly with those in need of special education services including the gifted. This listing is in no way intended to be exhaustive. Rather, it is reflective of some major considerations in the area of curriculum adaptations/modifications.

These instructional adaptations will work with any student, but are especially beneficial to those in need of learning support. Some may argue that these modifications are simply *good teaching*. Indeed, modifications of this type do represent good teaching. These principles of good teaching become instructional modifications whenever: (1) certain students in a particular class require such modifications *above and beyond* what is typically required by *most* students in that class and (2) without these modifications, these same students would not succeed.

PREFACE

Users and information seekers should familiarize themselves with the purpose and terminology of this **Planned Course Curriculum Guide (PCCG)**. We suggest that you first read the following:

- **PCCG PURPOSE AND INTENT**
- **PCCG DEFINITIONS**

The PCCG specifies the unit lesson outcome, essential content, standards, activities, resources, and evaluation of student performance. This sector provides the means to initiate the learning activities to attain the program goal as identified in the course description and intent.

The standards and outcomes are minimal expectations; further embellishment of the course is discretionary with the instructor depending upon the capability of the students.

This PCCG is designed as an ACTIVE document capable of technological modification as required.

The instructional delivery of this curriculum is quality controlled through the lesson plan development of the teacher.

Lawrence J. Mussoline, Jr., Ph.D.
Superintendent of Schools

PLANNED COURSE CURRICULUM GUIDE (PCCG) PURPOSE AND INTENT

The Planned Course Curriculum Guide (PCCG) is a multi-purpose document:

- All staff, particularly new teachers, can understand instructional expectations through the WRITTEN curriculum
- A continuing district-wide instructional process and scope and sequence of subject matter are enhanced. The WRITTEN curriculum is delivered through the TAUGHT curriculum (instructional content and learning activities) and is evaluated through the TESTED curriculum (expected levels of student achievement - learning outcomes)
- Priority student-centered outcomes are identified and attained through suggested learning activities and content designed to help insure a balanced and comprehensive basic curriculum
- Essential content and course standards provide an efficient basis for selecting appropriate instructional materials and resources
- Staff development areas for curriculum improvement are provided
- The PCCG conforms with current Pennsylvania Department of Education curriculum regulations and serves the dual feature of providing both an administrative document and an instructional guide
- Content and subject format remain flexible and adaptable to modification - an "active" document
- Special Pennsylvania Department of Education (PDE) legislation is identified
- Parents and students are provided with an overview of the instructional program and each course in particular

PLANNED COURSE CURRICULUM GUIDE (PCCG) DEFINITIONS

- **Course Description and Intent**: a brief overview of the course and program goals
- **Instructional Time**: frequency of class meetings and time/appropriate credit at the secondary level
- **Special Notes**: emphatic features or highlights and identification of Department of Education mandates found in the course
- **Unit Lesson Outcome**: describes the knowledge, skills, attitudes, student performance behaviors and areas of study that have been identified as appropriate to help the student attain the rigorous standards of a quality education
- **Teaching-Learning Activities**: suggested activities designed to help all students achieve the learning outcomes and standards
- **Standards**: statements establishing the minimal knowledge, skills, performance behaviors, and essential learning (content) a student must attain. A standard defines what students should know and be able to do
- **Expected Levels of Achievement (Learning Outcomes)**: what students will be expected to do as a result of the application of teaching-learning activities and content
- **Evaluation Criteria (Actual Level of Attainment)**: student performance level achieved and measured through specified evaluation criteria

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #1: Biology All student will know about the diversity and unit that characterizes life.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
STANDARD 1 13. Identify life cycles of certain living things. 14. Identify basic needs of plants and animals. 15. Know that distinct environments support the life of different types of plants and animals. 16. Name some extinct life forms. 17. Know the characteristics of some species that help them to survive. 18. Recognize that there are different types of cells. 19. Recognize that organs and systems work together.	13. <ul style="list-style-type: none"> • Name some animals that lay eggs. • Explain the purpose of an egg. • Name some animals that give birth to live young. • Identify changes that occur as animals grow older. • Sequence the stages of growth of some insects. • Make 4-step booklet to show life stages. • Describe how frogs change as they grow older. • Compare and contrast the three-stage growth pattern with the four-step growth pattern of insects. 14. <ul style="list-style-type: none"> • Describe how plants grow from seeds. • Describe germination; label a 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Notebook containing appropriate terms and diagrams • Teacher observation of activities and participation in cooperative groups • Rubrics • Response journals • Oral presentation/recitation • Projects or worksheets 	<ul style="list-style-type: none"> • Textbooks • Notebooks • Index cards • Chart of body systems • Drawing paper or paper plates for life cycles, cotton balls, twigs • Seeds • Cups • Soil • Trade books • Videos

diagram.

- Explain the process by which green plants make food. Diagram input and output.
- Plant various seeds under particular conditions.
- Contrast the kinds of care different animals give their young.

15.

- Read about various environments such as desert, mountain, swamp, woodlands, ponds, etc.
- Make a diorama depicting plants and animals specific to an environment.

16.

- Define the term "extinct."
- Brainstorm plants/animals that are extinct.

17.

- Research an animal of students' choice. Tell how the animal survives in its habitat.

18.

- Read about specific cells and their functions.
- Make a K-W-L chart concerning cells and their functions.

19.

- Define organ and system.
- Name organs in a particular body system.
- Make a flow chart and recite steps.

- Worksheets
- Computer access to the Internet

Correctives: Modify the above activities by providing study guides or note cards. Use manipulations where appropriate.

Extensions: Able students may create extensive dioramas or food webs. Publish a research report. Look up topics on the Internet.

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #2: Chemistry

All students will understand concepts of matter and energy.

All students will know basic concepts about the structure and properties of matter and basic energy types.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 2</p> <p>10. Identify simple properties of matter.</p> <p>11. Know that matter can undergo physical and chemical changes.</p> <p>12. Know that different forms of energy exist.</p> <p>13. Know that the transfer of energy (e.g. through food consumption) is essential to all living things.</p>	<p>10.</p> <ul style="list-style-type: none"> • Keep a notebook on important vocabulary. • Give groups of students several objects to describe by properties. • Describe three states of matter and characteristics of each state. <p>11.</p> <ul style="list-style-type: none"> • Observe changes in water related to temperature changes. • Brainstorm ways other matter may change as a physical change (change in size/shape, etc.). • Use vinegar and baking soda to inflate a balloon (chemical change) • Relate other examples of chemical changes (e.g., burning, baking, rusting, etc.) 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Teacher observation of activities and experiments • Worksheets, notebooks, diagrams • Classroom discussions 	<ul style="list-style-type: none"> • Textbooks • Videos • Tradebook, Big Books • Various objects to classify by properties • Scale • Water and cups, refrigerator, freezer • Thermometer • Vinegar, baking soda, bottles, balloons

- 12.
- Keep a notebook of important vocabulary.
 - Describe forces being shown in pictures.
 - Complete activities to show effects of gravity, magnetism, and friction:
 - (a) Gravity – construct a model of a spring scale.
 - (b) Magnetism – use various objects to observe the push/pull of magnets.
 - (c) Friction – make a slide to compare smooth and rough surfaces.

- 13.
- Diagram a plant showing photosynthesis. Label input and output.
 - Research the animals specific to a particular habitat. Then diagram a food chain or food web for that habitat.

Correctives – Adapt activities by using study guide and worksheets. Teacher assistance; peer help in cooperative groups. Extra time using materials.

Extensions – Students may create their own experiment and demonstrate it for the class.

- Worksheets
- Hot plate
- Chart paper
- Milk carton, string, rulers, rubber bands, paper clips, and washers for the spring scale
- Computer access to the Internet

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #3: Physics

All students will understand basic concepts of physics.

All students will understand the basic concepts of matter, force, and energy.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 3</p> <ul style="list-style-type: none"> 10. Identify simple properties of matter. 11. Identify states of matter (solid, liquid, gas). 12. Identify forces of attraction and/or repulsion. 13. Know that when a force is applied to an object, the object either speeds up, slows down, or goes in a different direction. 14. Know that friction produces heat 	<ul style="list-style-type: none"> 10. <ul style="list-style-type: none"> • Keep a notebook on important vocabulary/concepts. • Students will categorize various objects by properties. • Students can weigh and measure various objects. 11. <ul style="list-style-type: none"> ▪ Capture air in plastic bag. Discuss properties. • Make Oobleck. Describe characteristics. • Observe changes in water related to temperature changes. • Characterize matter as solid, liquid, or gas. 12. <ul style="list-style-type: none"> • Keep a notebook on important vocabulary. 	<ul style="list-style-type: none"> • Notebook • Experiments/worksheets • Teacher observation of experiments/discussion • Teacher made/commercial tests 	<ul style="list-style-type: none"> • Notebook • Various objects to classify • Scale • Plastic bags or balloons • Oobleck – cornstarch, water, food coloring, plastic bags • Water, refrigerator/freezer, containers • Hot plate • Magnets

- Experiment with magnets, using various objects and materials.
- Experiment with gravity and friction.

13.

- Study pictures showing applied forces and make predictions.
- Play baseball, explain forces and direction of ball.

14.

- Rub hands together to discover heat produced by friction.

Correctives – Adapt activities by using study guides and worksheets. Teacher assistance; peer help in cooperative groups. Extra time using materials.

Extensions – Students create their own experiment and demonstrate it for the class. Students create jingles to define scientific terms. Students research scientists who have made impact in physics or an important theory of physics.

- Text
- Tradebooks
- Big Books
- Pictures
- Computer access to the Internet

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #4: Earth Science

All students will understand Earth Science concepts.

All students will understand basic features, processes, composition, and structure of the Earth and its place in the universe.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 4</p> <p>29. Identify natural resources.</p> <p>30. Describe weathering and erosion (e.g., the effects of wind and water).</p> <p>31. Describe how features on the earth's surface are changed by a combination of slow and rapid processes (e.g., weathering, erosion, earthquakes, volcanoes).</p> <p>32. Describe the composition of soil.</p> <p>33. Differentiate between various forms of precipitation.</p> <p>34. Know that weather patterns change over seasons.</p> <p>35. Describe what happens to water that falls as precipitation.</p> <p>36. Know that the earth is the third</p>	<p>29.</p> <ul style="list-style-type: none"> • Brainstorm list of resources. • Make a K-W-L chart. • Identify resources and how they are being used from pictures and texts. <p>30.</p> <ul style="list-style-type: none"> • Keep a notebook on important vocabulary/concepts. • Observe changes in landforms (from walks or pictures) • Using a pile of soil in one end of a rectangular pan, make a groove and pour water into the groove to observe the effects of moving water. • Using a sand and gravel mixture in a pie plate, observe the effect of wind as a straw is used to 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Models/diagrams • Notebook • Worksheets • Teacher observation of demonstrations/discussions 	<ul style="list-style-type: none"> • Notebook • Charts • Bulletin board figures of solar system • Big Books, pictures • Soil, magnifying glasses • Thermometers • Worksheets • Styrofoam balls • <u>Star Child</u> part of CD ROM

<p>planet from the sun.</p> <p>37. Discuss how the tilt of the earth and the earth's movement around the sun cause changes in the seasons.</p> <p>38. Describe the position of the planets in the solar system.</p> <p>39. Identify some phases of the moon.</p> <p>40. Know that a year is the amount of time earth takes to revolve around the sun.</p>	<p>blow into the plate.</p> <p>31.</p> <ul style="list-style-type: none"> • Brainstorm ways that land is changed. • Discuss effect of earthquakes and volcanoes. • Compare/contrast slow changes with sudden changes. • Make a volcano model using a bottle, soil, baking soda, vinegar, liquid soap, and water. Observe changes that occur. <p>32.</p> <ul style="list-style-type: none"> ▪ Collect soil samples. Use magnifying glasses to observe soil make-up. <p>33.</p> <ul style="list-style-type: none"> • Brainstorm and list forms of precipitation. • Compare/contrast various forms. <p>34.</p> <ul style="list-style-type: none"> • Collect data to compare temperatures locally over the seasons. • Discuss changes in the seasons, focus on changes in plants and animals. • Use pictures to discuss seasons and changes in a particular animal or plant (e.g., the changes in an apple tree). <p>35.</p> <ul style="list-style-type: none"> • Diagram the flow of water. • Label the diagram. <p>36.</p> <ul style="list-style-type: none"> • Name benefits of earth's place in the solar system. <p>37.</p>		<p><u>Imagine the Universe</u></p> <ul style="list-style-type: none"> • Text • Tradebooks
---	---	--	---

- Keep a notebook on pertinent vocabulary/concepts.
- Use a model to explain the earth's movement (light, globe).
- Label a diagram showing the seasons based on the earth's movement.

38.

- Use a mnemonic device to recite the planets in order from the sun.
- After reading or viewing a video, name the planets and a fact about each.

39.

- Use a plastic ball (painted half black) to model moon phases. Students make inferences about the different shapes they observe.
- Use pictures to discuss phases.
- Label a diagram showing new moon, first quarter, full moon, and last quarter.
- Make a flip book.

40.

- Discuss time in relation to the earth's movement.

Correctives – Modify above activities using study guides and worksheets, teacher assistance, and peer help in cooperative groups. Extra time using materials and models.

Extensions – Students will report on a current event involving natural resources and natural disasters (hurricanes, volcanoes, etc.) Students will create a diorama or model of the solar system. While some students demonstrate

	revolution and rotation, others will explain the movement of the earth in relation to the sun.		
--	--	--	--

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #10: Watersheds and Wetlands

All students will understand the importance of watersheds and wetlands.

All students will identify various types of water environments and their impact on living and non-living things.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 10</p> <p>14. Differentiate between moving water systems and still water systems.</p> <p>15. Describe the flow of a river from mountain to sea.</p> <p>16. Differentiate between various forms of precipitation.</p> <p>17. Describe a freshwater habitat.</p> <p>18. Describe a swamp habitat.</p> <p>19. Identify types of precipitation.</p> <p>20. Identify plants and animals</p>	<p>13.</p> <ul style="list-style-type: none"> • Use a graphic organizer to classify water systems as moving or still. <p>14.</p> <ul style="list-style-type: none"> • Locate the source of a river. Trace the river's journey to its mouth. Use pictures, texts, or maps. <p>15.</p> <ul style="list-style-type: none"> • Brainstorm types of precipitation. Make a chart. <p>16.</p> <ul style="list-style-type: none"> • After reading a selection or viewing a video, draw a picture 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Diagrams or pictures • Worksheets • Teacher observation of discussions and charts. 	<ul style="list-style-type: none"> • Notebook • Text (<i>Science/Social Studies</i>) • Tradebooks (<i>Bringing the Rain to Kapih Plain</i>) • Videos (e.g., Reading Rainbow tapes, <i>Bringing the Rain to Kapih Plain</i>) • Worksheets • Pictures • <i>Weather Chart</i>

<p>found in wetlands.</p>	<p>of a pond showing plants and animals.</p> <ul style="list-style-type: none"> • Make a diorama. <p>17.</p> <ul style="list-style-type: none"> • After reading a selection or viewing a video, brainstorm the life forms in a swamp. • Make a web showing the life forms of the Everglades. <p>18. Organize information in line graph/bar graph.</p> <p>19. Compare/contrast precipitation amounts.</p> <p>20. Make a diorama.</p> <p>21. Nature hike if wetlands nearby.</p> <p><u>Correctives</u> – Adapt activities by using study guides, worksheets, teacher assistance, and/or peer help in cooperative groups.</p> <p><u>Extensions</u> – Present a report on an additional wetland or swamp habitat.</p>		<ul style="list-style-type: none"> • Internet Weather Tracking • Project Wet – Leapfrogging through wetland (discovery nature) • Whispering Woods
---------------------------	--	--	--

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #11: Environmental Health

All students will understand the balance between human actions and a healthy natural system.

All students will determine the effects human actions have on environmental health.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 11</p> <p>9. Identify basic needs of plants and animals.</p> <p>10. Discuss how human behavior can cause pollution.</p> <p>11. Identify some organisms that live in a particular ecosystem (e.g., swamp, mountains, ocean, etc.)</p> <p>12. Know that all living things need air and water to survive.</p> <p>13. Identify pollutants. Identify sources of pollution.</p> <p>14. Identify some of the organisms that live together in an ecosystem.</p>	<p>9.</p> <ul style="list-style-type: none"> • Plant a number of seeds under various conditions. Note basic needs of plants. • Construct a habitat for mealworms. Tell what they need to live. • Name needs of young animals and tell how parent provides for those needs. <p>10.</p> <ul style="list-style-type: none"> • Using pictures or text, discuss causes and effects of pollution on our water or air. <p>11.</p> <ul style="list-style-type: none"> • Keep a notebook on pertinent vocabulary/concepts. • In groups, research different ecosystems. Present findings to 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Teacher observation of projects/demonstrations/group participation • Rubric • Worksheets • Response journal • JC 3 	<ul style="list-style-type: none"> • Worksheets • Journals/notebooks • Plants, seeds, containers, water, soil • Mealworms • Big Books or pictures • Texts (Social Studies, Science) • Tradebooks (Reading Flames and Rebirth) • Encyclopedias or other resource books, magazines

the class.

- Make a poster or mural of a researched habitat.
- After reading a selection or viewing a video, discuss living things present in that ecosystem.

13. Using text and pictures, name ways people and animals change their environments.

14. Compare/contrast before and after pictures of an altered ecosystem. Use a Venn diagram or other graphic organizer.

Correctives – Adapt activities by using study guides, worksheets, teacher assistance or peer help. Modify activities to learning styles and multiple intelligence's.

Extensions – Students may create a game to match a living organism to its correct ecosystem. Using The Lorax by Dr. Seuss, students can present a before and after poster on effects of human behavior on the environment.

- Poster paper or mural paper
- Computer access to the Internet
- Whispering Woods
- Project Wild

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #12: Agriculture & Society

All students will understand the importance of agriculture to humans.

All students will understand the influence of agriculture on basic needs of society.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 12</p> <p>9. Tell ways people use plants and animals.</p> <p>10. Recognize the importance of farming for different peoples.</p> <p>11. Name products that come from plants and animals.</p> <p>12. Identify basic needs of plants and animals.</p> <p>13. Understand that people of all cultures use tools for agriculture.</p> <p>14. Explain the influence of agriculture on food, clothing, shelter, and culture from one area to another.</p>	<p>9.</p> <ul style="list-style-type: none"> • Use a graphic organizer to name the uses of plants. • Identify foods that come from animals. • List useful products that come from animals besides food. • Name animals that make good pets or helpers. <p>10.</p> <ul style="list-style-type: none"> • After reading a selection or viewing a video, brainstorm ways people relied on agriculture in different cultures or geographical areas. • List crops Native Americans grew. 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Teacher observation of discussion and activities • Rubric • J.C. 3 • Charts compare/Contrast 	<ul style="list-style-type: none"> • Text • Tradebooks • Videos • Pictures • Mural or poster paper • Resource people • Research material – encyclopedias, books, magazines • Johnny Appleseed

15. Identify agricultural products that are local and regional.

16. Identify an agricultural product based on its origin.

17. Describe several products and tell their origins.

- Create a mural or diorama of Native American groups and include the plants they grew.
- Compare and contrast food, clothing, and shelter of the peoples from several geographical areas.

11.

- Use a graphic organizer to name the uses of certain plants.
- Create a mobile to show the products that come from a particular plant.
- Discuss products that come from a particular animal, both food and non-food products.
- Using picture cards, name the plant or animal from which the product came.

12.

- Describe how plants grow from seeds.
- Describe germination; label a diagram.
- Explain the process by which green plants make food.
- Diagram input and output.
- Compare and contrast kinds of care different animals give their young.
- Discuss how change of environment can impact animals relying on that particular habitat.

13.

- After reading a selection or viewing a video, name tools people used in farming.

14. Visit Schuylkill County Farm Museum.

15. Discuss influence of agriculture

• Oxcart Man

• Food, Land, and People

• Computer access to the Internet

- during colonial times.
16. Visit local farm or have farmer visit class.
 17. Display food cards or brainstorm plant origin.

Correctives – Modify activities by using study guides, worksheets, teacher assistance, and/or peer help to appeal to the individuals learning style.

Extensions – Read tradebooks to report on Native American customs concerning agriculture. Make a chart of different kinds of farms and the activities carried out on each farm (e.g., dairy farm, poultry farm, wheat farm, etc.).

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #13: Ecosystems and Their Interactions

All students will understand that living & non-living things are inter-dependent in the environment.

All students will understand that a balanced ecosystem consists of living & non-living things.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 13</p> <p>13. Identify living and non-living things.</p> <p>14. Identify basic needs of plants and animals.</p> <p>15. Know that an animal's needs are provided by its specific environment.</p> <p>16. Know that distinct environments support the lives of different plants and animals.</p> <p>17. Describe conditions necessary for seed germination.</p> <p>18. Describe a food chain as it pertains to certain habitat.</p>	<p>13.</p> <ul style="list-style-type: none"> • Divide children into groups. Go on a scavenger hunt around the school to list living and non-living things in our environment. <p>14.</p> <ul style="list-style-type: none"> • Gather several plants. Vary the conditions so that children can observe what will happen if basic needs are not met. Children infer needs of the plants. • Brainstorm animals and what they need to live. <p>15.</p> <ul style="list-style-type: none"> • After reading a selection or viewing a video, describe an animal's habitat and its needs. • Research a specific animal and 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Worksheets • Notebook • Teacher observation of discussion and group activities • Rubric for reports and projects • Mobile 	<ul style="list-style-type: none"> • Text • Videos (e.g., <u>Eyewitness Science</u>) • Pictures • Big Books • Trade books (e.g., Jim Arnosky's <u>Crinkle Root</u> series, and <u>The Lorax</u>, by Dr. Seuss) • Journals • Research materials – encyclopedias, books, magazines

<p>19. Identify some living and non-living elements of a particular ecosystem.</p> <p>20. Describe steps of water cycle.</p> <p>21. Describe process by which green leaves make food.</p> <p>22. Recognize that animals and people can change an ecosystem.</p> <p>23. Identify and categorize living and nonliving things.</p> <p>24. Describe the basic needs of an organism.</p> <p>25. Identify basic needs of a plant and an animal.</p> <p>26. Understand the components of a food chain.</p> <p>27. Identify a simple ecosystem and its living and nonliving components.</p> <p>28. Explain the water cycle.</p>	<p>describe its habitat and habits.</p> <ul style="list-style-type: none"> • Present reports on specific habitats and the animals that are successful there (e.g., the Everglades, the Rocky Mountains, a beaver pond, etc.). <p>16.</p> <ul style="list-style-type: none"> • Research various environments and present a report on the living things that are successful there. • After reports are completed, create a matching game of animals/plants and their environment. • Create a mural showing a particular environment (e.g., a desert, meadow, woods, or a pond) and the life forms living there. <p>17.</p> <ul style="list-style-type: none"> • Plant seeds. Children should keep a journal on the progress of their plant. • Germinate bean seeds in a clear plastic cup and damp paper towels to observe process of germination, • Observe that dry seeds do not grow. Infer that certain conditions are necessary for germination. <p>18.</p> <ul style="list-style-type: none"> • After researching a particular habitat, model the creation of a food chain or web. In groups, have children create different webs pertaining to different habitats. • Given cards with different elements of a food chain, the groups will create an appropriate 		<ul style="list-style-type: none"> • Seeds, clear plastic cups • Picture cards • Worksheets • Notebook • Green plants • Computer access to Internet • Wild Pennsylvania • Project Learning Tree • Project Wild • Whispering Woods
---	---	--	---

chain.

19.

- After reading a selection or viewing a video, name the non-living and living elements of the ecosystem.
- Use a graphic organizer to classify living/non-living elements in a particular ecosystem.

20.

- Keep a notebook of pertinent vocabulary/concepts.
- Describe the parts of the water cycle. Diagram and label. Using water on a hot plate and an ice-cold lid, observe the process of evaporation and condensation.

21.

- After observing the growth of plants, infer that green plants make food.
- Compare green plant to a factory. Label the input and output of the plant. Diagram.

22.

- Using text and pictures, name ways people and animals change their environments.
- Compare/contrast before and after pictures of an altered ecosystem. Use a Venn diagram or other graphic organizer.

23. Mobile of water cycle.

24. Activities in PL T

25. K-W-L Water cycle

Correctives – Modify above activities by

using study guides, worksheets, teacher assistance, and peer helpers.

Extensions – In a small group, students will brainstorm and illustrate other types of natural cycles other than the water cycle (e.g., life cycles and renewable resources). In a small group, create a project for presentation to a younger group. Children will choose an ecosystem (e.g., ABC's of a swamp). In a small group, create a sustainable ecosystem such as an aquarium or terrarium. Tell the living and non-living elements involved.

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #14: Threatened, Endangered, and Extinct Species
All students will recognize that the ability to adapt influences survival.
All students will understand that animal adaptations are important for survival.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 14</p> <p>17. Know the characteristics of some species that enable them to survive (e.g., camouflage, protective coloration, etc.)</p> <p>11. Recognize that an offspring as an adult will resemble its parent.</p> <p>12. Describe local animals and their habitats.</p> <p>13. Hypothesize why some animals become endangered.</p> <p>14. Name some extinct life forms.</p> <p>15. Explain that changes on the earth affected some animals.</p> <p>16. Identify ways of protecting wild animals.</p>	<p>17.</p> <ul style="list-style-type: none"> • Using Project Learning Tree activities, conclude that individuals survive because of camouflage, protective coloration, etc. <p>18.</p> <ul style="list-style-type: none"> • Play a game, Who's My Mother, by matching the offspring with its parent. Conclude that offspring inherit characteristics from their parents. <p>19.</p> <ul style="list-style-type: none"> • After a presentation by a local authority, list animals indigenous to our locality. List special characteristics that make them successful in their habitats. <p>20.</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Teacher observation of discussions/group activities • Worksheets • Rubric for research project • JC 3 • Charts • Nature Walk (Observation) • Computer access 	<ul style="list-style-type: none"> • Resource people – game commission, conservation district official • Project Learning Tree Resource book • Pictures • Text • Trade books • Videos • Research materials – books, videos, magazines • Computer access to the Internet

17. Identify characteristics that living things inherit from their parents.

18. Identify local plants or animals and describe their habitat.

19. 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.

- After reading a selection or viewing a video, children will explain why some animals have become endangered.
- Children can draw a before and after picture showing causes of endangerment.

21.

- Brainstorm a list of plants and animals that no longer exist.
- Research an extinct life form.

22.

- After researching, children should explain the demise of a certain life form.
- After reading a selection or viewing a video, children will explain how earth's changes effected some life forms.

23.

- Define a wildlife refuge. Let students propose ways to protect wild animals. Make a list.
- Listen to an officer of wildlife protection describe laws to protect PA animals.

Correctives – Modify above-mentioned activities by using study guides, worksheets, teacher assistance and/or peer helpers.

Extensions – Two groups will debate an issue appropriate to the above-mentioned standards. For example, the development of a wildlife refuge on a beach area as opposed to a recreational swimming area. Children should support their arguments with background information. Learn about local and state laws. Present findings or make suggestions for additional laws to protect

- Animal Tracking

- 4-H

- Whispering Woods

- Tradebooks – dinosaurs, dodo, etc.

wildlife. Create a make-believe “creature”. Describe the characteristics that help it to survive.		
---	--	--

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #15: Humans and the Environment All students will recognize humans' dependence on the environment. All students will understand the importance of natural resources.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 15</p> <p>10. Identify some ways people use natural resources.</p> <p>11. Describe how various groups of people use the resources of their regions.</p> <p>12. Describe the influence of climate on how certain people live.</p> <p>13. List products that come from plants and animals.</p> <p>14. Brainstorm various ways to conserve our natural resources.</p> <p>15. Recognize uses of land (e.g., farming, mining, etc.)</p> <p>16. Identify several ways that people use natural resources.</p>	<p>10.</p> <ul style="list-style-type: none"> • Brainstorm resources used in a day. Conclude that resources come from the earth. • Use a graphic organizer and classify natural resources. <p>11.</p> <ul style="list-style-type: none"> • After reading and researching several groups of people, compare and contrast their environments. • Make a bulletin board mural showing groups of people, their environments, and the food, clothing, and shelter they obtain from their environment. • Create art projects that are appropriate to a groups environment (e.g., make clay pots to show how Southwest people used an element in their environment.) <p>12. K-W-L regional populations</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Rubric for projects and posters • Teacher observation of discussions and group activities • JC 3 • Categorizing 	<ul style="list-style-type: none"> • Text • Trade books • Videos • Research material – books, magazines, videos • Materials for art projects – clay for clay pots, etc. • Poster or mural paper • Computer access to the Internet • Project Learning Tree • PLT • Recycling and You • Lets Reduce and Recycle

17. Identify how regional natural resources influence what people use.

18. Explain the influence of climate on how and where people live.

19. Identify items used in daily life that come from natural resources.

20. Identify ways to conserve our natural resources.

(Native Americans)

13.

- After reading and researching, compare and contrast the climate of certain regions of North America.
- Describe how certain activities of groups of people depended on climate (the kind of food they obtained, the homes they built, etc.)
- Match people of varying climates with their appropriate shelters.

14.

- Make a poster to show products that come from a certain plant (e.g., from corn we get feed for animals, corn meal, corn bread or muffins, tacos, corn oil, margarine, etc.)
- Brainstorm and use a graphic organizer to list products from various animals.

15.

- Discuss and explain need for conservation.
- Identify resources that children conserve in their daily lives.
- Make posters to encourage conservation.

16.

- After a discussion on livelihoods, conclude that certain ones depend on land use. Children can describe how a farmer uses the land and compare that to a miner or lumberman.

Correctives – Modify the above-

- Solid Waste Awareness
- The Garbage Gremlin

mentioned activities by using study guides, worksheets, teacher assistance, or peer helpers. Provide graphic organizers.

Extensions – Students create a game in which one child names an occupation and another names a resource that person would use in his occupation. Dress up as an individual from a particular region and tell what resources are used for food, clothing, and shelter.

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #16: Renewable and NonRenewable Resources

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 16</p> <ol style="list-style-type: none"> 1. Explain air, water, and nutrient cycles. 2. Name products made from trees. 	<ol style="list-style-type: none"> 1. Trace the water cycle. 2. Using a worksheet, label the numbered steps of the water cycle. 3. Using water boiling on a hot plate and an ice-cold lid, observe the process of evaporation and condensation. 4. Describe the composition of soil and air. 5. Name resources that people cannot live without. 6. Venn Diagram 7. Make a mobile showing the products derived from certain plants. 8. Use graphic organizer to identify various user of trees. 	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Teacher observation of discussions/activities • Worksheets • Writing JC 	<ul style="list-style-type: none"> • Soil • Worksheets • Chart Paper • Poster Board • Vermicomposter • Text • Tradebooks (Flames Rebirth) • Computer access to the Internet • "Birth of a Seed" Instructor's Guide to Water Education Activities. • Project Learning Tree • "The Giving Tree"

9. Given text or pictures, brainstorm products that are derived from trees.
10. List useful products made from trees.
11. Webbing

Extensions – In a small group, students will brainstorm and illustrate other types of natural cycles other than the water cycle (e.g., life cycles and renewable resources). In a small group, create a project for presentation to a younger group. Children will choose an ecosystem (e.g., ABC's of a swamp). In a small group, create a sustainable ecosystem such as an aquarium or terrarium.

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #17: Integrated Pest Management

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful)©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
STANDARD 17 1. Identify different methods for controlling specific pests in the home, school, and community. 2. Identify chemical labels (e.g. caution poison or warnings)	.1. K-W-L for pests 2. Resource person visits classroom 3. Poison-control center resource person. 4. Center with containers with labels. 5. Compare/contrast traditional and environmental-friendly pest control. 6. Field trip to identify regional pests, such as gypsy moths. 7. Brainstorm strategies for pest control (i.e. biological pest control, etc.)	<ul style="list-style-type: none"> • Teacher observation • JC# • Teacher made test 	<ul style="list-style-type: none"> • IPM Manual • Pest Patrol

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #18: Environmental Laws and Regulations
All students will understand that laws are enacted to protect the environment.
All students will understand the need for regulations to safeguard the environment.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 18</p> <p>2. Identify some items from school and home that can be recycled.</p>	<p>2.</p> <ul style="list-style-type: none"> • If some children have visited a recycling site, have them discuss and then make a poster to show recyclable items. • Set a period of time during which the children can inventory home-generated garbage and name some items that can be recycled. • Discuss reasons for recycling, after reading a given selection or poem. <p><u>Correctives</u> – Modify above-mentioned activities by using study guides, worksheets, teacher assistance, and peer helpers.</p> <p><u>Extensions</u> – Write a letter to the local paper or a government official giving suggestions for protecting the</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests • Rubric • Teacher observation of discussions/activities 	<ul style="list-style-type: none"> • Text • Trade books • SKIP handbook – Schuylkill Keep It Pretty • Poster paper

environment. Find current events in the local newspapers concerning environmental issues.		
---	--	--