

School District of La Crosse

**Second Grade Science
Curriculum**

1999-2000

Jim Bagniewski, K-12 Science Supervisor
Kathie Tyser, Associate Superintendent of Instruction
Jerry Kember, Superintendent

Table of Contents

- Guiding Principles for Curriculum Development
- La Crosse School District K-5 Overview
- Units of Study
- Standards Checklist (for each unit covered)
- Glossary of Terms
- Explanatory Notes
- Special Ordering Information
- Web Site Addresses
- How to Order from Carol Guanella

Guiding Principles for Curriculum Development

School District of LaCrosse

Board of Education's ENDS Policies Adopted 2001

E-1 District Mission

Students will discover their talents and abilities and will be prepared to pursue their dreams and aspirations while contributing effectively to their diverse communities.

E-2 Academic Achievement Goals

Students will demonstrate continuous improvement toward a high level of individual success in all required and elective academic/curricular areas using multiple measures of performance.

E-3 Involved Citizenship

Students will strive for mutual understanding as contributing citizens in a diverse world.

E-4 Responsible Life Choices

Students will acquire the knowledge and skills necessary to make effective and responsible life choices.

Wisconsin Academic Model Standards

All district curricula will be aligned to the Wisconsin Model Academic Standards available on the web at <http://www.dpi.state.wi.us/dpi/standards/matintro.html>

District Non-Discrimination Policy

It is the policy of the School District of La Crosse that no person may be denied admission to any public school in this district or be denied participation in, be denied the benefits of, or be discriminated against in any curricular, extracurricular, pupil service, recreation, or other program or activity because of the person's sex, race, religion, national origin, ancestry, creed, pregnancy, marital or parental status, sexual orientation, or physical, mental, emotional, or learning disability or handicap as required by s. 118.13 Wis. Stats., and/or section 504 of the Rehabilitation Act of 1973.

**School District of La Crosse
Elementary Science Curriculum 2003-2004**

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade
Animals (L)	Organisms Plants & Animals (L) (New STC '96-'97)	Balancing & Weighing (P) (New STC '95-'96)	Rocks & Minerals (E) (New STC '97-'98)	Plant Growth & Development (L) (New STC '97-'98)	Ecosystems (E) (New STC '95-'96)
Plants (L)	Comparing & Measuring (P) (Pilot STC '98-'99)	Changes (P) (Pilot STC '98-'99)	Sound (P) (New STC '95-'96)	Motion & Design (P) (New STC '98-'99)	Color & Light
Weather & Clothing (E) Fabric (Optional) (Foss '98-'99)	Solids & Liquids (P) (New STC '98-'99)	Life Cycle of a Butterfly (L) (New STC '96-'97)	Animals, Habitats & Plants (L) (Delta '99-'00)	Astronomy (E) (Harcourt/Brace '99-'00)	Floating & Sinking (P) (New STC '96-'97)
Paper (P) (Foss '98-'99)	Weather & Me (E) (New STC '95-'96)	Soils (E) (New STC '97-'98)	Chemical Tests (P) (New STC '96-'97)	Electric Circuits (P) (New STC '95-'96)	Microworlds (L) (New STC '97-'98)

All STC Units emphasize scientific reasoning skills/process skills
 Observing Grades 1-5
 Measuring Grades 1-5

Identifying Properties 1-5
 Seeking Evidence 1-5

Recognizing Patterns & Cycles 2-5
 Identifying Cause and Effect 4-5

Extending the Senses 4-5

La Crosse School District Science

Subject/Course: Elementary Science

Grade: 2

Topics/Skills: Physical Science:
Balancing and Weighing

Time: 16 Lessons

Curriculum Subtopics:

- Exploring properties of balance
- Develop strategies for weighing objects
- Compare objects using non-standard units of weight

CURRICULUM

District Benchmarks/Students will learn?

- To make predictions, plan, and conduct balancing and weighing investigations. Standards A and C.
- That the weight of an object is not determined by its size. Standard D.
- That balance is affected by the position of the weight and fulcrum. Standard D.
- To determine which of two objects weighs more. Standard D.

State Content Standard: A - Science Connections

State Performance Standards: A4.1, A.4.3, A.4.4

State Content Standard: C - Science Inquiry

State Performance Standards: C.4.1, C.4.2, C.4.4, C.4.5, C.4.6, C.4.7, C.4.8

State Content Standard: D – Physical Science

State Performance Standards: D.4.1, D.4.2, D.4.5, D.4.7

State Content Standard: G – Science Applications

State Performance Standards: G.4.3

ASSESSMENT

Assessment/Proficiency

Examples of classroom assessments: Drawings, journals embedded products and activities, anecdotal notes and paper and pencil responses, identification, and presentations.

_____ State/WSAS Test Concept
_____ District Assessment
 X Classroom Assessments

INSTRUCTION

Teaching/Learning Strategies

- KWL – Chart – What do you know? What do you want to know? What have you learned?
- Inquiry Based Learning (hands on/minds on)
- Concept Webs
- Scientific Method
- Venn Diagrams
- T - Charts

Resources

- STC Science Kit and T.E.
- Software _____
- Trade books: Bibliography in T.E. Manual
- Field Trips

La Crosse School District Science

Subject/Course: Elementary Science

Grade: 2

Topics/Skills: Physical Science: Changes

Time: 16 Lessons

Curriculum Subtopics:

- Different States of Matter
- Mixtures
- Solutions

CURRICULUM

District Benchmarks/Students will learn?

- To observe and describe changes in matter. Standard C.
- That changes occur constantly all around us. Standard A.
- That temperature can change the state of matter. Standard D.
- The 3 states of matter as solid, liquid, and gas. Standard D.
- That some changes can be reversed while others can't (physical versus chemical). Standard D.
- How evaporation occurs. Standard D.

State Content Standard: A - Science Connections

State Performance Standards: A4.1, A.4.2, A.4.3, A.4.4

State Content Standard: C - Science Inquiry

State Performance Standards: C.4.1, C.4.2, C.4.4, C.4.5, C.4.6, C.4.7, C.4.8

State Content Standard: D – Physical Science

State Performance Standards: D.4.1, D.4.2, D.4.3, D.4.4, D.4.8

State Content Standard: E – Earth Science

State Performance Standards: E.4.5

ASSESSMENT

Assessment/Proficiency

Examples of classroom assessments: Drawings, journals embedded products and activities, anecdotal notes and paper and pencil responses, identification, and presentations.

_____ State/WSAS Test Concept
_____ District Assessment
 X Classroom Assessments

INSTRUCTION

Teaching/Learning Strategies

- KWL – Chart – What do you know? What do you want to know? What have you learned?
- Inquiry Based Learning (hands on/minds on)
- Concept Webs
- Scientific Method
- Venn Diagrams
- T - Charts

Resources

- STC Science Kit and T.E.
- Software _____
- Trade books: Bibliography in T.E. Manual
- Field Trips

La Crosse School District Science

Subject/Course: Elementary Science

Grade: 2

Topics/Skills: Life & Environmental Science
Life Cycle of a Butterfly

Time: 14-16 Lessons

Curriculum Subtopics:

- Life Cycle of Organisms
- Characteristics of Organisms
- Organisms and Their Environment

CURRICULUM

District Benchmarks/Students will learn?

- To use their senses to observe and record information about the butterflies. Standards A & C.
- That all organisms have life cycles. Standard F.
- To draw and label the butterfly's life cycle using the appropriate vocabulary. Standard F.
- That some animals lay eggs to reproduce versus live births. Standard F.
- That they can extend their knowledge of organisms through the use of other sources such as trade books. Standard B.

State Content Standard: A - Science Connections

State Performance Standards: A4.1, A.4.2., A.4.3, A.4.4

State Content Standard: B – Nature of Science

State Performance Standards: B.4.1

State Content Standard: C – Science Inquiry

State Performance Standards: C.4.1, C.4.2

State Content Standard: F – Life and Environmental

State Performance Standards: F.4.1, F.4.2, F.4.3, F.4.4

ASSESSMENT

Assessment/Proficiency

Examples of classroom assessments: Drawings, journals embedded products and activities, anecdotal notes

_____ State/WSAS Test Concept
_____ District Assessment
 X Classroom Assessments

INSTRUCTION

Teaching/Learning Strategies

- KWL – Chart – What do you know? What do you want to know? What have you learned?
- Inquiry Based Learning (hands on/minds on)
- Concept Webs
- Scientific Method
- Venn Diagrams
- T - Charts

Resources

- STC Science Kit and T.E. – Life Cycle of a Butterfly
- Software _____
- Internet Sites _____
- Trade books: Bibliography in T.E. Manual
- Field Trips: Possible - Hixon Forest
Perrot State Park
Children's Museum

La Crosse School District Science

Subject/Course: Elementary Science

Grade: 2

Topics/Skills: Earth and Space Science: Soils **Time:** 14-16 Lessons

Curriculum Subtopics:

- Properties of Earth Materials
- Properties of Objects and Materials
- Organisms and Their Environment
- Soils and Food Production for Personal Needs

CURRICULUM

District Benchmarks/Students will learn?

- To plan and conduct simple investigations using simple tools and equipment to gather data to construct reasonable explanations of the basic components of soils. Standards A and C.
- To use simple investigations to identify soil type. Standard D and E.
- To identify observable properties of sand, clay and humus. Standards D and E.
- That organisms can cause plant and animal decomposition to change soil components (humus). Standard F.
- That soil properties determines its ability to support plant life. Standards F and E.
- That soil composition can increase plant production. Standards G and H.
- That they can extend their knowledge of soils through trade books, field trips and many other sources. Standard B.

State Content Standard: A - Science Connections

State Performance Standards: A4.1, A.4.2., A.4.3, A.4.4, A.4.5

State Content Standard: B – Nature of Science

State Performance Standards: B.4.1, B.4.3

State Content Standard: C – Science Inquiry

State Performance Standards: C.4.1, C.4.2, C.4.3, C.4.4, C.4.5, C.4.6, C.4.7, C.4.8

State Content Standard: D – Physical Science

State Performance Standards: D.4.1, D.4.2

State Content Standard: E – Earth and Space Science

State Performance Standards: E.4.1, E.4.2, E.4.8

State Content Standard: F – Life and Environmental

State Performance Standards: F.4.1, F.4.2, F.4.4

State Content Standard: G – Science Applications
State Performance Standards: G.4.1

State Content Standard: H – Science in Social and Personal Perspectives
State Performance Standards: H.4.1

ASSESSMENT

Assessment/Proficiency

Examples of classroom assessments: Drawings, journals embedded products and activities, anecdotal notes and paper and pencil responses, identification, and presentations

_____ State/WSAS Test Concept
_____ District Assessment
 X Classroom Assessments

INSTRUCTION

Teaching/Learning Strategies

- KWL – Chart – What do you know? What do you want to know? What have you learned?
- Inquiry Based Learning (hands on/minds on)
- Concept Webs
- Venn Diagrams
- T - Charts

Resources

- STC Science Kit and T.E.
- People: Lawn care services or County Conservation Agents
- Software _____
- Trade books: Bibliography in T.E. Manual
- Field Trips: La Crosse Floral or other greenhouses
 Farms
 Hixon Forest

Wisconsin Model Academic Standards		2 nd Grade Science Alignment			
		BW	C	LCB	S
A. Science Connections					
A.4.1	When conducting science investigations, ask and answer questions that will help decide the general areas of science being addressed.	✓	✓	✓	✓
A.4.2	When faced with a science-related problem, decide what evidence, models, or explanations previously studied can be used to better understand what is happening now.		✓	✓	✓
A.4.3	When investigating a science-related problem, decide what data can be collected to determine the most useful explanations.	✓	✓	✓	✓
A.4.4	When studying science-related problems, decide which of the science themes are important.	✓	✓	✓	✓
A.4.5	When studying science-related problems, decide what changes over time are occurring or have occurred.				✓
B. Nature of Science					
B.4.1	Use encyclopedias, source books, texts, computers, teachers, parents, other adults, journals, popular press, and various other sources, to help answer science-related questions and plan investigations.			✓	✓
B.4.2	Acquire information about people who have contributed to the development of major ideas in the sciences and learn about the cultures in which these people lived and worked.				
B.4.3	Show how the major developments of scientific knowledge in the earth and space, life and environmental, and physical sciences have changed over time.				✓
C. Science Inquiry					
C.4.1	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.	✓	✓	✓	✓
C.4.2	Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.	✓	✓	✓	✓
C.4.3	Select multiple sources of information to help answer questions selected for classroom investigations.				✓
C.4.4	Use simple science equipment safely and effectively, including rulers, balances, graduated cylinders, hand lenses, thermometers, and computers, to collect data relevant to questions and investigations.	✓	✓		✓
C.4.5	Use data they have collected to develop explanations and answer questions generated by investigations.	✓	✓		✓
C.4.6	Communicate the results of their investigations in ways their audiences will understand by using charts, graphs, drawings, written descriptions, and various other means, to display their answers.	✓	✓		✓
C.4.7	Support their conclusions with logical arguments.	✓	✓		✓
C.4.8	Ask additional questions that might help focus or further an investigation.	✓	✓		✓
D. Physical Science					
PROPERTIES OF EARTH MATERIALS					
D.4.1	Understand that objects are made of more than one substance, by observing, describing	✓	✓		✓

Wisconsin Model Academic Standards		BW	C	LCB	S
2 nd Grade Science Alignment					
	and measuring the properties of earth materials, including properties of size, weight, shape, color, temperature, and the ability to react with other substances.				
D.4.2	Group and/or classify objects and substances based on the properties of earth materials.	✓	✓		✓
D.4.3	Understand that substances can exist in different states – solid, liquid, gas		✓		
D.4.4	Observe and describe changes in form, temperature, color, speed, and direction of objects and construct explanations for the changes.		✓		
D.4.5	Construct simple models of what is happening to materials and substances undergoing change, using simple instruments or tools to aid observations and collect data.	✓			
POSITION AND MOTION OF OBJECTS					
D.4.6	Observe and describe physical events in objects at rest or in motion.				
D.4.7	Observe and describe physical events involving objects and develop record-keeping systems to follow these events by measuring and describing changes in their properties, including position relative to another object, motion over time, and position due to forces.	✓			
LIGHT, HEAT, ELECTRICITY, AND MAGNETISM					
D.4.8	Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).		✓		
E. Earth and Space Science					
PROPERTIES OF EARTH MATERIALS					
E.4.1	Investigate that earth materials are composed of rocks and soils and correctly use the vocabulary for rocks, minerals, and soils during these investigations.				✓
E.4.2	Show that earth materials have different physical and chemical properties, including the properties of soils found in Wisconsin.				✓
E.4.3	Develop descriptions of the land and water masses of the earth and of Wisconsin's rocks and minerals, using the common vocabulary of earth and space science.				
OBJECTS IN THE SKY					
E.4.4	Identify celestial objects (stars, sun, moon, planets) in the sky, noting changes in patterns of those objects over time.				
CHANGES IN THE EARTH AND SKY					
E.4.5	Describe the weather commonly found in Wisconsin in terms of clouds, temperature, humidity, and forms of precipitation, and the changes that occur over time, including seasonal changes.		✓		
E.4.6	Using the science themes, find patterns and cycles in the earth's daily, yearly, and long-term changes				
E.4.7	Using the science themes, describe resources used in the home, community, and nation as a whole.				
E.4.8	Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.				✓
F. Life and Environmental Science					
THE CHARACTERISTICS OF ORGANISMS					

Wisconsin Model Academic Standards		2 nd Grade Science Alignment			
		BW	C	LCB	S
F.4.1	Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive.			✓	✓
F.4.2	Investigate how organisms, especially plants, respond to both internal cues (the need for water) and external cues (changes in the environment).			✓	✓

LIFE CYCLES OF ORGANISMS					
F.4.3	Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.			✓	
ORGANISMS AND THEIR ENVIRONMENT					
F.4.4	Using the science themes, develop explanations for the connections among living and non-living things in various environments.			✓	✓
G. Science Applications					
G.4.1	Identify the technology used by someone employed in a job or position in Wisconsin and explain how the technology helps.				✓
G.4.2	Discover what changes in technology have occurred in a career chosen by a parent, grandparent, or an adult friend over a long period of time.				
G.4.3	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.	✓			
G.4.4	Identify the combinations of simple machines in a device used in the home, the workplace, or elsewhere in the community, to make or repair things, or to move goods or people.				
G.4.5	Ask questions to find answers about how devices and machines were invented and produced.				
H. Science in Social and Personal Perspectives					
H.4.1	Describe how science and technology have helped, and in some cases hindered, progress in providing better food, more rapid information, quicker and safer transportations, and more effective health care.				✓
H.4.2	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.				
H.4.3	Show how science has contributed to meeting personal needs, including hygiene, nutrition, exercise, safety, and health care.				
H.4.4	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.				

GLOSSARY OF TERMS

SCIENCE THEMES

Each of the following terms refers to a theme that connects and unifies the many disciplines of science. The themes are found particularly in Standard A and are mentioned consistently throughout the science standards. They are identified with an asterisk (*) each time they appear.

Change. A variance in the rate, scale, and pattern, including trends and cycles.

Constancy. The stability of a property, such as the speed of light.

Equilibrium. The physical state in which forces and changes occur in opposite and offsetting directions.

Evidence. Data and documentation that support inferences or conclusions.

Evolution. A series of changes, some gradual and some sporadic, that accounts for the present form and function* of objects.

Explanation. The skill of communication in which an interpretation of information is given and stated to others.

Form and Function. Complimentary aspects of objects, organisms, and systems in the natural world.

Measurement. The quantification of changes in systems, including mathematics.

Models. Tentative schemes or structures that correspond to real objects, events, or classes of events, and that have explanatory power.

Order. The behavior of units of matter, objects, organisms, or events in the universe.

Organization. Descriptions of systems based on complexity and/or order.

Systems. An organized group of related objects or components that form a whole.

TERMS UNIQUE TO SCIENCE

The following terms are used uniquely in science. They are used consistently throughout the standards and are identified by an asterisk (*) each time they appear. They represent the range of rigorous science skills and knowledge found in the standards.

Analyze. The skill of recognizing the underlying details of important facts or patterns that are not always readily visible.

Apply. The skill of selecting and using information in other situations or problems.

Construct. The skill of developing or creating.

Describe. The skill of developing a detailed picture or image.

Discover. The skill of learning through study or investigation.

Energy. The work that a physical system is capable of completing or doing.

Evaluate. The skill of collecting and examining data to make judgments and appraisals.

Group. The skill of identifying objects according to characteristics.

Identify. The skill of recognizing patterns, facts, or details.

Inference. The skill of using the results of an investigation based on a premise.

Illustrate. The skill of giving examples to describe something.

Interaction. The influence of objects, materials, or events on one another.

Investigate. Scientific methodology that systematically employs many inquiry skills.

Observation. The skill of describing scientific events.

Predict. The skill of explaining new events based on observations or information.

Relate. The skill of association.

Show. The skill of illustration.

Understand. The skill of having and applying well-organized bodies of knowledge.

2nd Grade Explanatory Notes on WI State Science Standards in Relation to School Curriculum 1999-2000

Life Cycle of Butterfly

A. Science Connections

Students in Wisconsin will understand that there are unifying themes: (systems, order, organization, and interactions); (evidence, models, and explanations); (constancy, change, and measurement); (evolution, equilibrium, and energy); (form and function) among the scientific disciplines.

A.4.1 Students should be aware that this is a Life Science area.

A.4.2 The students' previous knowledge of cycles of organisms will assist them with the life cycle of butterflies.

A.4.3 Students will make visual observations of the changes in the organism.

A.4.4 The students should understand the theme of constancy, change, and measurement (the cycles of organism life).

B. Nature of Science

Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.

B.4.1 Students will use other sources of information (i.e. LMC materials, internet, parents, etc.).

C. Science Inquiry

Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.

C.4.1 The theme of constancy, change and measurement, involves the vocabulary of changes that take place with the butterfly. The themes of system, order, organization and interactions involve the use of the vocabulary the cycle the organism evolves through, the interactions with its environment, etc.

C.4.2 Students understand the steps involved in science investigations (scientific method of observing the development and growth of the organism).

D. Physical Science

Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.

Not covered in this unit.

E. Earth and Space Science

Students in Wisconsin will demonstrate an understanding of the structure and systems of the earth and other bodies in the universe and their interactions.

Not covered in this unit.

F. Life and Environmental Science

Students in Wisconsin will demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

F.4.1, F.4.2, F.4.3 – Self-explanatory

F.4.4 Organisms are dependent on non-living materials to grow.

G. Science Applications

Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the way in which that relationship influences human activities.

Not covered in this unit.

H. Science in Social and Personal Perspectives

Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.

Not covered in this unit.

Soils

A. Science Connections

Students in Wisconsin will understand that there are unifying themes: (systems, order, organization, and interactions); (evidence, models, and explanations); (constancy, change, and measurement); (evolution, equilibrium, and energy); (form and function) among the scientific disciplines.

A.4.1 Students should be aware that this is an Earth and Space Science area.

A.4.2 Students previous knowledge of “Solids & Liquids” will assist their understanding of the properties of soil.

A.4.3 Students determine the tests required to distinguish the difference between the different types of soil.

A.4.4 Students should understand the themes of form and function: soil types (particles – composition and physical characteristics, plant roots and absorption).

B. Nature of Science

Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.

B.4.1 Students should use other sources of information to learn about soil and soil types.

B.4.3 The use of land – more and more consumed by urban sprawl, farming techniques (i.e. contour plowing, erosion control).

C. Science Inquiry

Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.

C.4.1 Students will understand the theme of form and function and the vocabulary used when investigating soil.

C.4.2 Self-explanatory

C.4.3 Students gain additional insights through field trips, parents, etc.

C.4.4 Students will use the tools necessary to complete their soil tests.

C.4.5 Students will use collected data to determine soil type.

C.4.6 Self-explanatory

C.4.7 Students will use their collected data to support their conclusions.

C.4.8 Students can investigate additional soil samples, erosion questions, etc.

D. Physical Science

Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.

D.4.1, D.4.2 – Self-explanatory

E. Earth and Space Science

Students in Wisconsin will demonstrate an understanding of the structure and systems of the earth and other bodies in the universe and their interactions.

E.4.1, E.4.2 – Self-explanatory

E.4.8 Some connections to local farming and soil types should be addressed.

F. Life and Environmental Science

Students in Wisconsin will demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

F.4.1 Soil properties determine its ability to support plant life.

F.4.2 Self-explanatory

F.4.4 Plants and soil interactions – living versus non-living. Worm and soil relationship in composting.

G. Science Applications

Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.

G.4.1 Local farming.

H. Science in Social and Personal Perspectives

Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.

H.4.1 Food production and soil properties – Herbicides, Pesticides, Irrigation, etc.

Changes

A. Science Connections

Students in Wisconsin will understand that there are unifying themes: (systems, order, organization, and interactions); (evidence, models, and explorations); (constancy, change, and measurement); (evolution, equilibrium, and energy); (form and function) among the scientific disciplines).

A.4.1 Students should be aware that this is a physical science area.

A.4.2 Students previous knowledge of solids and liquids will assist their understanding of changes.

A.4.3 Students determine the properties to be observed while investigating the changes in matters.

A.4.4 Students should understand the themes of constancy, change and measurement (physical versus chemical changes); energy and equilibrium, (states of matter).

B. Nature of Science

Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have change over time as new evidence is found.

Not covered in this unit.

C. Science Inquiry

Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.

C.4.1 Students understand the themes of constancy, change and measurement; (use the vocabulary involved in changes in mixtures); and understand the themes of energy and equilibrium; (use the vocabulary involved with states of matter).

C.4.2 Students understand the steps involved in science investigations (scientific method – observing, planning, predicting, and explaining).

C.4.4 Students use hand lenses, thermometers, graduated cups, etc.

C.4.5 Student will use the data collected to determine the mystery mixture.

C.4.6 Self-explanatory.

C.4.7 Students will use their data to support their conclusions.

C.4.8 Students can investigate additional mixtures and their component parts.

D. Physical Science

Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.

D.4.1 through D.4.4 – Self-explanatory

D.4.8 The interaction of heat at the water cycle, there is a difference between matter and heat energy.

E. Earth and Space Science

Students in Wisconsin will demonstrate an understanding of the structure and systems of the earth and other bodies in the universe and their interactions.

E.4.5 The water cycle and Wisconsin weather.

F. Life and Environmental Science

Students in Wisconsin will demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

Not covered in this unit.

G. Science Applications

Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.

Not covered in this unit.

H. Science in Social and Personal Perspectives

Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.

Not covered in this unit.

Balancing and Weighing

A. Science Connections

Students in Wisconsin will understand that there are unifying themes: (systems, order, organization, and interactions); (evidence, models, and explanations); (constancy, change, and measurement); (evolution, equilibrium, and energy); (form and function) among the scientific disciplines.

A.4.1 Students should be aware that this is a Physical Science area.

A.4.3 Students determine the weight of different objects.

A.4.4 The students should understand the theme of form and function (how a balance compares the weight of objects).

B. Nature of Science

Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.

Not covered in this unit.

C. Science Inquiry

Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.

C.4.1 Students understand the theme of form and function and use the vocabulary used with balancing and weighing to measure the weight of objects.

C.4.2 Students understand the steps involved in a science investigation, (scientific method – questioning, planning, observing, predicting and explaining the results).

C.4.4 The balance is a tool of science.

C.4.5 Students will use the data they collect through their investigations with the balance beam.

C.4.6 Self-explanatory

C.4.7 Students will support their explanations with the data they collected.

C.4.8 Students develop new strategies to determine the weight of objects.

D. Physical Science

Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.

D.4.1, D.4.2 – Self-explanatory

D.4.5 Students construct mobiles to demonstrate differences in weights.

D.4.7 Students will understand the position of forces on a fulcrum to help distinguish the weight of objects.

E. Earth and Space Science

Students in Wisconsin will demonstrate an understanding of the structure and systems of the earth and other bodies in the universe and their interactions.

Not covered in this unit.

F. Life and Environmental Science

Students in Wisconsin will demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

Not covered in this unit.

G. Science Applications

Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.

G.4.3 The development of digital scales, electronic scales, etc.

H. Science in Social and Personal Perspectives

Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.

Not covered in this unit.

2nd Grade

Life Cycles of a Butterfly Unit

Needed Items

Live Shipment of Larvae, food, etc.

Call Carol Guanella at 789-7677.

Carol will send your order into Carolina Biological.

Please indicate your name, school and the date of delivery you would like.

Allow at least 10 working days for delivery.

Soils Unit

Needed Items

Garden Soil – Collect before it freezes

Yard Mulch – leaves – twigs – collect before the snow comes

Red Worms – pick up at a Bait Shop or K-Mart, Ace Hardware....or call

Carol Guanella at 789-7677

If you pick them up on your own, send your receipt to Kathy Sierp at Hamilton, and she will reimburse you out of petty cash.

Science Education WEB Sites

SCIENCE EDUCATION (Index heading from Todd Wehr Memorial Library, Viterbo College <http://www.viterbo.edu/academic/as/library/mainpag.htm>)

Science Education Standards and References (Sub Heading 1)

National Science Standards <http://www.nap.edu/readingroom/books/nse>

National Academy Press <http://www.nap.edu>

Project-Based Science (PBS) <http://www.umich.edu/~pbsgroup/index.html>

NSTA Pathways Reference Sites

Science as Inquiry <http://www.oms.edu/sln/www/background/inquiry>

<http://webfoot2.oms.edu>

Physical Science http://www.gene.com/ae/AE/AEC/AEF/1996/thompson_jell-0.html

http://www.etc.bc.ca/apase/scitech/p_sci.html

Life Science <http://www.gene.com/ae/AE>

<http://www.gene.com/atg-bin/pphtml/ae/atg/index.pphtml>

Earth and Space Science <http://athena.wednet.edu/curric/space/index.html>

<http://vulcan.wr.usgs.gov/Photo/framework.html>

The Learning WEB <http://www.usgs.gov/education>

Science and Technology <http://sln.fi.edu/tfi/activity/act-summ.html>

<http://ofcn.org/cyber.serv/academy/ace/sci/cecsci/cecsci017.html>

Mini Lessons <http://ofcn.org/cyber.serv/academy/ace/sci/elem.html>

Personal & Social Perspec. <http://www.gene.com/ae/AE/AEC/AEF/1996drake.html>

<http://www.zpg.org/zpg/popquiz.html>

History of Science <http://weber.u.washington.edu/~mudrock/HISTORY/science.html>

<http://www.minnetonka.k12.mn.us/support/science/good.html>

Science Education Groups (Sub-Heading 2)

NSTA	http://www.nsta.org
NAS	http://www.nas.edu
NSRC/STC	http://www.si.edu/nsrc
TERC	http://www.terc.edu
AIMS	http://www.aimsedu.org
ACS	http://www.acs.org
FOSS	http://www.ebec.com/ebechp.htm

Children's Sites (Sub-Heading 3)

KIDS WEB Digital Library	http://www.npac.syr.edu/textbook/kidsweb
Project DRAGONFLY	http://www.muohio.edu/Dragonfly
Cool Sites from NAP	http://www.nap.edu/fresh/hot/links.html
Cool Sites for La Crosse Schools	http://www.viterbo.edu/personalpages/faculty/Rruppel/emerson/emerson.html
Nine Planets Exploration Site	http://seds.lpl.arizona.edu/nineplanets/nineplanets.html
The Thinking Fountain	http://www.sci.mus.mn.us/sln/tf/nav/thinkingfountain.html

Teacher Enhancement Sites (Sub-Heading 4)

NAS/NAE/NRC Publications	http://www2.nas.edu/wwwcat/Education.html
NSTA Online Resources	http://www.nsta.org/onlineresources
ACS Science Education	http://www.acs.org/edugen2/education/aboutedu.htm
U. of Michigan Virtual Library	http://ipl.sils.umich.edu
U. of Michigan Digital Library	http://http2/sils.umich.edu/UMDL/HomePage.html
Galaxy Professional Resource	http://www.einet.net/galaxy/Science.html
Penn State	http://jek113.rh.psu.edu

**School District of La Crosse
Science Department
Hands-On Science Kit Request Form**

Please fill out request form to order science kits. Return to Carol Guanella at Hogan. A copy will be sent back to you for confirmation.

School Name _____

Teacher Name(s) _____

Unit/Kit _____

Grade _____

Number of Kits _____

Desired Dates 1) From: _____ To: _____

(3 CHOICES) 2) From: _____ To: _____

 3) From: _____ To: _____

.....

DATE REQUEST RECEIVED _____

CONFIRMED _____

KIT NUMBER(S) _____

APPROXIMATE DATE AVAILABLE _____

SUBMIT KIT REQUEST TO CAROL GUANELLA – HOGAN ADMIN. CENTER
PHONE NUMBER – 789-7677

ALLOW AT LEAST ONE WEEK BEFORE REQUESTED DELIVERY DATE

RETURN KIT TO YOUR DESIGNATED AREA FOR PICK-UP WHEN COMPLETED

PLEASE INDICATE THE MATERIALS WHICH MUST BE REPLENISHED

THANKS FOR YOUR COOPERATION