

*Elizabethtown Area School District*

Curriculum Report

**FOURTH GRADE SCIENCE**

Course Number:4<sup>th</sup> Grade Science

Length of Course: School Year

Grade Level: Fourth

Total Clock Hours: 73.5 hours

Length of Period:35 minutes

Date Revised: April 1, 2010

Periods per Week/Cycle: 3.5

Written By:Science Curriculum

Credits (if app):[Click to enter]

Course Description:

In fourth grade, science is taught in units of instruction with integration in communication arts, mathematics, and social studies. Units in the fourth grade science curriculum include; scientific process, energy types and transfer, water and water systems, watersheds and wetlands and similarities and differences of living things.

## I. Overall Course/Grade Level Standards

Students will KNOW and be able TO DO the following as a result of taking this course.

- A) Recognize and use the elements of scientific inquiry to solve problems./3.2.4.C
- B) Explore and select appropriate instruments to study materials and solve problems./3.7.4A/B
- C) Identify and describe different types of force and motion./3.2.4.B
- D) Describe how energy can change from one form to another./3.4.4.B/C
- E) Describe Earth's different sources of water and changes in the form of water./3.5.4.D
- F) Identify various types of water environments./4.1.4.A
- G) Identify a wetland and the plants and animals found there./4.1.4.D
- H) Recognize the impact of watershed and wetlands on plants and animals./4.1.4.E
- I) Explain how human activities may change the environment./4.8.4.C
- J) Describe the similarities and differences of living things and their life processes./3.3.4.A
- K) Understand that living things are dependent on nonliving things in the environment for survival./4.6.4.A
- L) Identify and explain how adaptations help organisms to survive./4.7.4.B
- M) Define and understand extinction./4.7.4.C

## II. Content

### Major Areas of Study

List all units of study below:

Unit	Estimated Time	Materials
1. Scientific Process	1 ½ weeks	Textbook and resources
2. Energy Types and Transfer	7 weeks	Textbook and resources
3. Water and Water Systems	5 weeks	Textbook and resources
4. Watersheds and Wetlands	7 weeks	Textbook and resources
5. Similarities and Differences of Living Things	7 weeks	Textbook and resources

### III. Course Assessments

Check types of assessments to be used in the teaching of the course and provide examples of each type.

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Objective Tests/Quizzes                     | <input checked="" type="checkbox"/> Response Journals |
| <input type="checkbox"/> Constructed Responses                                  | <input type="checkbox"/> Logs                         |
| <input type="checkbox"/> Essays   | <input type="checkbox"/> Computer Simulations         |
| <input checked="" type="checkbox"/> Reports                                     | <input checked="" type="checkbox"/> Research Papers   |
| <input checked="" type="checkbox"/> Projects                                    | <input type="checkbox"/> Class Participation          |
| <input type="checkbox"/> Portfolios   | <input type="checkbox"/> Note Taking                  |
| <input type="checkbox"/> Presentations  | <input type="checkbox"/> Daily Assignments            |
| <input checked="" type="checkbox"/> Performance Tasks                           | <input checked="" type="checkbox"/> Writing Samples   |
| <input checked="" type="checkbox"/> Common Assessment (created at a later date) |   |

Provide copies of common assessments that will be utilized for all students taking this course. Overall course/grade level standards will be measured by a common course assessment. Unit objectives will be measured on an ongoing basis as needed by the classroom teacher to assess learning and plan for instruction. List common assessments below and recommend date/time frame for administration (at least quarterly).

Name of Common Assessment	When given?
1.PSSA	<b>Spring</b>
2. Electricity Module Section Assessment & Final Assessments	Upon completion of concepts
3. Water Cycle Test	Upon completion of concepts
4. Water Environments	Upon completion of concepts
5. Similarities and Differences of Living Things Several objective quizzes	Upon completion of concepts
6. Wetlands and Watersheds	Upon completion of concepts

## IV. Expected levels of achievement

PA Proficiency Levels	
<b>80%-100%</b>	<b>Proficient</b>
<b>60%-79%</b>	<b>W1</b>
<b>0%-59%</b>	<b>W2</b>

**Name of Unit: Scientific Process**

**Essential Question: What tools and knowledge do scientists use to solve problems?**

Unit Objectives/Key Question	Priority	Aligned to Course Standard	Aligned to PA Standard
1. What are the components of scientific inquiry?	E	A	3.2
2. What basic tools, simple materials, and techniques are needed to safely solve problems?	E	B	3.7
3. How do you construct and interpret various types of charts, graphs, and tables?	E	B	3.7

**Name of Unit: Energy Types and Transfer**

**Essential Question: How does energy change affect our daily lives?**

Unit Objectives/Key Question	Priority	Aligned to Course Standard	Aligned to PA Standard
1. How are force and motion related?	E	C	3.2, 3.1
2. How is a circuit constructed?	E	D	3.4, 3.8
3. How do light, heat, and sound transfer their energy?	E	D	3.4
4. What is the difference between conductors and insulators?	E	D	3.4

**Name of Unit: Water and Water Systems**

**Essential Question: How are water and water systems important to daily life?**

Unit Objectives/Key Question	Priority	Aligned to Course Standard	Aligned to PA Standard
1. What are the phase changes of water in the water cycle?	E	E	3.5, 4.1
2. What are some types of water environments?	E	F	4.1



**Name of Unit: Watersheds and Wetlands**

**Essential Question: How do living and nonliving things within a wetland and/or watershed ecosystem affect each other?**

Unit Objectives/Key Question	Priority	Aligned to Course Standard	Aligned to PA Standard
1. What are the living and nonliving components of wetlands and watersheds?	E	G	4.1
2. How do wetlands and watersheds impact plants, animals, and humans?	E	H, K	4.6
3. How do human activities affect watersheds and wetlands?	E	I	4.8

**Name of Unit: Similarities and Differences of Living Things**

**Essential Question: What similarities and differences help living things to survive in their environment?**

Unit Objectives/Key Question	Priority	Aligned to Course Standard	Aligned to PA Standard
1. How are life processes similar and different in plants and animals?	E	J	3.3, 4.6
2. What kinds of adaptations help plants and animals survive?	E	L	4.7
3. How do living things compare to their extinct relatives?	E	M	4.7

## Name of Unit: Ecosystems

**Essential Question: How do living and nonliving things within an ecosystem affect each other?**

Unit Objectives/Key Question	Priority	Aligned to Course Standard	Aligned to PA Standard
1. How does energy flow through an ecosystem?	E	K	<b>3.1, 4.6</b>
2. How do human and nonhuman actions impact ecosystems?	E	I	<b>4.3, 4.5, 4.8</b>
3. What different relationships exist among organisms?	E	J, K	<b>4.6, 4.7, 4.8</b>
4. How do relationships among organisms influence change within an ecosystem?	E	L	<b>4.3, 4.5, 4.6, 4.7, 4.8</b>
5. What are the similarities and differences of the major biomes of the world?	E	K	<b>4.6</b>
6. How can models be used to determine the relationships existent in a wetland ecosystem?	E	G	<b>3.1</b>
7. How does the introduction of a pollutant affect a wetland ecosystem?	E	I	<b>4.3, 4.5, 4.8</b>