Development of an Audit Survey and Integration of EE Standards into the Existing Curriculum of the Sparta Intermediate School

By

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ABSTRACT

This project was developed to improve environmental education at the Intermediate and Elementary Schools in Sparta, Wisconsin. An audit survey was developed to identify which state EE standards are being taught and those overlooked. The 2002 data gained from the survey was used to develop enhancements for the existing curricula, to include all of the EE standards. The intended result was to identify EE standard shortcomings and direct staff in easily attaining those goals.

The purpose of the audit survey was two-fold. First it determined which standards were already included in the existing curricula. Secondly it identified which of the standards, or parts thereof, were not being met. When the data was compiled, a matrix was developed to visualize the EE standards’ representation. The matrix clearly revealed strengths and weaknesses in the existing program, which could now be objectively addressed.

Through review of the curricula taught, I was able to identify topics that would lend themselves to extensions. Their use was instrumental in the development of a Recommendations Packet including specific extensions, general activities, and resources. The 4th Grade staff was attentive and eager to learn the ease in which these standards could be accomplished at the concluding inservice. All elementary (K-3) staff received the recommendations facilitated by their respective principals.
The desired outcomes of this project were realized. Teachers polled remarked positively about the audit's 'ease of use' and a high intent regarding assimilation of the Recommendations. Other positive outcomes influenced by this project were reinstatement of Building EE Liaisons at two of the schools; a resulting document containing the EE standards information included in the curriculum binders of the district staff; and the process continuing to further develop Grade 5-8 compliance with state EE standards.
ACKNOWLEDGEMENTS

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TABLE OF CONTENTS

ABSTRACT ........................................................................................................... iii
ACKNOWLEDGEMENTS ......................................................................................... v
TABLE OF CONTENTS ......................................................................................... vi
LIST OF APPENDICES ........................................................................................ vii

CHAPTER I ........................................................................................................... 1
Statement of the Problem .................................................................................... 2
Subproblems ......................................................................................................... 2
Limitations .......................................................................................................... 3
Definition of Terms ................................................................................................ 3
Assumptions ......................................................................................................... 4
Importance of the Problem .................................................................................. 5

CHAPTER II .......................................................................................................... 6
Literature Review .................................................................................................. 6
Summary .............................................................................................................. 11

CHAPTER III ....................................................................................................... 12
Methodology and Treatment of the Subproblems .................................................. 12
Determine Wisconsin state EE Standards Taught ............................................... 12
Timeline and Schedule of Meetings .................................................................. 13
Determine Wisconsin state EE Standards Needing Integration ....................... 15
Locating Activities to Integrate into Existing Curricula ..................................... 16
Develop Resources for Staff Reference ............................................................. 16
Description of Inservice – May 22, 2002 .............................................................. 17

CHAPTER IV ....................................................................................................... 19
Results of Determination of EE Standards Taught ............................................. 19
Determination of EE Standards Needing Integration .......................................... 21
Locating Activities to Integrate into Existing Curricula ..................................... 21
Development of Resources for Staff ................................................................. 22
Results of 4th Grade Inservice ........................................................................... 23
Other Outcomes of the Project .......................................................................... 24

CHAPTER V .......................................................................................................... 25
Recommendations/Conclusions ......................................................................... 25
Summary .............................................................................................................. 27

LITERATURE CITED ............................................................................................. 28
APPENDICES ...................................................................................................... 29
LIST OF APPENDICES

Appendix A. Introduction to Project Letter for Teachers (1/23)
Appendix B. Teacher Questionnaire
Appendix C. Sparta School District Calendar
Appendix D. Sparta School District Environmental Education Infusion Guide Introduction
Appendix E. Teacher Poll of EE Infusion Guide Use (2/13)
Appendix F. Responses to the Poll of Guide Use
Appendix G. Teacher Handouts (2/13)
Appendix H. First Audit Tool for Standard A (2/13)
Appendix I. Teacher Handout (4/17)
Appendix J. Revised Audit Survey for Standard A (4/17)
Appendix K. Facilitator Notes for Elementary Meetings
Appendix L. Staff Meeting Announcement (4/23)
Appendix M. Audit Survey Results K-4
Appendix N. Matrix of EE Standards K-4
Appendix O. Inservice Recommendations Handout
Appendix P. Inservice: Extensions
Appendix Q. Inservice: Resource List
Appendix R. Inservice: Survey of Project
Appendix S. Elementary Recommendations Packet
Appendix T. Project Survey Results
Appendix U. Matrix of EE Standards 5-8
CHAPTER ONE

INTRODUCTION
The Problem and Its Setting

The Sparta School District is located in southwestern Wisconsin, 25 miles from La Crosse, Wisconsin. It serves 2797 students. The district has six feeder elementary schools, K-3, and a preschool program. This year, the district underwent restructuring of the grade levels and opened a new school called Meadowview. It houses the Intermediate School with grades four and five, and the Middle School with grades six through eight. There is one principal for the building, Mr. John T. Hendricks with the 1035 students. The district has one high school, grades 9-12, with 950 students.

The Meadowview school site is located on the north end of the city of Sparta with a population of 8,648. It is a light industrial/farming community. The local bike trail brings a great deal of tourism to this lovely countryside. A committee of middle school science teachers and students, on the site, created the school-developed prairie. The school forest is ten miles away and used primarily by the third, sixth, and seventh grade and the high school environmental science students. The Beaver Creek runs within 1/8th of a mile of the school and feeds into the La Crosse River in Sparta.

Six or more years ago, a team of teachers from the district organized an environmental education infusion guide. They developed goals and a guide of curriculum materials to be infused throughout the district. Teachers work
primarily in their own rooms. Very few of the Intermediate teachers are aware of the EE guide or where to locate it. Most teach many of the EE standards with no specific knowledge of the state standards. EE standards not being met are ignored due to lack of prep time and teaching time to “fit more in”.

**Statement of the Problem**

The purpose of this project is to review current EE standards taught and identify age appropriate activities and lessons that will enhance the existing K-4 curriculum to accommodate all of the state EE standards.

**Subproblems**

The first subproblem is to determine Wisconsin state EE standards already being incorporated into the existing Elementary Schools (K-3) and the Intermediate School curriculum at Meadowview.

The second subproblem is to determine which state EE standards, or portions thereof, need to be integrated to complete the standards required by grade 4.

The third subproblem is to locate activities to integrate into existing curriculum that fulfill missing Wisconsin EE standard requirements.

The fourth subproblem is to develop resources for the staff to reference to improve upon the existing curriculum.

The fifth subproblem is to in-service the 4th grade staff.
Limitations

The study will not review all Sparta curricula K-12 for the intent of state EE standards, just the Elementary Schools and the Intermediate School fourth grade curriculum.

The teachers will be determining if the standards, as stated, are covered by the curriculum that they use.

The study will not provide a long-term evaluation tool to follow the project. It will only evaluate the current curricula being taught.

The results will be a self reported survey of intentions to use the recommendations, not actual.

Definition of Terms

For the purpose of this project the terms below will be defined as follows:

K-3: K-3 is the abbreviation used for the elementary school grades kindergarten through third grade.

4-5: 4-5 is the abbreviation used for the intermediate school grades fourth and fifth.

Review: Review shall mean to audit existing curriculum and identify the standards being covered by the materials.

Audit Survey: Audit Survey shall mean a tool used by the staff to indicate within what units and topics they address specific standards, or parts of standards.

Matrix: Matrix shall mean a summary of the standards with indications of when they are addressed within the curriculum.
Assumptions

**The first assumption:** some EE standards have been taught to students at the Elementary Schools and Meadowview School.

**The second assumption:** the EE standards taught do not meet all state EE requirements.

**The third assumption:** the lack of teaching and prep time does not allow complete inclusion of all state EE standards.

**The fourth assumption:** with the identification of specific missing standards, teachers will recognize the need for staff development.

**The fifth assumption:** without topic specific activities to integrate with existing curriculum, teachers will not implement new lessons.

**The sixth assumption:** the school district administration and Meadowview administration is supportive of further development of EE standards.

**The seventh assumption:** 4/5 teachers at Meadowview are supportive in the identification of missing standards and implementing activities to meet state EE standards.
**Importance of the Problem**

Because all people are citizens of our world, education is necessary to have them be responsible for its maintenance and preservation. Students must be provided the opportunity to learn to care, understand, and protect the environment in which they live. For students to achieve environmental literacy and exhibit responsible environmental behavior they need a curriculum that includes the appropriate standards.

Wisconsin has mandated state EE standards. All public schools are mandated to have an EE curriculum plan. The plan is to ensure all five EE principles at appropriate grade levels being awareness, knowledge, attitudes, skills, and participation. This project will provide a document that will demonstrate that the state EE standards are being taught in the K-3 and 4th grade curriculums. Additional lessons to meet standards will fit into existing curriculum with ease and will be utilized by the teachers of grade 4.

The curriculum for Meadowview calls for a need to meet EE, computer and other state standards. The integration of these standards with existing curriculum is necessary to meet teaching time constraints and teacher prep time limitations. The result will be a curriculum that will allow students to become environmentally literate. Teachers need to be made aware of activities that “fit” existing topics, which they already teach. Teachers are generally interested in meeting the state standards. They also want students to be able to demonstrate responsible citizen skills, as well as, proficiency in environmental areas on standardized tests.
CHAPTER TWO

LITERATURE REVIEW

History of Environmental Education in Wisconsin

Wisconsin has led the way to developing environmental educational practices. Teacher preparation is at least as important as curriculum and has undergone improvements in its development. Wisconsin was the first state to establish statutory requirements for teaching about natural resources and conservation. Wisconsin required the preservice of teachers to receive instruction in this field, while becoming certified for teaching science or social studies, in 1935. The teacher certification rule was extended to cover more disciplines including early childhood, elementary, agriculture, science, and social studies, effective July 1, 1985.

In 1986, the Guide to Curriculum Planning Environmental Education was published. The rationale, philosophy, goals, and objectives of environmental education were determined for curricular renovation. The identification of the kinds of objectives appropriate for different grade levels, addresses the changing intellectual and moral developmental characteristics of children. (Engleson, 1987)

This publication was intended to assist districts in developing a more complete environmental educational curriculum.

Government mandates have moved environmental education to the forefront of curriculum development. Effective in 1988-89, a new school district standard required the development of a written, sequential curriculum plan in all areas, including environmental education. The plan specifies objectives, course
content and resources and includes a program evaluation method. The newer Wisconsin Administrative Code PI 8.01(2)(k) establishes a requirement that "every school district develop and implement a written, sequential curriculum plan incorporating instruction in environmental education into all subject area curriculum plans, with the greatest emphasis in plans for art, health, science, and social studies education."

With the passage of the Goals 2000: Educate America Act in 1994, important work began to set policy that would ensure that all students may be prepared for responsible citizenship, further learning, and productive employment in our modern economy. The goals align themselves with the goals of environmental education. The range of voluntary national standards for the core disciplines laid the groundwork for designing guidance in development of appropriate academic benchmarks. (Simmons, 1998)

The updated requirements of legislation that serve to develop environmental education in Wisconsin are being heeded in most districts, not only to meet the requirements, but to create a quality educational experience for their students. The Sparta School District has complied with sequential plans for nearly all subject areas, with the exception of environmental education. The nature of the course being taught in more than one subject area, made the task a more difficult subject to tackle, than the stand alone subjects.
Barriers to Environmental Education

Among the many barriers to environmental education, teachers site lack of time as a major hindrance. Time, in two ways, yields more teacher apathy in the attainment of environmental educational goals. The first being time for teachers to prepare and research environmental topics and activities. Teachers have more and more responsibilities placed upon them and unless release time or compensation for additional work is offered, most are unwilling to develop the required integrated curriculum. Secondly, stealing time from what is already taught is the option that most view as the necessity, to squeeze in just one more thing. (Monroe & Cappaert, 1994)

Inservice opportunities that do not meet the needs of the teachers, only serve to frustrate and overwhelm them. The goals of infusing environmental education are thwarted when teachers site lack of time to research and fit more “in” to their already demanding schedules. The term of “infusion” does not usually take into concern the needs of the teachers.

Overcoming Barriers to Environmental Education

To address time constraints, a facilitator would do best to become more prepared for the audience. For an inservice workshop to be most effective, the facilitator must identify a few curriculum objectives that the participants are required to meet. Following the needs assessment, the demonstration of interesting activities that intertwine environmental perspective with their objectives will be best received. If teachers site lack of background knowledge as a need, then facilitators should offer two options to help meet this objective.
Participants should be provided the background information necessary to feel confident teaching the topics or instructed in the goal of guiding student investigation, rather than being "experts". (Monroe & Cappaert, 1994)

Standards-based initiatives can be attained through many approaches, including Internet-supported programs. The process goals of environmental education relating to knowledge, attitudes, skills, and the development of environmentally sound behaviors can be pursued in an issue-oriented curriculum. Internet-based educational applications can support these goals. (Moore & Huber, 2001) Teachers have a multitude of Internet-supported programs available, such as J.A.S.O.N, that offer environmental issue studies that encompass many of the state standards.

**Environmental Education Standards**

The Wisconsin State EE Standards are tailored to prepare young people for economic opportunities that exist in Wisconsin, the nation, and the world. The academic standards can be guides for developing grade-by-grade curriculum. By implementing standards, some school districts may have to upgrade school curriculums. The standards define what is to be learned at certain points in time. The curriculum specifies the day-to-day schooling at the local level. Content that appears in the academic standards can be part of the range of knowledge and skills that may appear on standardized tests. (Wis. DPI, 1998) Therefore, curriculum that includes all of the standards, allows students the best opportunity to do perform well on standardized tests.
A research team estimates that it would take even a very competent student nine additional years in school to reach acceptable performance in all of the standards recommended by national organizations. Since curriculum is organized around real-life issues applying content and skills from many subject areas; objectives from *more than one* discipline could easily be covered within one lesson. Identification of standards included in a unit not only provide evidence that standards are being addressed, but also may reveal competencies that merit further attention in succeeding units. (Vars and Beane, 2000)

Many of the standards that exist in curricula today pertain in some way to the environment, and the suggested environmental standards. These goals and objectives are very similar if not identical to what we identify for environmental education. Many of the subject areas act as "vehicles" for attaining environmental education objectives. It is within the context of the environmental issues and problems that skills are taught. Since environmental education already permeates the curriculum, we are doing ourselves a disservice to separate it out. Helping teachers to "environmentalize" curricula, using environmental topics and approaches to achieve subject area objectives already established would be better than trying to deal with it in isolation. (Engleson, 1987) We need to be reminded that we do not learn in isolation. Bits of information connected to other bits of information help us to remember and learn. By connecting the curriculum through the standards we are providing better opportunities for teaching in a thorough and meaningful manner. (Francis, 1999)
Summary

The literature reviewed in this chapter clearly shows that Wisconsin has led the way in environmental education in its schools. It also demonstrates that there is a need for an audit of school districts' curricula to determine if the appropriate grade levels are meeting the Wisconsin state EE standards. Since environmental standards are found throughout all curricular areas, we need to find where the standards are being addressed. We can provide better opportunities for teachers to meet the standards, once we can identify which standards need attention. The literature takes note that time constraints are real and environmental education standards, although required, do not receive the same attention as those of stand alone classes, such as science and social studies. Furthermore, for an inservice workshop to assist teachers in improving environmental curriculum, it should be preceded by a needs assessment of the participants. The facilitator will be most effective when meeting the objectives of the teachers with a direct solution to fulfilling their needs. This is best done by providing demonstrations of resources that are available to teachers, allowing teachers the freedom to research issues and identify activities, and allowing the teachers more latitude with issues.
Chapter 3

METHODOLOGY AND TREATMENT OF SUBPROBLEMS

Subproblem one: To determine Wisconsin state EE standards already being incorporated into the existing Elementary Schools and the Intermediate School curriculum at Meadowview.

The author met with the 4-5 staff and administration to explain the goals of the project. Handouts were used to explain the age appropriate emphasis of environmental principles. A poll was done to determine staff use, if any, of the 7-year-old EE Guide activities. (See Appendix D-F)

Surveys were developed for each of the five Wisconsin EE standards, and distributed to the staff for completion. The responses were then used to determine which EE standards are being taught to all grade four and five students, at the Intermediate School. (See Appendix J)

All K-3 teachers within the district completed the survey at three separate staff meetings. The responses were then compiled to demonstrate all EE standards being taught to all K-3 students within the district. (See Appendix M) The author produced an EE standards matrix to show strengths and weaknesses within the K-4 curricula. (See Appendix N)
A schedule of the author's meetings and work follows:

December 19th, 2001 Discussion with Lisa Snyder, the Curriculum Director, regarding the needs of the district. Decision to audit the Intermediate School for EE standards and use findings to address standards, K-4. Permission to work with all administration and staff was granted and confirmed at a district wide principal's meeting.

January 23, 2002 (3:00-3:30) Meeting with John Hendricks, Principal of Meadowview. Discussed the classroom arrangement and the goals of the project. History of EE activities was discussed.

January 23, 2002 (3:30-4:00) Meeting with Intermediate School staff, grades 4 and 5. Project was introduced and information gathered from the staff regarding standards curriculum development. [23 staff members present]

February 13, 2002 (3:30-4:00) Meeting with Intermediate School staff and distribution of the audit survey for the Wisconsin EE standard, “A” to appropriate grade levels; due to be collected on Friday, February 22, 2002.

February 22, 2002 Picked up completed audit surveys from Intermediate School.

March 2002 Revisions made to the audit survey.

April 5th, 2002 Meeting with Mr. Hendricks to discuss the completion of the revised audit survey by the staff.

April 17th, 2002 (3:00-4:00) Meeting with Intermediate School staff to complete the revised audit survey of Standard “A”. Also completed the audit for
Standards “B, C, D, & E”. Clarifications made as to the types of lessons to include. Teachers worked in two groups, based on grade level.

April 23rd, 2002 Delivered notice of staff meeting for Leon and Southside schools.

April 24th, 2002 (7:30-7:45am) Meeting with the Middle School staff leaders to explain the project and distribute copies of the 5-8 Survey Audit to further develop EE Standards, beyond the scope of the K-4 work being completed. [All in all, standards will be addressed K-8; but the project is limited to K-4.]

April 24th, 2002 (3:00-4:00) Meeting at Southside Elementary with Mr. Richard Baudek and the Southside and Leon Elementary K-3 staff members. Introduction to the project, discussion, and completion of the K-4 Audit by grade level. [16 staff members present]

May 1st, 2002 (3:10-4:00) Meeting at Lawrence Lawson Elementary with Ms. Carolyn Jenkins and the Lawrence Lawson and Cataract Elementary K-3 staff members. Introduction to the project, discussion, and completion of the K-4 Audit by grade level. [16 staff members present]

May 8th, 2002 (3:15-4:00) Meeting at Lakeview Elementary with Mr. Roddick and the Lakeview and Maplewood Elementary K-3 staff members. Introduction to the project, discussion, and completion of the K-4 Audit by grade level. [9 staff members present]

May 22nd, 2002 (4:00-4:30) Intermediate School 4th Grade Teacher Inservice held. This meeting was more of dissemination of the audit findings,
recommendations, and sharing resources. [Grade 5 was not included, as the standards address grades K-4 separately from grades 5-8. I am assisting the district in the development of the 5-8th grade standards’ matrix for study. (See Appendix U) The 6-8 staff is strongly enriched with many staff members with EE backgrounds. They have an environmental committee that meets regularly. My guidance will be limited to facilitation of the survey audit of the standards and development of a 5-8 matrix. The same administrator directs this school and will follow up with recommendations as set forth by their own environmental committee. I will make myself available to assist in any way necessary.]

Subproblem two: To determine which state EE standards, or portions thereof, need to be integrated to complete the standards required by grade 4.

The audit survey responses were used to determine if the K-3 standards were similar between the various buildings. The responses were matched with the grade four responses, to determine any EE standard or portion of a standard, which was not included in any of the curricula. The matrix of the standards showed the absence of adequate coverage within the K-4 curriculum of the Sparta School District.
Subproblem three: To locate activities to integrate into existing curriculum that fulfill missing Wisconsin state EE standard requirements.

Using teacher input of various topics already used in the curricula; the author researched many resources to find matching extension activities. Teacher suggestions also led to the development of a list of terms that could be emphasized at the appropriate grade levels, throughout all classes, ie. Art.

Activities were determined by the curriculum content. The specific activities that addressed standards not yet met, were chosen on the merits that would necessitate the teachers' request for ease of use with existing lessons. Stand-alone lessons were not permissible, as teaching time limitations would not allow for more lessons to take more blocks of time. Examples of increasing EE awareness and issues, within the existing curricula, were emphasized as a way to meet the EE standards. Some teachers were using activities that included some of the standards. Recommendations were made for all teachers of that grade to implement those lessons into their curriculum.

Subproblem four: To develop resources for the staff to reference to improve upon the existing curriculum.

The author used teacher suggestions to develop lists of words common to the EE standards that were taught at specific grade levels. The libraries, both
school and public were utilized to develop topic related bibliographies. The local phone directory was useful in identification of possible guest speakers and community servants with a wealth of local history and information. The Internet and search engines were utilized in producing a list of websites with a multitude of teacher resources. A list of organizations with teaching materials related to rainforests was included, offering free and low cost materials.

Subproblem five: To in-service the 4th grade staff about extension activities, resources, and contacts to completely address all states EE standards not yet addressed by grade four.

The author discussed with the principal of the Intermediate School, the need to meet with the fourth grade staff. The decision was made to address the missing standards with extension activities that would compliment the existing units taught. Time was set-aside during a regularly scheduled staff meeting, for the author to share the results of the audit, implement extension activities, and share additional EE resources.

The activities were shared with the staff at the meeting. Distribution of the "Terms List", bibliographies, and Internet resources were made available to each of the staff members to conduct further investigations. The administration recommended that the activities be used within the standing curriculum, to meet the Wisconsin EE standards. The staff completing a survey of the project concluded the inservice. (See Appendix O-R)
A Recommendation Packet was made for the K-3 staff, with some minor adjustments. They did not include the bibliographies. They were distributed to the K-3 staff by their principals. Surveys of the project were completed and returned via the principals. (See Appendix S)
Chapter 4

RESULTS

Statement of the Problem

The purpose of this project is to review current EE standards taught and identify age appropriate activities and lessons that will enhance the existing K-4 curriculum to accommodate all of the state EE standards.

Subproblems

The first subproblem is to determine Wisconsin state EE standards already being incorporated into the existing Elementary Schools (K-3) and the Intermediate School curriculum at Meadowview.

At our first meeting with the Intermediate School staff, one member shared that an EE Infusion Guide had been developed in past years. She shared it with me and I developed a short survey to find what, if any, part was being utilized. The survey identified past infusion programs that did not improve the teaching of the state EE standards much. Teachers were not aware of the presence of an EE Infusion Guide. Time was found to be a main factor in the staff's inability to improve existing curricula. Time was not set aside to identify what needed to be done, or how. Time in the teaching schedule being tight already, did not allow for more to be "squeezed in".

The next meeting with the Intermediate staff was to develop an audit survey tool that would allow teachers to review their curriculum. The Wisconsin’s Model Academic Standards for Environmental Education developed by Wisconsin DPI was my source for the EE standards. I typed up the earliest
audit survey tool. Every teacher in the 4-5 grades received a copy and they were instructed on how to complete it and what could be included. A deadline was set for completing the information for Standard A. Upon picking up the results, only a few copies were turned in with several staff names scrawled at the top. I realized that it was more effective to try another method for the remaining standards. I also found some of the data was not related to the EE standards.

For our next meeting, I made changes to the audit survey tool and the method of completing it. The staff was going to complete it in groups by grade level. It was only necessary to have one copy of each standard for each group. This made it much easier to handle the large amount of information from each grade level. It also allowed teachers to work together and discuss each standard and find out what other teachers were doing to meet them. I had included the data from the first standard and highlighted missing information. They were instructed to include topics and activities that related to the EE standards only. I facilitated the exercise and spent time with each of the groups answering questions, as needed. The group, although tired from attending a school function the previous night, managed to complete the audit survey within an hour. I found that facilitating the group was more beneficial in the quality of the data collected and minimizing incomplete answers. (See Appendix J)

With the audit survey tool developed and a process that worked well, I arranged to meet with the staffs from the six elementary schools. Using the same procedure, I facilitated the meetings and had completed the audits within
an hour or so, per group. It was necessary to explain more detail of the project and EE at these meetings, as I only had one encounter with the elementary staff.

The next step in determining the standards being taught was to compile the data received. I developed a spreadsheet-type matrix and proceeded to go through the audit survey and note the standards covered by the topics. I organized it so that the Kindergarten grades were all grouped together. The other grades followed suit. The matrix showed, in a glance, which standards were being covered well, somewhat, or not at all. (See Appendix N)

The second subproblem is to determine which state EE standards, or portions thereof, need to be integrated to complete the standards required by grade 4.

The project demonstrated that all parts of the state EE standards required were not being taught by the end of grade 4. The matrix details where the various parts of the EE standards are covered within the K-4 curricula. I indicated the standards not being met with an asterisk. (See Appendix N) The three parts of the EE standards not being covered were located within EE Standard C: Environmental Issue Investigation Skills.

The third subproblem is to locate activities to integrate into existing curriculum that fulfill missing Wisconsin EE standard requirements.
Using the data from the audit surveys, I was able to make general and specific recommendations. The fourth grade staff would be inserviced to include missing standards. This would allow the standards to be covered within just one inservice, all teachers being from Meadowview. Selecting their units on rainforests and minerals, I utilized resources from my personal library, the school library, the city library, and the Internet to develop the extensions. Using staff questions from the meetings and other literature, I chose to include the definition of EE, a copy of the EE standards, and the matrix of the EE standards. A list of EE issues and general activities were included to aid teachers in meeting the specific EE standards during daily lessons. Specific goals were set for the fourth grade teachers to integrate at least two lessons on mining issues into their minerals unit. I suggested a stream study of Beaver Creek that runs within 1/8th of a mile of the new school building, to be one of them.

The fourth subproblem is to develop resources for the staff to reference to improve upon the existing curriculum.

The resource list included local to international contacts. Using the LMC in the Intermediate School, I ran a bibliography of resources pertinent to the topics taught in the fourth grade curriculum. I did the same with the local library. Internet links to teacher friendly sites, with scores of links to related sites were included. Local resources included phone numbers of public officials, including but not limited to the DNR office, the museum, and area state parks. These
were included in the Recommendations Packet that was distributed to each fourth grade teacher. (See Appendix O-Q)

The fifth subproblem is to in-service the 4th grade staff.

The Recommendations Packet was distributed to the fourth grade staff. I went through the packet with the staff and administration. I discussed the basis for the inclusion of the materials. All were very interested to see how the matrix showed which standards were covered within the grades and schools. Goals were set for the staff to develop specific lessons within the mineral and rainforest units. A general discussion was held, regarding the integration of more EE issues within all subject areas, whenever it is appropriate. The last two pages of the packet included a survey of the project. (See Appendix R)

The surveys are divided into two groups. The first being those returned by the inserviced 4th grade staff. The others were from the K-3 staff that did not have a follow-up inservice, after completing the audit survey. (See Appendix T)
Other Outcomes

The administration was interested in completing the audit, not only K-4, but with the 5-8 standards, as well. To date, surveys have been completed and compilation of that data is being pursued, outside of this project. All administrators were interested to know, to what extent their staff was meeting standards. Discussions following the audit proved positive and the staff demonstrated intent to improve EE standards coverage using the recommendations.

Two administrators were moved by the project to reinstate an EE liaison at their building; including the backing of the financial commitment necessary to do so. Applications were distributed to them, allowing the process to move forward. Discussion also indicated a dedication to return to the issue with school start-up in the fall. Administrators indicated a strong intention to encourage teachers to use the recommendations and be conscious of the EE standards that should be taught throughout the curriculum.
CHAPTER FIVE

RECOMMENDATIONS / CONCLUSIONS

The recommendations that I made specifically for the 4th Grade staff will allow them to meet all of the state EE standards required and improve upon their EE goals in general. Within the Recommendations packet I included several definitions of EE, the list of Wisconsin state EE standards, the matrix of EE standards for Grades K-4, a general list of issues and questions relative to the incomplete standards, specific extension activities, and a Resource List. (See Appendix O-Q) The 4th Grade staff is intending to reference this information when planning for the upcoming school year. By utilizing this information, the teachers will give all Sparta school district students the opportunity to learn the 28 state EE standards, as required by the end of Grade 4. The administration of Meadowview School will oversee the implementation of these recommendations.

The specific extension activities tie directly to the existing curriculum. The topics chosen for the adaptations are the Rainforest and Mineral units. In using the suggested activities, teachers can easily incorporate the missing standards with little prep time. The suggestions do not require extensive periods of teaching time. One activity suggested for the Mineral unit is the “insect identification in a healthy water system”. This activity could utilize the nearby city creek near the new school site and be included in the art, social studies, and/or science units. It allows opportunities to examine and analyze the issue of mining. Students would be given a forum to develop their environmental
knowledge and ethics. With the general incorporation of environmental issues throughout the existing lessons, teachers can teach EE more effectively.

The extensive Resource List allows the teaching staff the freedom to develop their EE curriculum. By utilizing the resources, the staff can find people, activities, books, and materials related to the curriculum that can enhance their coverage of EE standards. The list includes a school and local library bibliography of related materials. Local contacts of offices and people that can be utilized for information and teaching materials are given. Many Internet web sites were reviewed and the most teacher friendly sites were listed. Included in the Resource List is the newly appointed EE liaison for the building.

Furthermore, it is recommended that the district continue with the survey audit in the upper grade levels. Grades 5-8 have begun this process and should complete it in the Fall. The environmental committee at the Middle School shall be responsible for developing activities that will be implemented into their curricula. The High School should follow suit to complete the EE curriculum for the district.

General recommendations to anyone doing a similar audit survey include few variances. The audit survey should be done during an inservice meeting when staff is at their creative best. The specific recommendations should be given at inservices by grade level, for more complete integration. And lastly, districts should be assisted in procuring an EE liaison for each building.
Summary

The overall dedication to environmental education within Meadowview School was improved. The time spent identifying EE standards within the curricula, the encouraging efforts of the staff to meet standards, and the financial commitment to reinstate an EE Liaison through the WCEE are proof of their determination to better understand environmental education. Although some may find the remarks of teachers to be discouraging, I was glad they were comfortable enough to ask and willing to learn about EE. It is unfortunate that teachers, whether new or experienced, did not know the definition of EE, how to define EE issues, or even that EE standards existed. I felt successful in creating an open atmosphere within the staff meetings, allowing their questions to be heard without prejudice. The opportunity to revisit their questions in the Recommendations packet led to clarity for all of the staff.

The outgoing poll of the staff indicates the success of the project. Their responses to the use of the audit survey and intent to use the Recommendations packet were very positive. A final meeting with the Curriculum Director found the information gathered to be of great use for the district in completing their EE curriculum. The Sparta School District demonstrated willingness among administration and staff alike, to follow-up with improved EE within the entire district.
LITERATURE CITED


*Models and Approaches for EE in Iowa.* (1999) Iowa DPI, Des Moines, Iowa.


Vars, G. and Beane, J. (2000) *Integrative Curriculum in a Standards-Based World.* June Eric Digest; University of Illinois; Champaign, IL.

LIST OF APPENDICES

Appendix A. Introduction to Project Letter for Teachers (1/23)

Appendix B. Teacher Questionnaire

Appendix C. Sparta School District Calendar

Appendix D. Sparta School District Environmental Education Infusion Guide Introduction

Appendix E. Teacher Poll of EE Infusion Guide Use (2/13)

Appendix F. Responses to the Poll of Guide Use

Appendix G. Teacher Handouts (2/13)

Appendix H. First Audit Tool for Standard A (2/13)

Appendix I. Teacher Handout (4/17)

Appendix J. Revised Audit Survey for Standard A (4/17)

Appendix K. Facilitator Notes for Elementary Meetings

Appendix L. Staff Meeting Announcement (4/23)

Appendix M. Audit Survey Results K-4

Appendix N. Matrix of EE Standards K-4

Appendix O. Inservice Recommendations Handout

Appendix P. Inservice: Extensions

Appendix Q. Inservice: Resource List

Appendix R. Inservice: Survey of Project

Appendix S. Elementary Recommendations Packet

Appendix T. Project Survey Results

Appendix U. Matrix of EE Standards 5-8
Howdy! I am Kristen Mueller. I am excited to be here and work with the you. Here are a few details of who I am, what we'll be doing, why, how we will do it, and when.

- I am a science teacher and a student of the Natural Resources Master's Program at UW Stevens Point. I live a half mile up the road, in the "Lighthouse" on Gardener Ave. I taught at Sparta High School before my son, Remington, was born. Before that, I taught at Manitowoc Jr. High and other schools in Wisconsin. I also taught Environmental & Outdoor Education to visiting schools at a camp near East Troy.
- I am working with Lisa Snyder and the administration of Sparta Schools to improve the curriculum to meet the environmental education standards of the state. We have jointly decided that I will begin working with the 4th & 5th grades.
- I am doing this project to meet the state mandates that all districts must incorporate their standards by next school year. I am also doing this as a project to meet the final requirements of my Master's program.
- The "how" is up to all of us. I think that it is best if I guide you through the process to identify standards you already teach, standards that need addressing, and lastly incorporating activities into your existing curriculum.
- The bad and good news; we will be doing it now. Bad, because you are very busy doing your job. Good, because we will be done before school is released for summer break. It will be done and ready to use as a model for the other grades in the district. Also, it is good timing because you are halfway through your curriculum. You are able to look over the lessons since fall. And you can look into the not-so-far future, as to what you have left to cover.

I know that this school is progressive in its efforts to teach E.E. Everything from the prairie to the school forest, show great promise in meeting all of the state’s standards. It isn’t necessary to have every lesson outside. Actually many activities can be done inside, regardless of weather conditions. I have many resources to offer, for your use. You may find just the right activity to add into an existing unit. Many lessons are suited for use in a school where units are taught with many disciplines. For example, a lesson used in a Phy. Ed. Class could easily cover math, science, English, and social studies skills. The kids will have fun and be excited when you bring up the same lesson in your classroom. You can refer to it and they have that base of knowledge to draw from. It reinforces the concepts that you are teaching. At the same time, it teaches the environmental standards that are age appropriate. You don’t need additional time to incorporate or infuse new lessons. It is very likely that you already are covering many of the standards. We just need to identify those.

I am open to your suggestions, help, and opinions. Nothing here is carved in stone, except that we will be done by the end of the school year. So, let’s keep it simple. And we will do our best to stick to our goals and dates for returning information, and move right along. And let’s have fun doing it!

Feel free to call me with questions at 269-1007

A-1
Appendix B. Teacher Questionnaire

Teaching group _____________________________

Please bear with me as I try to get a handle on how things are done around here. Please fill this out and return to me before you leave today. Thanks!

Name_____________________________________

Class & Subject(s) taught ____________________________
At Meadowview ________________________________________
____________________________________________________

Room/Office ___________________________________________________________________

Phone at school ________________________________

Your home phone ______________________________
(only for rare occasions)

Identify weeks that are extremely busy _______________________________________
between now and the end of May
ie. Conferences or other activities
school related or personal.

If we decide to have a small group collaborate on ideas, would you like to?

If yes, what day of the week is best for you? And time?

Would you like to meet at places other than school? ie. My home or a restaurant?

Does your teaching team have a designated time to work together? If so when is that? (day of week and time)

Any suggestions or questions that you may have ....feel free to write on the back.

B-1
### Sparta Area School District 2001-2002 Calendar

#### August

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#### Key

- **△** New Teacher Day
- **□** Staff Only
- **No School**
- **◆** Parent/Teacher Conference
- **△** a.m. Only
- **First Day of Quarter**
- **Last Day of Quarter**
ENVIRONMENTAL EDUCATION

Infusing Environmental Education into the Curriculum
## TABLE OF CONTENTS

Environmental Education Curriculum Committee ........................................... 1
District Philosophy .................................................................................. 2
Mission Statement ................................................................................. 3
Program Goals ....................................................................................... 3
Infusion Process ..................................................................................... 4

### K-2 - Infusion Activities

- Water Pollution/Acid Rain .................................................................. 5
- Decomposing - Litter ......................................................................... 6
- Water Pollution .................................................................................. 7

### K-5 - Infusion Activities

- Wilderness .......................................................................................... 8

### Grade 3

- Recycling, Conservation .................................................................. 9-13
- Appreciation and Interdependence .................................................. 14-22
- Resources, Conservation ................................................................. 23

### Grade 3-4 - Infusion Activities

- Recycling, Conservation .................................................................. 24
- Environmental Awareness ............................................................... 25
- Camouflage, Endangered Species .................................................... 26-33
- Resources, Interdependence .......................................................... 34-38

### Grade 4 - Infusion Activities

- Pollution ............................................................................................ 39
- Habitat, Camouflage ......................................................................... 40
- Student Choice .................................................................................. 41
- Environmental Awareness ............................................................... 42
- Recycling, Environmental Awareness ............................................. 43
- Environmental Appreciation ........................................................... 44
- Environmental Awareness ............................................................... 45
- Conservation ....................................................................................... 46
- Recycling ............................................................................................. 47
- Water Pollution .................................................................................. 48
- Endangered Species, Habitats ......................................................... 49
- Energy ................................................................................................. 50
- Conservation ....................................................................................... 51-53
- Awareness .......................................................................................... 54
- Conservation, Renewable Resources, Recycling ............................ 55
- Environmental Appreciation ........................................................... 56
- Preservation ......................................................................................... 57-61
- Conservation, Recycling ................................................................. 62-64
- Endangered Species .......................................................................... 65-66
- Habitats ............................................................................................... 67-68

### Grade 3-5 - Infusion Activities

- Waste Disposal .................................................................................. 69-71
- Habitat ................................................................................................. 72-74

### Grade K-12

- Recycling ............................................................................................. 75-78
- Awareness ........................................................................................... 79

### Bibliography

............................................................................................................ 80
DISTRICT PHILOSOPHY

The philosophy of an educational system in a democracy should be identified with those concepts which its citizens believe. Therefore, the district should hold as its prime objective the conscious promotion of those concepts.

In this regard we believe that the school district should provide comprehensive and flexible curriculum, emphasizing the mental, cultural, social, moral, and physical advancements compatible with democratic concepts. The district will cooperate with any community agency whose goals lend themselves to the accomplishment of these purposes.

We further believe that the district should provide a sound and adequate program based upon the needs, interests, and inherent capacity of the individual for his fullest development, this program to be planned and directed by the administration and teaching staff of the district.
SPARTA AREA SCHOOL DISTRICT

ENVIRONMENTAL EDUCATION MISSION STATEMENT

All citizens of planet Earth must accept responsibility for caring for and improving the quality of the environment.

In order for students to ensure Earth's well-being, we believe that the area of Environmental Education needs to be infused into the curriculum.

The purpose of Environmental Education is to help students become environmentally knowledgeable and skilled, active citizens who are willing to participate individually and cooperatively towards achieving and maintaining a balance between's the Earth's environment and its current and future inhabitants.

PROGRAM GOALS

1. To help students develop an awareness and sensitivity to the total environment and its problems.

2. To help students gain a basic understanding of how the environment functions.

3. To help students learn to properly interact with the environment.

4. To help students identify issues and problems dealing with the environment and how they can be resolved.

5. To help students acquire a set of values and feelings of concern for the environment.

6. To encourage students to participate in environmental maintenance improvement.

7. To help students obtain the background needed to identify, investigate, and contribute to the resolution of environmental issues and problems.

8. To help students acquire experience in using their knowledge and skills in taking thoughtful, positive action toward the resolution of environmental issues and problems.
ENVIRONMENTAL EDUCATION AND THE INFUSION PROCESS

The goal of environmental education is to help students become environmentally knowledgeable, skilled, dedicated citizens who are willing to work, individually and collectively, toward achieving and maintaining a dynamic equilibrium between the quality of life and the quality of the environment.

Ideally, environmental topics should be infused into the existing curriculum. Following this recommendation would result in an environmentalized program of studies. In such a program, the instructional objectives identified for each subject area and within each unit of study would be achieved.
Appendix E. Teacher Poll of EE Infusion Guide Use (2/13)

Are We Using the EE Cur. & Activity Guide?
Do you have a copy of the EE Cur. & Act. Guide in your room/at home? Y N

Have you utilized the guide to aid in your curriculum? Y N

Do you know where a copy is, that you can utilize? Y N

If you had a copy, would you utilize it? Y N

Please check any of the specific activities, from the guide, listed below, that you use with your students:

**Gr. 3-4 Infusion Activities:**
- Recycling, Conservation
- Environmental Awareness
- Camouflage, Endangered Species
- Resources, Interdependence

**Gr. 4 Infusion Activities:**
- Pollution
- Habitat, Camouflage
- Student Choice
- Environmental Awareness
- Recycling, Environmental Awareness
- Environmental Awareness
- Conservation
- Recycling
- Water Pollution
- Endangered Species, Habitats
- Energy
- Conservation
- Awareness
- Conservation, Renewable Resources, Recycling
- Environmental Appreciation
- Preservation
- Conservation, Recycling
- Endangered Species
- Habitats

**Gr. 3-5 Infusion Activities**
- Waste Disposal
- Habitat

Please list any other activities that you do with your students regarding EE: you may continue on the back, if needed.
Appendix F.  Responses to the Poll of Guide Use

Are We Using the EE Cur. & Activity Guide?

Do you have a copy of the EE Cur. & Act. Guide in your room/at home?  
2- Yes 20- No

Have you utilized the guide to aid in your curriculum?  
1- Yes 21- No

Do you know where a copy is, that you can utilize?  
4- Yes 18- No

If you had a copy, would you utilize it?  
12- Yes 10- No

Please check any of the specific activities, from the guide, listed below, that you use with your students:

**Gr. 3-4 Infusion Activities:**
- Recycling, Conservation
- Environmental Awareness
- Camouflage, Endangered Species
- Resources, Interdependence

**Gr. 4 Infusion Activities:**
- Pollution
- Habitat, Camouflage
- Student Choice
- Environmental Awareness
- Recycling, Environmental Awareness
- Environmental Awareness
- Conservation
- Recycling
- Water Pollution
- Endangered Species, Habitats
- Energy
- Conservation
- Awareness
- Conservation, Renewable Resources, Recycling
- Environmental Appreciation
- Preservation
- Conservation, Recycling
- Endangered Species
- Habitats

**Gr. 3-5 Infusion Activities**
- Waste Disposal
- Habitat

Please list any other activities that you do with your students regarding EE: you may continue on the back, if needed.

Conservation Speeches
Hatchin Monarch Eggs
Reports; Endangered Species & Biomes Project
### Wisconsin Curriculum Model for Environmental Education

#### Figure 25

<table>
<thead>
<tr>
<th>SUBGOALS</th>
<th>GRADE LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>K</td>
</tr>
<tr>
<td>Perceptual Awareness</td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td></td>
</tr>
<tr>
<td>Environmental Ethic</td>
<td></td>
</tr>
<tr>
<td>Citizen Action Skills</td>
<td></td>
</tr>
<tr>
<td>Citizen Action Experience</td>
<td></td>
</tr>
</tbody>
</table>

#### KEY

- **Major Emphasis**
- **Minor Emphasis**
The need to develop educational programs that enable student citizens to acquire a universal environmental ethic has been recognized both nationally and internationally. Such an ethic, it is believed, would result in adult citizens working to prevent and resolve environmental problems and issues, thereby ensuring a sustainable future for all of Earth's inhabitants. Programs of this type should be developed with the following goal in mind.

**The goal of environmental education is to help students become environmentally aware, knowledgeable, skilled, dedicated citizens who are committed to work, individually and collectively, to defend, improve, and sustain the quality of the environment on behalf of present and future generations of all living things.**

Five subgoals may be extracted from this goal statement.

**Perceptual Awareness:** To help students develop the ability to perceive and discriminate among stimuli; to process, refine, and extend those perceptions; and to concurrently acquire an aesthetic sensitivity to both natural and built environments.

**Knowledge:** To help students acquire a basic understanding of how the natural environment functions, how its functioning is affected by human activity, and how harmony between human activity and the natural environment may be achieved.

**Environmental Ethic:** To help students develop a universal ethic on which they may act to defend, improve, and sustain the quality of the environment.

**Citizen Action Skills:** To help students develop the skills needed to identify, investigate, and take action toward the prevention and resolution of environmental issues.

**Citizen Action Experience:** To help students gain experience in applying acquired perceptual awareness, knowledge, an environmental ethic, and citizen action skills in working toward the prevention and resolution of environmental issues at all levels, local through universal.

### Subgoal: Perceptual Awareness

To help students develop the ability to perceive and discriminate among stimuli; to process, refine, and extend those perceptions; and to concurrently acquire an aesthetic sensitivity to both natural and built environments.

Perceptual awareness develops when a stimulus, a sensory input from outside the body, is combined with thoughts and feelings inside the body to produce meaning. A program planned to help students develop a perceptual awareness encompasses much of receiving and responding,
Minor emphasis: citizen action skills, and citizen action experience, perceptual awareness.

Grades 3-6

By third grade, children ages 8 to 9 should have developed the process skills that facilitate the construction of knowledge. Most are now in Piaget's concrete operational stage (Figure 12, page 53) and many are able to deal with objectives at levels 2.00 Comprehension and 3.00 Application, in the Taxonomy of Educational Objectives: Cognitive Domain (Figure 11, pages 45-46). As the sensory system of the brain (Figure 19, page 65) continues to develop, these children are able to perform elementary logical operations and become better at perceiving the kinds of information listed in Figure 20, page 66. Each student develops a personal best learning style (Figures 21 and 22, pages 67-68) and curriculum planners and teachers must attend to this by providing a variety of learning experiences so that every student has opportunities for efficient learning. The knowledge subgoal should receive major emphasis in grades 3-6.

The process skills of the perceptual awareness subgoal are utilized as students learn to construct higher and higher levels of knowledge. If these skills are adequately developed in grades K-3, fewer teaching activities need to concentrate on their development in grades 3-6. However, some instruction may be needed on higher-level process skills such as inferring, predicting, analyzing, and interpreting. But the overall emphasis on this subgoal is minor at these grade levels.

Early in this time period, students have not yet developed a personal environmental ethic. They have entered stage two of value formation (Figure 23, page 70), and most are functioning at level 3.0 Valuing, of the Taxonomy of Educational Objectives: Affective Domain (Figure 9, pages 39-40). By the end of the period, some students are beginning to develop a personal environmental ethic. Some are at stage three of value formation (Figure 23, page 70), and some are beginning to function at level 4.0 Organization, of the Taxonomy of Educational Objectives: Affective Domain (Figure 9, pages 39-40). The environmental ethic subgoal should receive a major emphasis at this level.

As indicated in the discussion of the subgoals of citizen action skills and citizen action experience in section 3, there is also a set of generic learning skills to be emphasized at this level. These skills constitute the basis for the development of true citizen action skills. However, by the end of this period many students are able to operate as well at levels 2.00 Comprehension and 3.00 Application, of the Taxonomy of Educational Objectives: Cognitive Domain (Figure 14, page 57). Therefore, it would be appropriate to begin involving students at this level in activities that introduce true citizen action skills and provide citizen action experience.

In summary, subgoal emphasis in grades 3-6 should receive the following emphasis.

Major emphasis: Knowledge and environmental ethic.
Subgoal: Knowledge

To help students acquire a basic understanding of how the natural environment functions, how its functioning is affected by human activity, and how harmony between human activity and the natural environment may be achieved.

A knowledge base about how the natural environment functions is essential, for without such knowledge citizens cannot make wise decisions about how to interact with the environment and how to prevent and resolve issues resulting from those interactions.

In identifying what knowledge is important, the prevailing practice has been to choose a topical rather than a conceptual approach, to base curriculum on discrete facts rather than significant ideas that connect and provide structure to content. This latter kind of knowledge is described in level 1.30—Knowledge of the universals and abstractions in a field—in Figure 3.

Figure 3

Taxonomy of Educational Objectives: Cognitive Domain: Knowledge


1.00 Knowledge
   1.10 Knowledge of specifics
       1.11 Knowledge of terminology
       1.12 Knowledge of specific facts
   1.20 Knowledge of ways and means of dealing with specifics
       1.21 Knowledge of conventions
       1.22 Knowledge of trends and sequences
       1.23 Knowledge of classifications and categories
       1.24 Knowledge of criteria
       1.25 Knowledge of methodology
   1.30 Knowledge of the universals and abstractions in a field
       1.31 Knowledge of principles and generalizations
       1.32 Knowledge of theories and structures

Knowledge important to environmental education can be organized into the following three categories of fundamental principles.

Earth's Natural Environment

This category includes knowledge about relationships between Earth's energy budget and its life-support system and knowledge about the life-support system itself. The primary source of the principles in this category is natural science curricula.

The grand show is eternal. It is always sunrise somewhere; the dew is never all dried at once; a shower is forever falling; water vapor is ever rising. Eternal sunrise, eternal sunset, eternal dawn and gloaming, on sea and continents and islands, each in its turn, as the round earth rolls.
—John Muir
Humans as Ecosystem Components

This category includes knowledge about how humans use ecosystems to satisfy their needs and desires, the ecological dominance of humans, the effects of ecosystems on humans, and the continuous nature of ecosystem-human interactions. Some principles included in this category are drawn from natural science curricula and others from social studies curricula.

Harmony Between Human Activity and the Natural Environment

This category includes knowledge about the barriers to and methods of achieving harmony and the basic procedures used to pursue harmony. The principles included in this category are drawn from social studies curricula.

These three categories of fundamental principles are presented in outline form in Figures 4, 5, and 6, generally in terms of level 1.30—Knowledge of the universals and abstractions in a field—but all levels of knowledge are represented. In addition, associated conceptual elements of each principle are provided.

If humans were to disappear from Earth, the other plants and animals would largely be unaffected; if the other plants and animals were to disappear, however, human beings would disappear as well.

—Bruce Wallace
The Relationship of Knowledge to the Other Subgoals

The success of the basic procedure outlined in part B of Figure 6 depends on how well the fundamental principles included in Figures 4 and 5 are understood and applied. The process skills of the perceptual awareness subgoal are used to construct this knowledge, and as it accumulates the student develops a different kind of awareness, a conceptual awareness. A conceptual awareness enables the student to recognize that something within an ecosystem is not the way it should be and that the basic procedure of part B, Figure 6 needs to be implemented. Thus this basic procedure is closely related to the subgoals of citizen action skills and citizen action experience.

Subgoal: Environmental Ethic

To help students develop a universal ethic on which they may act to defend, improve, and sustain the quality of the environment.

Environmental issues are not only factual questions such as those dealt with by natural and social scientists, but ethical questions—questions about proper goals and actions for society and the individuals composing it. An environmental ethic that helps to preserve the ecological integrity of not just Earth, but of the entire universe, must be part of each person's total being.

The Nature of an Ethic

An ethic is a sense of what is fundamentally right or wrong, a self-imposed moral code that helps an individual determine relative values, make choices regarding them, and accept personal responsibility for those choices. An ethic develops as a person experiences and learns from making moral decisions. At any point in a person's life, he or she subscribes to a particular set of beliefs, attitudes, and values. As the person experiences situations in which moral decisions must be made, those beliefs, attitudes, and values may change (see page 70). As the person matures into adulthood, these beliefs, attitudes, and values become a self-imposed moral code, a sense of what is fundamentally right or wrong.

Thus, it is necessary to understand the nature of beliefs, attitudes, and values in order to understand the nature of ethics. Figure 7 defines, provides examples, and shows the relationships between these three terms.
Beliefs, Attitudes, Values, and Ethics

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief</td>
<td>A simple proposition, conscious or unconscious, inferred from what a person says or does, which can be preceded by the phrase, “I believe that...”</td>
<td>“I believe that world population growth is the basis for many environmental problems in Third World nations.”</td>
</tr>
<tr>
<td>Attitude</td>
<td>An aggregation of related beliefs, a part of a belief system.</td>
<td>“I dislike large cities because all the motor vehicles make so much noise.”</td>
</tr>
<tr>
<td>Value</td>
<td>Something an individual considers to be very important and worthy of being cherished.</td>
<td>“I value a quiet environment.”</td>
</tr>
</tbody>
</table>

Beliefs, attitudes, and values are always directed toward tangible objects and events or intangible ideas and thoughts and can be classified. Most people agree that there is a set of universally accepted values, some that deal with behavior and some that deal with desirable conditions resulting from those behaviors. Some universally accepted values may include cleanliness, cross-cultural empathy/concern, ecologically positive behavior, forgiveness, honesty, kindness, love of others, love of self, politeness, responsibility, tolerance, a balanced global ecosystem, education, equality, freedom for all people, inner harmony, love and respect for Earth, moral courage, self-reliance, sustainable development, wisdom, a world at peace, and a world of beauty. (Caduto, 1985)

Values also may be categorized as they are in the following list. (Hungerford, 1992)

**Aesthetic:** an appreciation of beauty in the environment through the use of the senses.

**Cultural:** a concern for the continuation/preservation of tribal or societal knowledge, beliefs, values, art, customs, and so forth.

**Ecological:** a concern for the maintenance of the integrity of natural systems, including homeostasis and diversity.

**Economic:** a concern for the accumulation, use, and exchange of money and materials.

**Educational:** a concern for the accumulation, use, and communication of knowledge.
Egocentric: a desire to focus on individual self-satisfaction and fulfillment; a “me” orientation.

Ethical/Moral: a concern for present and future responsibilities, rights, wrongs, and “should and should nots” concerning human-to-human interactions and human-to-environment interactions.

Health: a concern for the maintenance of environmental conditions contributing to a positive human physiological state.

Political: a concern for activities, functions, and policies of governments and their agents.

Recreational: a concern for the maintenance of conditions contributing to opportunities for leisure activities.

Religious: a concern for belief systems based on faith and dogma.

Scientific: a concern for those attributes associated with empiricism and empirical research.

Social: a concern for shared human empathy, feelings, status, and other human interactions.

Environmental attitudes and values also might be directed toward and grouped by the following headings:

- the natural environment;
- human relationships with nature;
- the built environment, which results from human design and development;
- one’s self-image; and
- other people, including future generations.

Developing an Environmental Ethic

Research shows that moral development occurs in stages (see section 4). Michael Caduto points out that students in grades K-6, or up to an age of 11 or 12 years, have not yet developed higher powers of cognitive and moral reasoning or a personal environmental ethic. They require assistance in making most moral decisions. It is important that students

- acquire a set of positive social and environmental values as part of a general moral education provided by the family and other institutions (see page 70);
- develop a personal environmental ethic based on the realization that people are part of ecosystems, that what is good for ecosystems is also good for people, that the quality of the environment and the quality of life are directly related, and that all people have a right to share in the benefits ecosystems provide;
- develop the ability to function as a morally literate person capable of making conscious, caring, responsible moral decisions; and
- satisfy their essential human needs in order that they eventually become a self-actualized, integrated person capable of being and willing to be concerned with social and environmental moral issues.

Ethics is the wisdom that places human action in its full context. Since individuals seldom see this full perspective, ethics grows communally, and takes on communal enforcement. The challenge, now, is to recognize the standing of the nonhuman world as part of our community, whose fate is entwined with ours.

—David Oates
As students move into their teens and into higher grade levels, many begin to use higher levels of cognitive and moral reasoning and develop a personal environmental ethic. They develop the ability to make moral decisions on their own. It is important that these students

- achieve greater awareness and understanding of their and other peoples' social and environmental values and how these affect behavior;
- learn to compare their personal values with those most beneficial to social and environmental welfare, thus encouraging further development of a personal environmental ethic; and
- satisfy their essential human needs so they may continue to become a self-actualized, integrated, morally literate person concerned with and actively promoting both social and environmental welfare.

**Illustrative Learner Outcomes for an Environmental Ethic**

As stated earlier in this section, the perceptual awareness subgoal is in part related to the two lowest levels—receiving and responding—of the Taxonomy of Educational Objectives: Affective Domain. The environmental ethic subgoal also includes those two levels plus the remaining three: valuing, organization, and characterization by a value or value complex (Figure 8).

---

**Figure 8**

**Taxonomy of Educational Objectives: Affective Domain**


**Subgoals: Perceptual awareness and environmental ethic**

1.0 Receiving (attending)
   - 1.1 Awareness
   - 1.2 Willingness to receive
   - 1.3 Controlled or selective attention

2.0 Responding
   - 2.1 Acquiescence in responding
   - 2.2 Willingness to respond
   - 2.3 Satisfaction in response

**Subgoal: Environmental ethic**

3.0 Valuing
   - 3.1 Acceptance of a value
   - 3.2 Preference of a value
   - 3.3 Commitment

4.0 Organization
   - 4.1 Conceptualization of a value
   - 4.2 Organization of a value system

5.0 Characterization by a value or value complex
   - 5.1 Generalized set
   - 5.2 Characterization (developing a consistent philosophy of life)

\[ \ldots \] Understanding the global dimensions of the environmental crisis is merely a realistic observation about the scale of the planet's mismanagement. What is also needed, as many others have noted, is a deeper, more spiritual approach to nature from which we can derive an environmental ethic.

—Peter Borrelli

---

The ecological worldview begins with factual science, but ends with conclusions about values.

—David Oates
Appendix H. First Audit Tool for Standard A (2/13)

Last Name: ____________________ Subject: ____________________ Gr. _____

List topics & activities under each standard, that you use to teach it.

ie. Topic: sc.-plants    Activity: measuring bean seed growth

Circle any part of the standard that you do not teach yet.
Note in the margin any K-3 activities that teach the standard before the students reach your classroom.

EE Standards: A. Questioning and Analysis

Content Standard:
Students in Wisconsin will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

Performance Standards – by the end of Grade 4 students will:
A.4.1 Make observations, ask questions and plan environmental investigations.

A.4.2 Collect information, make predictions, and offer explanations about questions asked.

A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.

A.4.4 Communicate their understanding to others in simple terms.
For Grade 5 Teachers: List the topic and activities that you use to teach any of the standards. Circle *any part* of the standard that you need curriculum to teach it.

**Performance Standards** – by the end of Grade 8 students will:

A.8.1 Identify environmental issue questions that can be investigated using resources and equipment available.

A.8.2 Collect information from a variety of resources, conduct experiments, and develop possible solutions to their investigations.

A.8.3 Use techniques such as modeling and simulating to organize information gathered in their investigations.

A.8.4 Use critical-thinking strategies to interpret and analyze gathered information.

A.8.5 Use the results of their investigations to develop answers, draw conclusions, and revise their personal understanding.

A.8.6 Communicate the results of investigations by using a variety of media and logically defend their answers.
## Appendix I. Teacher Handout (4/17)

### What's New

<table>
<thead>
<tr>
<th>EE Works</th>
<th></th>
</tr>
</thead>
</table>

### EE Facts

Academic standards specify what students should know and be able to do at a particular point in their schooling. The following academic standards for EE were developed by a task force appointed by the state superintendent. The task force was comprised of educators, parents, board of education members, and business and industry people.

### EE Documents

<table>
<thead>
<tr>
<th>Environmental Literacy</th>
<th>Questioning and Analysis-</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Changing EE Monthly Activities</strong></td>
<td>Students in Wisconsin will use credible research methods to investigate environmental questions, review their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.</td>
</tr>
<tr>
<td><strong>Research in EE EE Champions</strong></td>
<td>Knowledge of Environmental Processes and Systems-</td>
</tr>
<tr>
<td><strong>Archive</strong></td>
<td>Environmental Issue Investigation Skills-</td>
</tr>
<tr>
<td><strong>Additional Links</strong></td>
<td>Decision and Action Skills-</td>
</tr>
<tr>
<td><strong>Homepage</strong></td>
<td>Personal and Civic Responsibility-</td>
</tr>
</tbody>
</table>

Students in Wisconsin will demonstrate an understanding of the natural environment and the interrelationships among natural systems. Students in Wisconsin will be able to identify, investigate, and evaluate environmental problems and issues. Students in Wisconsin will use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills. Students in Wisconsin will develop an understanding and commitment to environmental stewardship.

For the complete "Wisconsin's Model Academic Standards for Environmental Education," please click here.

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http://www.uwsp.edu/cnr/eeworks/DPIguidelines.htm

2/11/02
Performance Standards

By the end of grade four, students will:

THE CHARACTERISTICS OF ORGANISMS

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
K-3rd Grade Teachers: Please check this revised sheet and make additions to show as complete a view of the EE standards you already teach. The columns at the far right are the part(s) of the standard listed just above. Please "X" each specific part of the standard addressed by EACH topic. Feel free to abbreviate for the class and topics to make it easier to complete, ie. Sc, Rdg, SS. For the activity, some need more detail (again abbreviate) ie. Exp, Disc, Wkst, Vd, Rdg. The "Performance" is to record how you check for student learning. Please be sure to complete this for each topic. If you grade Lab books/write-ups; or test: MC, T/F, essay; or describe other ie. Speech; please be specific.

Please be sure that all students are receiving all of the information that you include. If a teacher has a separate unit that no one else teaches-please do not include it.

EE Standards: A. Questioning and Analysis

Content Standard:
Students in Wisconsin will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

Performance Standards – by the end of Grade 4 students will:
A.4.1 Make observations, ask questions, and plan environmental investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.I. plants</td>
<td>grow bean seeds</td>
<td>lab worksheet</td>
</tr>
</tbody>
</table>

A.4.2 Collect information, make predictions, and offer explanations about questions asked.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Info/Pred/Expln</td>
</tr>
</tbody>
</table>

A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ans/Conc/Revise</td>
</tr>
</tbody>
</table>
A.4.4 Communicate their understanding to others in simple terms.

Topic: __________________________ Activity: __________________________ Performance: Communicate

On this page please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

Class: Topic: __________________________ Activity: __________________________ Performance: EE Issue
**Elementary School’s Information-Notes**

Principal: Dick Baudek  
Southside School 269-8186  
Secretary: Clarisse  
1023 Walrath St.

Leon School 269-4600  
Secretary: Marty  
20538 Jameson Rd

** art teacher discussed the interest in using more environmental words and ideas, but lacked the knowledge of what was being taught in the classrooms. She requested a list of words that matches, by grade, to work from.

Principal: Carolyn Malan-Jenkins  
Lawrence-Lawson School 269-3181  
429 N. Black River St.

Cataract School 272-3111  
Cataract

** first year teacher brought binder of standards correlations for other subjects but noted that it contained information about texts, that are not being used in their entirety, therefore do not demonstrate “actual” standards being taught.

Principal: Mike Roddick  
Lakeview School 269-6144  
711 Pine St

Maplewood School 269-8133  
900 E. Montgomery St.
Staff Meeting Announcement

Time: Wednesday, April 24th from 3-4 pm

Place: Southside LMC

Who: K-3 Reg. Ed Teachers; Art & Music of Leon & Southside

What: Environmental Standards Survey w/Kristen Mueller

To Bring: Lesson Plan Books of what you taught this year, an optimistic attitude, and an Earth Day/Arbor Day feeling 😊

Why: I am completing my Master’s project in Natural Resources at Stevens Point. I am working with Lisa Snyder, the curriculum director, to survey/audit the staff, as to the Environmental Education Standards that are already being taught. I have devised a tool that can address the issue that seems to be very time efficient and easy to convey information. You will be participating by sharing what standards you already teach throughout your curriculum. I look forward to meeting and working with you, to benefit the students of the Sparta School District.
## EE Standards: A. Questioning and Analysis

**Content Standard:**
Students in Wisconsin will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

**Performance Standards** – by the end of Grade 4 students will:

**A.4.1** Make observations, ask questions, and plan environmental investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Obs/Qstn/Pln</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td><strong>Plants</strong></td>
<td>plant seeds</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pocket garden</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plant parts diagram</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sequencing</td>
<td>X</td>
</tr>
<tr>
<td>Art</td>
<td></td>
<td>Draw caterpillars/butterflies</td>
<td>X</td>
</tr>
<tr>
<td>LL</td>
<td><strong>Plants</strong></td>
<td>growing plants from seed</td>
<td>visual/disc.</td>
</tr>
<tr>
<td></td>
<td><strong>Lifecycles</strong></td>
<td>butterfly/frog metamorphosis</td>
<td>seq. cards</td>
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<tr>
<td></td>
<td><strong>Seasons</strong></td>
<td>graph weather changes</td>
<td>obs.</td>
</tr>
<tr>
<td></td>
<td><strong>All themes</strong></td>
<td>KWL/web/chart</td>
<td>verbal/written/disc</td>
</tr>
<tr>
<td>LV</td>
<td><strong>Plants</strong></td>
<td>grow marigolds</td>
<td>journal/disc</td>
</tr>
</tbody>
</table>

**A.4.2** Collect information, make predictions, and offer explanations about questions asked.

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<th>Info/Pred/Expln</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td><strong>Plants</strong></td>
<td>pocket garden/plant seeds</td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td><strong>Apples/Pumpkins</strong></td>
<td>sequencing</td>
<td>put in order</td>
</tr>
</tbody>
</table>
A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Ans/Conc/Revise</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Art</td>
<td>Draw Plants</td>
<td>project X X</td>
</tr>
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</table>

A.4.4 Communicate their understanding to others in simple terms.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Communicate X</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Plants</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>All Themes</td>
<td>class discussion discussion X</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Journals</td>
<td>sharing disc. X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class books</td>
<td>contributing to the bk X</td>
</tr>
<tr>
<td>LV</td>
<td>Apple/pumpkins</td>
<td>large group disc group sharing X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plants</td>
<td>discussions</td>
<td>group sharing X</td>
</tr>
<tr>
<td></td>
<td>Earth Day</td>
<td>Worksheets</td>
<td></td>
</tr>
</tbody>
</table>
EE Standards: B. Knowledge of Environmental Processes & Systems

Content Standard:
Students in Wisconsin will demonstrate an understanding of the natural environment and the interrelationships among natural systems.

Performance Standards – by the end of Grade 4 students will:

Energy and Ecosystems:

B.4.1 Describe the flow of energy in natural systems, citing the sun as the source of energy on the earth; e.g., a food chain.

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<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Desc. En. Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>6S</td>
<td></td>
<td></td>
<td>Disc. En. Flow</td>
</tr>
<tr>
<td>Plants</td>
<td>disc. Of plant needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plants</td>
<td>grow bean &amp; marigold seeds</td>
<td>group share/journal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compare day/night</td>
<td>group share/journal</td>
<td></td>
</tr>
</tbody>
</table>

B.4.2 Illustrate how they use energy in their daily lives.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Illus.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td></td>
<td></td>
<td>Ilus.</td>
</tr>
<tr>
<td>Food pyramid</td>
<td>disc.; Create a model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>NSP speaker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car</td>
<td>come in</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.4.3 List sources of energy, distinguishing between renewable and nonrenewable sources.

<table>
<thead>
<tr>
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<th>Activity</th>
<th>Performance</th>
<th>List/Ren-non</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

B.4.4 List the components of an ecosystem, including the qualities of a healthy habitat.

<table>
<thead>
<tr>
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<th>Activity</th>
<th>Performance</th>
<th>List comp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ponds &amp; Forest</td>
<td>compare dif. b/w land &amp; water</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>How we shouldn't pollute</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### B.4.5 Describe natural and human-built ecosystems in Wisconsin

**Topic:**  
**Activity:**  
**Performance:** Describe eco.

### B.4.6 Cite examples of how different organisms adapt to their habitat

**Topic:**  
**Activity:**  
**Performance:** Cite Adapt.

<table>
<thead>
<tr>
<th>Seasons</th>
<th>disc. Changes in animals &amp; humans in seasons</th>
</tr>
</thead>
</table>

### B.4.7 Draw a simple hydrologic cycle

**Topic:**  
**Activity:**  
**Performance:** Draw

### Natural Resources and Environmental Quality

### B.4.8 Describe and give examples of natural resources; e.g., water, minerals, soils, air

**Topic:**  
**Activity:**  
**Performance:** Describe/Examp.

### B.4.9 Distinguish between renewable and nonrenewable resources

**Topic:**  
**Activity:**  
**Performance:** Distinguish

### B.4.10 Describe how they use natural resources in their daily lives

**Topic:**  
**Activity:**  
**Performance:** Describe

<table>
<thead>
<tr>
<th>Water</th>
<th>Disc. when appropriate</th>
</tr>
</thead>
</table>

### B.4.11 List jobs in the community that result from or are influenced by processing and using natural resources

**Topic:**  
**Activity:**  
**Performance:** List

### B.4.12 Determine the cause of different types of pollution

**Topic:**  
**Activity:**  
**Performance:** Determine

<table>
<thead>
<tr>
<th>Earth day</th>
<th>Disc. Litter as pollution</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Pollution</th>
<th>Disc. in water and in air</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Earth Day</th>
<th>Disc. &amp; clean up litter participation</th>
</tr>
</thead>
</table>
EE Standards: C. Environmental Issue Investigation Skills

Content Standard:
Students in Wisconsin will be able to identify, investigate, and evaluate environmental problems and issues.

Performance Standards – by the end of Grade 4 students will:
C.4.1 Identify environmental problems and issues

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>S6 Earth Day</td>
<td>Sc. Bk</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Where does garbage go?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL Earth Day</td>
<td>Trash walk</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>Rainforest</td>
<td>Research Animals as a Class</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>LV Earth Day</td>
<td>Bks/disc's</td>
<td>Worksheet &amp; journal</td>
<td>X</td>
</tr>
</tbody>
</table>

C.4.2 Apply ideas of past, present, and future to specific environmental issues

C.4.3 Identify people and groups of people that are involved in the issue

C.4.4 Identify some of the decisions and actions related to the issue

C.4.5 Identify proposed solutions to the issue and discuss arguments for and against the issue
**Content Standard:**
Students in Wisconsin will use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills.

**Performance Standards** – by the end of Grade 4 students will:

D.4.1 Demonstrate knowledge of a decision-making process that includes selecting and using data, suggesting possible alternatives, predicting consequences, and being aware of available resources

D.4.2 Identify and give examples of short-term and long-term solutions to a problem

D.4.3 Identify two or more ways to take positive environmental action; e.g., posters, letters, and speeches

D.4.4 Communicate with local, state, or national officials regarding an environmental topic

D.4.5 Explain how they can influence an environmental issue

D.4.6 Develop a plan, either individually or in a group, to preserve the local environment
**EE Standards: E. Personal and Civic Responsibility**

**Content Standard:**
Students in Wisconsin will develop an understanding and commitment to environmental stewardship.

**Performance Standards** – by the end of Grade 4 students will:
E.4.1 Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Earth Day</td>
<td>Trash walk</td>
<td>pick up litter</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Sort/recycle trash</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Class Disc.;recycling</td>
<td>verbal</td>
<td>X</td>
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</tbody>
</table>

E.4.2 Understand how their personal actions impact their civic responsibilities toward the environment.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Understand</th>
</tr>
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<tbody>
<tr>
<td>Earth Day</td>
<td>Litter Disc.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Child responsibility</td>
<td></td>
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</tr>
<tr>
<td>Rainforest</td>
<td>Create Mural</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>Lorax</td>
<td>Video</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>Earth Day</td>
<td>Pick up litter</td>
<td>participate</td>
<td>X</td>
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<th>Activity</th>
<th>Performance</th>
<th>EE Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Recycling</td>
<td>recycle paper</td>
<td>all year</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Plastic, aluminum</td>
<td></td>
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<tr>
<td></td>
<td>Planting trees</td>
<td>Arbor Day</td>
<td></td>
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<tbody>
<tr>
<td>SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sci: Organisms</td>
<td>grow plants</td>
<td>worksheet</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Make terrariums</td>
<td>worksheets</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Make aquarium</td>
<td>worksheets</td>
<td>X</td>
</tr>
<tr>
<td>Art</td>
<td>Draw insects</td>
<td>project</td>
<td>X</td>
</tr>
<tr>
<td>Ll</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organism Unit</td>
<td>grow seeds, plants, trees</td>
<td>obs./document</td>
<td>X</td>
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<tr>
<td></td>
<td>Obs. Animals, video</td>
<td>lab packet/disc</td>
<td>X</td>
</tr>
<tr>
<td>Pumpkins</td>
<td>seq. growth</td>
<td>observation</td>
<td></td>
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<tr>
<td></td>
<td>Field trip</td>
<td>disc.</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Video</td>
<td>disc.</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Carving/estimating size</td>
<td>obs.</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Seed #, and predict</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ll</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisms</td>
<td>grow seeds</td>
<td>science journal</td>
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A.4.2 Collect information, make predictions, and offer explanations about questions asked.

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<tr>
<td>Sci. Organisms</td>
<td>grow plants</td>
<td>worksheets</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>What &amp; how it looks</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>List similarities/diff's</td>
<td>graphs</td>
<td>X</td>
</tr>
<tr>
<td>LA</td>
<td>Journals</td>
<td>writing</td>
<td>X</td>
</tr>
<tr>
<td>Ll</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisms</td>
<td>entire book</td>
<td>journaling</td>
<td>X</td>
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<tr>
<td>Reading Theme</td>
<td>Rdg lit. non-fiction</td>
<td>Disc/Obs/Quest</td>
<td>X</td>
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<tr>
<td>“World Outside My Door”</td>
<td></td>
<td>make own books</td>
<td>X</td>
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</tbody>
</table>

M-8
A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.

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<tbody>
<tr>
<td>SS</td>
<td>Recyling</td>
<td>graphs, home lists</td>
<td>X X X</td>
</tr>
<tr>
<td>Sc/SS</td>
<td>Draw flowers</td>
<td>Hands on project</td>
<td>X X</td>
</tr>
<tr>
<td>Art</td>
<td>Entire Book</td>
<td>journal, obs,</td>
<td>X X X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disc, questioning</td>
<td></td>
</tr>
<tr>
<td>Weekly Reader</td>
<td></td>
<td>Charts, graphs, tables</td>
<td>X X</td>
</tr>
<tr>
<td>LV</td>
<td>Planting, Terr. &amp; Aquar.</td>
<td>Science journal</td>
<td>X X X</td>
</tr>
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</table>

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<th>Performance:</th>
<th>Communicate</th>
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<tr>
<td>SS</td>
<td>Coop Groups</td>
<td>journals</td>
<td>X</td>
</tr>
<tr>
<td>LA</td>
<td>Journal/student writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art</td>
<td>Draw flowers &amp; insects</td>
<td>projects</td>
<td>X</td>
</tr>
<tr>
<td>LL</td>
<td>Morning Meeting</td>
<td>disc</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Sharing about real-life Experiences</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organisms</td>
<td>partner disc</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Organisms</td>
<td>all</td>
<td>Science journal</td>
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<tbody>
<tr>
<td>LV</td>
<td>Recycling</td>
<td>disc</td>
<td>worksheets</td>
<td>disc.</td>
</tr>
<tr>
<td></td>
<td>Earth Day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conservation</td>
<td>video&quot;Recycling Rex&quot;</td>
<td>disc.</td>
<td></td>
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<tbody>
<tr>
<td><strong>LL</strong> Organisms</td>
<td>entire book</td>
<td>journaling, charts</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diagrams, disc.</td>
<td></td>
</tr>
<tr>
<td><strong>LV</strong> Organisms</td>
<td>make terr.&amp; aquariums</td>
<td>science journal</td>
<td>X</td>
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B.4.2  Illustrate how they use energy in their daily lives.

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<th></th>
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<tbody>
<tr>
<td><strong>LV</strong> Recycling</td>
<td>Disc</td>
<td>disc.</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>Electric Co. program</td>
<td>disc./journaling</td>
<td></td>
</tr>
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B.4.3  List sources of energy, distinguishing between renewable and nonrenewable sources.

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<th>List/Ren-non</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LV</strong> Weekly Reader</td>
<td>Read</td>
<td>Disc.</td>
<td></td>
</tr>
</tbody>
</table>

B.4.4  List the components of an ecosystem, including the qualities of a healthy habitat.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SS</strong> Sc. Terrariums</td>
<td>verbal</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Aquariums</td>
<td>hands on</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LL</strong> Organisms Unit</td>
<td>entire book</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>Rdg Theme, “World...Door”</td>
<td>reading lit, non-fiction</td>
<td>disc.</td>
<td>X</td>
</tr>
</tbody>
</table>
"Growing and Changing"

LV  
Organisms  Terr./Aquariums  Sc. Journal/Disc  X

B.4.5 Describe natural and human-built ecosystems in Wisconsin


SS
Sc.  Disc. Personal lives  Disc.  X

B.4.6 Cite examples of how different organisms adapt to their habitat

Topic: Activity: Performance: Cite Adapt.

SS
Sc.  Aquarium/Terrariums  make them  X

LL
Sc. Organisms  all  X
Rdg. Theme "Creepy Crawlies" rdg. Lit. disc.  Journals  X
SS Pilgrims  Rdg. Lit. disc.  Projects  X

LV
Organisms  Aqua./Terr.  Disc./Sc. Journal  X

B.4.7 Draw a simple hydrologic cycle

Topic: Activity: Performance: Draw

Natural Resources and Environmental Quality

B.4.8 Describe and give examples of natural resources; e.g., water, minerals, soils, air


B.4.9 Distinguish between renewable and nonrenewable resources

Topic: Activity: Performance: Distinguish

B.4.10 Describe how they use natural resources in their daily lives

Topic: Activity: Performance: Describe

LL
Incidental Discussions
B.4.11 List jobs in the community that result from or are influenced by processing and using natural resources

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>List</th>
</tr>
</thead>
</table>

B.4.12 Determine the cause of different types of pollution

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>List</th>
</tr>
</thead>
</table>

LV
Weekly Reader; Pollution Disc./Rdg disc X

In this space, please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

<table>
<thead>
<tr>
<th>Class</th>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>EE Issue</th>
</tr>
</thead>
</table>

LV
animals
1-Completed

**EE Standards: C. Environmental Issue Investigation Skills**

**Content Standard:**
Students in Wisconsin will be able to identify, investigate, and evaluate environmental problems and issues.

**Performance Standards** – by the end of Grade 4 students will:
C.4.1 Identify environmental problems and issues

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sc/SS</td>
<td>Weekly Reader</td>
<td>Disc</td>
<td>X</td>
</tr>
</tbody>
</table>

Ll
Earth Day
Weekly Reader

LV
Organisms

C.4.2 Apply ideas of past, present, and future to specific environmental issues

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly Reader</td>
<td>Rd</td>
<td>Disc.</td>
<td>X</td>
</tr>
</tbody>
</table>

C.4.3 Identify people and groups of people that are involved in the issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sc/SS Weekly Reader</td>
<td>Rd</td>
<td>Disc.</td>
<td>X</td>
</tr>
</tbody>
</table>

C.4.4 Identify some of the decisions and actions related to the issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sc/SS</td>
<td>Weekly Reader</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>Daily Paper</td>
<td></td>
<td>Disc.</td>
<td>X</td>
</tr>
</tbody>
</table>

C.4.5 Identify proposed solutions to the issue and discuss arguments for and against the issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify/Discuss</th>
</tr>
</thead>
</table>

M-14
EE Standards: D. Decisions and Action Skills

Content Standard:
Students in Wisconsin will use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills.

Performance Standards – by the end of Grade 4 students will:

D.4.1 Demonstrate knowledge of a decision-making process that includes selecting and using data, suggesting possible alternatives, predicting consequences, and being aware of available resources

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly Reader</td>
<td>Read</td>
<td>Disc.</td>
</tr>
</tbody>
</table>

D.4.2 Identify and give examples of short-term and long-term solutions to a problem

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Id/Examples</td>
</tr>
</tbody>
</table>

D.4.3 Identify two or more ways to take positive environmental action; e.g., posters, letters, and speeches

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Day</td>
<td>all</td>
<td>participation</td>
</tr>
</tbody>
</table>

D.4.4 Communicate with local, state, or national officials regarding an environmental topic

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Communicate</td>
</tr>
</tbody>
</table>

D.4.5 Explain how they can influence an environmental issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Explain</td>
</tr>
</tbody>
</table>

D.4.6 Develop a plan, either individually or in a group, to preserve the local environment

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbor Day</td>
<td>Tree planting</td>
<td>participation</td>
</tr>
</tbody>
</table>
EE Standards: E. Personal and Civic Responsibility

**Content Standard:**
Students in Wisconsin will develop an understanding and commitment to environmental stewardship.

**Performance Standards** – by the end of Grade 4 students will:
E.4.1 Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Id/Desc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS Sc.</td>
<td>Recycling, Picking up litter</td>
<td>playground picked up</td>
<td>X</td>
</tr>
<tr>
<td>LA</td>
<td>Journal about topic</td>
<td>Draw pictures</td>
<td>X</td>
</tr>
<tr>
<td>Earth Day</td>
<td>Disc.</td>
<td>Disc.</td>
<td>X</td>
</tr>
</tbody>
</table>

E.4.2 Understand how their personal actions impact their civic responsibilities toward the environment.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Understand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Day</td>
<td>Disc.</td>
<td>Disc.</td>
<td>X</td>
</tr>
</tbody>
</table>
**2-Completed**

**EE Standards: A. Questioning and Analysis**

**Content Standard:**
Students in Wisconsin will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

**Performance Standards** – by the end of Grade 4 students will:

A.4.1 Make observations, ask questions, and plan environmental investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Obs/Qstr/Pln</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art</td>
<td>draw butterflies</td>
<td>project</td>
<td>X</td>
</tr>
<tr>
<td>Sc-Soils</td>
<td>obs. lcompare 4 types</td>
<td>worksheet/exp.</td>
<td>X X X</td>
</tr>
<tr>
<td></td>
<td>Compost piles, worms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td>obs. Of inside/outside</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Oceans</td>
<td>research marine animals</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Weekly Reader</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weather</td>
<td>Temp.; water cycle; clouds; wind</td>
<td>X X X</td>
<td>X X X</td>
</tr>
<tr>
<td>Daily science</td>
<td></td>
<td></td>
<td>X X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Obs/Qstr/Pln</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sc-Soils</td>
<td>grow cucs in dif soils</td>
<td>wksht</td>
<td>X X</td>
</tr>
<tr>
<td></td>
<td>Observe roots</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Redworms/compost</td>
<td>X X X</td>
<td>X X</td>
</tr>
<tr>
<td>Oceans</td>
<td>show salt in oceans</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>LA Rain to Kapiti Plain</td>
<td>drought / flood disc.</td>
<td>X X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Info/Pred/Expln</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LV</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sc-Soils</td>
<td>comparing clay, sand &amp; humus hands on</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plant growth</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>Weather</td>
<td>clouds-measure various</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td>compare</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>Ocean</td>
<td>video</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>School Forest Trip</td>
<td>hands on activities..</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>Math-probability</td>
<td>hands on</td>
<td>X X X</td>
<td></td>
</tr>
</tbody>
</table>

A.4.2 Collect information, make predictions, and offer explanations about questions asked.
### SS

<table>
<thead>
<tr>
<th>Activity</th>
<th>Testing/lab sheets</th>
<th>Wkshts, Booklets, Graphs, Reports</th>
<th>Obs., Art Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-Soils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video, compost, worms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oceans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KWL-video, animal reports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weather</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KWL-video, reports, exp’s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure, chart, graph</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SS

<table>
<thead>
<tr>
<th>Activity</th>
<th>Performance: Answ./Conc./Revise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our Environment Chapter</td>
<td></td>
</tr>
</tbody>
</table>

### LL

<table>
<thead>
<tr>
<th>Activity</th>
<th>Performance: Answ./Conc./Revise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-Soils</td>
<td></td>
</tr>
<tr>
<td>planting seeds</td>
<td></td>
</tr>
<tr>
<td>Redworms</td>
<td>compost bags</td>
</tr>
<tr>
<td>LA-Nature Spy</td>
<td>collect info from picture</td>
</tr>
<tr>
<td>Be a Nature Detective</td>
<td>nature journal</td>
</tr>
</tbody>
</table>

### LV

<table>
<thead>
<tr>
<th>Activity</th>
<th>Performance: Answ./Conc./Revise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-soil</td>
<td></td>
</tr>
<tr>
<td>percolation of water</td>
<td></td>
</tr>
<tr>
<td>Grow plants</td>
<td></td>
</tr>
<tr>
<td>Weather</td>
<td>measure rain, temp, wind graph</td>
</tr>
<tr>
<td>School forest</td>
<td>hike, games, quiet minute, nose hole</td>
</tr>
<tr>
<td>Math-Probability/graph</td>
<td></td>
</tr>
</tbody>
</table>

### A.1.3

Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.

**Topic:**

- **SS**
  - Same as A4.1 & A4.2

- **LL**
  - Sc-Soils
    - compare soils, plant seeds
    - Compare growth
    - Redworms
      - compost bags
  - LA-Be a Nature Detective
    - animal track predicting

- **LV**
  - Sc-Soil
    - grow plants
  - Weather
    - predict for accuracy
  - Math-Prob./Graph
    - improve predictions & estimating
A.4.4 Communicate their understanding to others in simple terms.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Communicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Weather</td>
<td>reports, pictures, disc.</td>
<td>Same</td>
<td>X</td>
</tr>
<tr>
<td>Oceans</td>
<td>reports, pictures, drawings</td>
<td>Same</td>
<td>X</td>
</tr>
<tr>
<td>Soils</td>
<td>reports, pictures, disc.</td>
<td>Same</td>
<td>X</td>
</tr>
<tr>
<td>Ll</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sc-Soils</td>
<td>journal</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LA</td>
<td>KWL Charts</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LA-That's Incredible</td>
<td>writers workshop</td>
<td>research report</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>All Science Units</td>
<td>journals, displays, meetings, reports, Cooperative groups, Conferences</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

On this page please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

<table>
<thead>
<tr>
<th>Class: Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>EE Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ll</td>
<td>Health: trash collecting</td>
<td></td>
<td>pollution</td>
</tr>
<tr>
<td>Health: trash, unit 8</td>
<td></td>
<td></td>
<td>pollution</td>
</tr>
<tr>
<td>SS-Env. Chpt. 3</td>
<td>clean water; clean air</td>
<td></td>
<td>pollution</td>
</tr>
<tr>
<td>Ll</td>
<td>Sc-Soil</td>
<td>composting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycling</td>
<td>daily activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reporting</td>
<td>annual reports</td>
<td></td>
</tr>
</tbody>
</table>
EE Standards: B. Knowledge of Environmental Processes & Systems

Content Standard:
Students in Wisconsin will demonstrate an understanding of the natural environment and the interrelationships among natural systems.

Performance Standards – by the end of Grade 4 students will:

Energy and Ecosystems:

B.4.1 Describe the flow of energy in natural systems, citing the sun as the source of energy on the earth; e.g., a food chain.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-Weather</td>
<td>water cycle, video</td>
<td>testing, reports</td>
<td>X</td>
</tr>
<tr>
<td>Oceans</td>
<td>reading</td>
<td>testing</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-weather</td>
<td>water cycle</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Oceans</td>
<td>food chain</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-Soils</td>
<td>Plant growth</td>
<td>hands on, obs</td>
<td>X</td>
</tr>
<tr>
<td>Oceans</td>
<td>water temp video</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SS-Weekly Reader</td>
<td></td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>Sc-Sci talk and show</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

B.4.2 Illustrate how they use energy in their daily lives.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-weather</td>
<td>video</td>
<td>disc.</td>
<td>X</td>
</tr>
<tr>
<td>Electricity</td>
<td>speakers</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Health-food groups</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc-weather</td>
<td>water’s way</td>
<td>homework</td>
<td>X</td>
</tr>
</tbody>
</table>

B.4.3 List sources of energy, distinguishing between renewable and nonrenewable sources.
B.4.4 List the components of an ecosystem, including the qualities of a healthy habitat.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>List/Ren-non</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Sc-soils</td>
<td>compost, worms</td>
<td>habitat construction</td>
</tr>
<tr>
<td></td>
<td>SS-endangered animals</td>
<td>disc</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>LA-Be a Nature Detective</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

B.4.5 Describe natural and human-built ecosystems in Wisconsin

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>LA-animal tracks</td>
<td>beaver dam/lodge</td>
<td>disc</td>
</tr>
</tbody>
</table>

B.4.6 Cite examples of how different organisms adapt to their habitat

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Cite Adapt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Rdg/Sc-Oceans</td>
<td>as in B.4.1-2-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rdg-Nature Detective</td>
<td>Seasons</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SS-Environment</td>
<td>landforms</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>LA-Dinosaurs</td>
<td>adapt to habitat</td>
<td>X</td>
</tr>
</tbody>
</table>

B.4.7 Draw a simple hydrologic cycle

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Draw</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Weather</td>
<td>picture/graph cycle</td>
<td>testing, wkshts, exp.</td>
</tr>
<tr>
<td>LL</td>
<td>Weather</td>
<td>water cycle</td>
<td></td>
</tr>
</tbody>
</table>
### Natural Resources and Environmental Quality

**B.4.8** Describe and give examples of natural resources; e.g., water, minerals, soils, air

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils</td>
<td>same as 4.A1-2-3-4</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LL</td>
<td>natural resources disc</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SS-Environment</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**B.4.9** Distinguish between renewable and nonrenewable resources

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Distinguish</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV</td>
<td>recycle</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B.4.10** Describe how they use natural resources in their daily lives

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Describe</th>
</tr>
</thead>
<tbody>
<tr>
<td>So-weather</td>
<td>watercycle</td>
<td>testing/graphs</td>
<td>X</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LL</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sc-soils</td>
<td></td>
<td>testing/graphs</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ocean</td>
<td>disc.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**B.4.11** List jobs in the community that result from or are influenced by processing and using natural resources

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oakdale Electric</td>
<td>zap hotdog</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DNR</td>
<td>Smokey the Bear</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
B.4.12  Determine the cause of different types of pollution

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>S5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly Reader</td>
<td>antismoking</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>plant trees; recycle</td>
<td></td>
</tr>
<tr>
<td>Earth Day</td>
<td>pollution</td>
<td>lab-remove oil</td>
</tr>
<tr>
<td>S5-Oceans</td>
<td>discuss, read, pick up litter</td>
<td>participation</td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>
EE Standards: C. Environmental Issue Investigation Skills

Content Standard:
Students in Wisconsin will be able to identify, investigate, and evaluate environmental problems and issues.

Performance Standards – by the end of Grade 4 students will:
C.4.1 Identify environmental problems and issues

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS Weekly Reader-</td>
<td>Endangered Animals</td>
<td>Disc X</td>
</tr>
<tr>
<td></td>
<td>Recycling</td>
<td>Disc X</td>
</tr>
<tr>
<td></td>
<td>Rainforest</td>
<td>Disc. X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL Sc. Oceans</td>
<td>pollution</td>
<td>oil spill lab X</td>
</tr>
<tr>
<td></td>
<td>tornadoes/hurricanes</td>
<td>disc X</td>
</tr>
<tr>
<td>SS Environment</td>
<td>pollution</td>
<td>X</td>
</tr>
<tr>
<td>Earth Day</td>
<td>tree planting</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV Sc. Pollution</td>
<td>reports, projects</td>
<td>X</td>
</tr>
<tr>
<td>Endangered animals</td>
<td>read books, questions</td>
<td>X</td>
</tr>
<tr>
<td>Rainforest destruction</td>
<td>of progress</td>
<td>X</td>
</tr>
</tbody>
</table>

C.4.2 Apply ideas of past, present, and future to specific environmental issues

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL SS-Oceans</td>
<td>pollution lab/disc</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV History</td>
<td>Disc, of pros/cons of progress</td>
<td>X</td>
</tr>
</tbody>
</table>

C.4.3 Identify people and groups of people that are involved in the issue
Earth Day

C.4.4 Identify some of the decisions and actions related to the issue

<table>
<thead>
<tr>
<th>Topic: Composting</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify/Discuss</th>
</tr>
</thead>
</table>

C.4.5 Identify proposed solutions to the issue and discuss arguments for and against the issue

<table>
<thead>
<tr>
<th>Topic: Keep topics alive-everyone helps; everyone can make a difference</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify/Discuss</th>
</tr>
</thead>
</table>
2-Completed

EE Standards: D. Decisions and Action Skills

Content Standard:
Students in Wisconsin will use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills.

Performance Standards – by the end of Grade 4 students will:

D.4.1 Demonstrate knowledge of a decision-making process that includes selecting and using data, suggesting possible alternatives, predicting consequences, and being aware of available resources

| Topic: Soil Unit | Activity: Which soil was best for plant lab | Performance: X |
| Topic: Endangered Animals | Activity: food chains, cut less trees, x X |
| Topic: Pollution | Activity: less driving, recycle x X |
| Topic: Earth Day | Activity: video; plant trees participation x X |
| Topic: Arbor Day | Activity: video disc x X |
| Topic: Arbor Day | Activity: tree planting participation x X |
| Topic: Earth Day bags | Activity: Decorate & hand out x X |
| Topic: Letters to the editor | Activity: x X |
D.4.4 Communicate with local, state, or national officials regarding an environmental topic

**Topic:**

**Activity:**

**Performance:** Communicate

**D.4.5** Explain how they can influence an environmental issue

**Topic:**

**Activity:**

**Performance:** Explain

**D.4.6** Develop a plan, either individually or in a group, to preserve the local environment

**Topic:**

**Activity:**

**Performance:** Develop

In this space, please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

<table>
<thead>
<tr>
<th>Class:</th>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>EE Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weekly Reader</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Earth Day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycling</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2-Completed

EE Standards: E. Personal and Civic Responsibility

Content Standard:
Students in Wisconsin will develop an understanding and commitment to environmental stewardship.

Performance Standards – by the end of Grade 4 students will:
E.4.1 Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Earth Day</td>
<td>plant trees; recycle participation</td>
</tr>
<tr>
<td>LL</td>
<td>Good Citizenship</td>
<td>keep neighborhoods clean</td>
</tr>
<tr>
<td>LL</td>
<td>Earth day</td>
<td>Tree planting, litter pickup, Recycling, composting, pollution disc.</td>
</tr>
<tr>
<td>LV</td>
<td>Sound studies</td>
<td>Share, read, discuss</td>
</tr>
<tr>
<td>LV</td>
<td>Weekly Reader</td>
<td>Share, rest, discuss</td>
</tr>
<tr>
<td>LV</td>
<td>Daily Science</td>
<td>Share, read, discuss</td>
</tr>
</tbody>
</table>

E.4.2 Understand how their personal actions impact their civic responsibilities toward the environment.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Understand</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Same as E.4.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>Same as E.4.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td>Same as E.4.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On this page, please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

Class: Topic Activity Performance EE Issue

LL
Weekly Reader
3-Completed

EE Standards: A. Questioning and Analysis

Content Standard:
Students in Wisconsin will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

Performance Standards – by the end of Grade 4 students will:
A.4.1 Make observations, ask questions, and plan environmental investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Obs/Qstn/Pln</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Plant kit</td>
<td>grow Brassica plants</td>
<td>lab book</td>
</tr>
<tr>
<td></td>
<td>School forest</td>
<td>pre-forest</td>
<td>KWL</td>
</tr>
<tr>
<td></td>
<td>Daily Science</td>
<td>Varies-question of day</td>
<td>Disc.</td>
</tr>
<tr>
<td></td>
<td>Weekly Reader</td>
<td>Read &amp; discuss</td>
<td>Worksheet</td>
</tr>
<tr>
<td>LL</td>
<td>Sc</td>
<td>Plant kit</td>
<td>lab book</td>
</tr>
<tr>
<td></td>
<td>Rdg</td>
<td>Themes</td>
<td>Disc, Theme tests</td>
</tr>
<tr>
<td></td>
<td>Sc</td>
<td>Moon Unit</td>
<td>Obs</td>
</tr>
<tr>
<td>LV</td>
<td>Plants</td>
<td>Planting a control quad</td>
<td>obs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exp. Quad based on a ?</td>
<td>journal on comp.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>They want answer</td>
<td></td>
</tr>
</tbody>
</table>

A.4.2 Collect information, make predictions, and offer explanations about questions asked.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Info/Pred/Expln</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Plants</td>
<td>choose variable/control</td>
<td>lab wkshts</td>
</tr>
<tr>
<td></td>
<td>Changes</td>
<td>water cycle</td>
<td>wkshts</td>
</tr>
<tr>
<td>LL</td>
<td>Rdg</td>
<td>KWL's, tables &amp; graphs,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Venn diagrams, picture walks, bks</td>
<td></td>
</tr>
<tr>
<td>Sc</td>
<td></td>
<td>“”</td>
<td></td>
</tr>
<tr>
<td>SS</td>
<td></td>
<td>“”</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td>“”</td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td>Plants</td>
<td>predicting growth &amp; measure</td>
<td>computer journal</td>
</tr>
</tbody>
</table>

M-29
**Research report**
- animal-endangered
- Food-harvesting; dishes
- collect info; senses
- rainbow scavenger hunt
- Oh Deer game

**Digital pictures**
- written report X

**School Forest**
- animal-endangered
- Food-harvesting; dishes
- collect info; senses
- rainbow scavenger hunt
- Oh Deer game

**oral disc; journal disc.**

### A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Ans/Conc/Revise</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Plant unit</td>
<td>wkshts, record data</td>
<td>X X X</td>
</tr>
<tr>
<td>LL</td>
<td>Rdg</td>
<td>see A.4.2</td>
<td>X X X</td>
</tr>
<tr>
<td>SC</td>
<td>Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td>Plants</td>
<td>science exp. Sheets</td>
<td>hyp., obs., concl. X X X</td>
</tr>
</tbody>
</table>

### A.4.4 Communicate their understanding to others in simple terms.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Communicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>School Forest</td>
<td>mural</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Booklet</td>
<td>forest layers X</td>
</tr>
<tr>
<td></td>
<td>Weekly Reader</td>
<td>Read &amp; Discuss</td>
<td>worksheet X</td>
</tr>
<tr>
<td></td>
<td>Changes</td>
<td>Water Cycle</td>
<td>Model of water cycle X</td>
</tr>
<tr>
<td>LL</td>
<td>Rdg</td>
<td>various</td>
<td>writing, speaking, X</td>
</tr>
<tr>
<td>S5</td>
<td>SC</td>
<td>Plays, posters, X</td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>Health</td>
<td>Research reports, X</td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td>Plant</td>
<td>Student made books X</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sharing of exp. Form</td>
<td>oral X</td>
</tr>
</tbody>
</table>

M-30
On this page please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

<table>
<thead>
<tr>
<th>Class:</th>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>EE Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>Earth Day</td>
<td>Whadayamean</td>
<td>Read, decorate grocery, bags to encourage Conservation &amp; recycling</td>
<td>various</td>
</tr>
</tbody>
</table>
3-Completed

EE Standards: B. Knowledge of Environmental Processes & Systems

Content Standard:
Students in Wisconsin will demonstrate an understanding of the natural environment and the interrelationships among natural systems.

Performance Standards – by the end of Grade 4 students will:

Energy and Ecosystems:

B.4.1 Describe the flow of energy in natural systems, citing the sun as the source of energy on the earth; e.g., a food chain.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly Reader</td>
<td>Disc</td>
<td>back page</td>
<td>X</td>
</tr>
<tr>
<td>Plant</td>
<td>grow under grow lights</td>
<td>lab</td>
<td>X</td>
</tr>
<tr>
<td>Sc-Moon Unit</td>
<td>trade book</td>
<td>Disc</td>
<td>X</td>
</tr>
<tr>
<td>Sc-Plant Unit</td>
<td>Kit</td>
<td>test, obs, lifecycle</td>
<td>X</td>
</tr>
<tr>
<td>Plants</td>
<td>Disc</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>School Forest</td>
<td>Games &amp; Disc.</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

B.4.2 Illustrate how they use energy in their daily lives.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Science</td>
<td>question of the day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>Food pyramid, text, video</td>
<td>Disc</td>
<td></td>
</tr>
<tr>
<td>SS-Weekly Reader</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthday</td>
<td>Disc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.4.3 List sources of energy, distinguishing between renewable and nonrenewable sources.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>List/Ren-non</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>text book</td>
<td>disc</td>
<td>X</td>
</tr>
<tr>
<td>B.4.4</td>
<td>List the components of an ecosystem, including the qualities of a healthy habitat.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Topic:</strong></td>
<td><strong>Activity:</strong></td>
<td><strong>Performance:</strong></td>
<td><strong>List comp.</strong></td>
</tr>
<tr>
<td>LV</td>
<td>Whadayamean?</td>
<td>Decorate bags</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.4.4.4</th>
<th>Describe natural and human-built ecosystems in Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topic:</strong></td>
<td><strong>Activity:</strong></td>
</tr>
<tr>
<td>LV</td>
<td>School Forest</td>
</tr>
<tr>
<td></td>
<td>Plants</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.4.6</th>
<th>Cite examples of how different organisms adapt to their habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topic:</strong></td>
<td><strong>Activity:</strong></td>
</tr>
<tr>
<td>LV</td>
<td>Animals World of Nature</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.4.7</th>
<th>Draw a simple hydrologic cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topic:</strong></td>
<td><strong>Activity:</strong></td>
</tr>
<tr>
<td>LV</td>
<td>Changes Kit</td>
</tr>
<tr>
<td></td>
<td>Matter/Changes Kit</td>
</tr>
<tr>
<td></td>
<td>Weather</td>
</tr>
</tbody>
</table>
Natural Resources and Environmental Quality

### B.4.8 Describe and give examples of natural resources; e.g., water, minerals, soils, air

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Science</td>
<td>Daily question</td>
<td>disc</td>
<td></td>
</tr>
<tr>
<td>SS Landforms</td>
<td>Read &amp; Discuss</td>
<td>classification</td>
<td>X</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>Chapter 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>Text book</td>
<td>Disc.</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Whadayamean? Book</td>
<td>disc</td>
<td>X</td>
</tr>
</tbody>
</table>

### B.4.9 Distinguish between renewable and nonrenewable resources

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Distinguish</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Text</td>
<td>Disc</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Whadayamean? Book</td>
<td>disc</td>
<td>X</td>
</tr>
</tbody>
</table>

### B.4.10 Describe how they use natural resources in their daily lives

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Describe</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Daily Science</td>
<td>Question of the day, water cycle, classification, &amp; Interdependence</td>
<td>disc, lab, lab</td>
</tr>
<tr>
<td>Changes Kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>Text</td>
<td>disc</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Whadayamean? Book</td>
<td>disc</td>
<td>X</td>
</tr>
</tbody>
</table>

### B.4.11 List jobs in the community that result from or are influenced by processing and using natural resources

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>List</th>
</tr>
</thead>
</table>
**B.4.12** Determine the cause of different types of pollution

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Determine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>Ranger Discussion</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Plants</td>
<td>Beekeeper Disc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Weekly Reader          | Read/Discuss          | worksheet   | X         |
| Daily Science          | Question              |             | X         |

| LV                     |                       |             |           |
| Earth Day              |                       | discussion  | X         |
| Whadayamean? Book      |                       | discussion  | X         |

In this space, please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

<table>
<thead>
<tr>
<th>Class: Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>EE Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class recycle box</td>
<td>daily</td>
<td>participation</td>
<td></td>
</tr>
</tbody>
</table>
**3-Completed**

**EE Standards: C. Environmental Issue Investigation Skills**

**Content Standard:**
Students in Wisconsin will be able to identify, investigate, and evaluate environmental problems and issues.

**Performance Standards** – by the end of Grade 4 students will:

C.4.1 Identify environmental problems and issues

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>World of Nature</td>
<td>animal video</td>
<td>discussion</td>
</tr>
<tr>
<td>LL</td>
<td>Weekly Reader</td>
<td>Discussion</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Weekly Reader</td>
<td>Rd/Discuss</td>
<td>worksheet</td>
</tr>
</tbody>
</table>

C.4.2 Apply ideas of past, present, and future to specific environmental issues

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Apply</th>
</tr>
</thead>
</table>

C.4.3 Identify people and groups of people that are involved in the issue

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV</td>
<td>Food Reports</td>
<td>Harvest, Env. Preservation</td>
<td>written/oral reports</td>
</tr>
</tbody>
</table>

C.4.4 Identify some of the decisions and actions related to the issue

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV</td>
<td>Food Reports</td>
<td>research</td>
<td>written/oral reports</td>
</tr>
</tbody>
</table>

C.4.5 Identify proposed solutions to the issue and discuss arguments for and against the issue

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Identify/Discuss</th>
</tr>
</thead>
</table>
EE Standards: D. Decisions and Action Skills

Content Standard:
Students in Wisconsin will use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills.

Performance Standards – by the end of Grade 4 students will:
D.4.1 Demonstrate knowledge of a decision-making process that includes selecting and using data, suggesting possible alternatives, predicting consequences, and being aware of available resources

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Dec. Proc./Resrc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Kit</td>
<td>plant variable/control</td>
<td>lab books</td>
<td>X</td>
</tr>
<tr>
<td>LL</td>
<td>Plant Kit</td>
<td>lab books</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Plants</td>
<td>labs</td>
<td>X</td>
</tr>
</tbody>
</table>

D.4.2 Identify and give examples of short-term and long-term solutions to a problem

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Id/Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Daily Science</td>
<td>disc</td>
<td>X</td>
</tr>
<tr>
<td>LL</td>
<td>Sc. Plant Kit</td>
<td>lab</td>
<td>disc</td>
</tr>
<tr>
<td>LV</td>
<td>Weekly Reader</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

D.4.3 Identify two or more ways to take positive environmental action; e.g., posters, letters, and speeches

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Sc</td>
<td>Disc/Posters</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Sc</td>
<td>Plant trees</td>
<td>X</td>
</tr>
<tr>
<td>LV</td>
<td>Sc</td>
<td>Paint grocery bags</td>
<td>participation</td>
</tr>
</tbody>
</table>
D.4.4 Communicate with local, state, or national officials regarding an environmental topic

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Communicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Earth Day</td>
<td>plant trees</td>
<td>X</td>
</tr>
</tbody>
</table>

D.4.5 Explain how they can influence an environmental issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Earth Day</td>
<td>plant trees</td>
<td></td>
</tr>
<tr>
<td>Sc</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D.4.6 Develop a plan, either individually or in a group, to preserve the local environment

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Develop</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Earth Day</td>
<td>pick up litter</td>
<td></td>
</tr>
</tbody>
</table>

In this space, please include any other topics that are not included on the previous pages, that all teachers in this grade teach. Include only topics related to EE. If you teach by doing recycling, composting, or any thing like this; it will be helpful. Please use the same format:

<table>
<thead>
<tr>
<th>Class:</th>
<th>Topic</th>
<th>Activity</th>
<th>Performance</th>
<th>EE Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>Sc</td>
<td>Earth Day</td>
<td>pick up litter</td>
<td>X</td>
</tr>
</tbody>
</table>
EE Standards: E. Personal and Civic Responsibility

Content Standard:
Students in Wisconsin will develop an understanding and commitment to environmental stewardship.

Performance Standards – by the end of Grade 4 students will:
E.4.1 Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SS Pollution</td>
<td>clean up litter</td>
<td>participate</td>
<td>X</td>
</tr>
<tr>
<td>LL Sc Earth Day</td>
<td>Pick up litter</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Morning Meeting</td>
<td>Disc</td>
<td>X</td>
<td>x</td>
</tr>
<tr>
<td>LV SS Weekly Reader</td>
<td>painting</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>grocery bag</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E.4.2 Understand how their personal actions impact their civic responsibilities toward the environment.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Understand</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS Ss-Citizenship Lessons</td>
<td>questions</td>
<td>discussion</td>
<td>X</td>
</tr>
<tr>
<td>LL Sc Earth Day</td>
<td>Pick up litter</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Morning Meeting</td>
<td>Discussion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LV Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PLEASE INCLUDE ANY OTHER COMMENTS REGARDING THESE STANDARDS HERE. THIS IS THE LAST PAGE OF INQUIRY IN THIS PROCESS. Thank you for your time and efforts thus far.

SS
The 3rd grade has a school forest binder with activities.

We have videos and trade books-ex. Magic School Bus @ Waterworks.....and others
- Bill Nye the Science Guy
- World of Nature - Animals
### EE Standards: A. Questioning and Analysis

**Content Standard:**
Students in Wisconsin will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

**Performance Standards** – by the end of Grade 4 students will:
A.4.1 Make observations, ask questions, and plan environmental investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Obs/Qstn/Pln</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Art: Drawing</strong></td>
<td>Natural Object Drawings</td>
<td>Final Product</td>
<td>X</td>
</tr>
<tr>
<td><strong>Sc: Rocks &amp; Minerals</strong></td>
<td>Exp-mineral testing physical prop. of rocks</td>
<td>Lab Bks/ Test</td>
<td>X</td>
</tr>
<tr>
<td><strong>Sc: Electricity</strong></td>
<td>Exp-conductor/insulators</td>
<td>Make flashlites, Quiz, circuits-lab</td>
<td>X</td>
</tr>
<tr>
<td><strong>Sc: Chemical Testing</strong></td>
<td>Exp-</td>
<td>Lab Bks &amp; Journal</td>
<td>X</td>
</tr>
<tr>
<td><strong>Recycling</strong></td>
<td>: Rainforest Investigation Research Project, Video, recycling projects Endangered Animal Activities</td>
<td>Persuasive Essay project Lab books</td>
<td>X</td>
</tr>
<tr>
<td><strong>Arbor Day/Earth Day</strong></td>
<td>Habitat Destruction</td>
<td>Theme Test</td>
<td>Graph</td>
</tr>
<tr>
<td><strong>Rdg: Earth Patrol</strong></td>
<td>Wkly Rdr, participation plant trees, write poems, Sing songs</td>
<td>planting, essays</td>
<td>X</td>
</tr>
<tr>
<td><strong>Daily Science</strong></td>
<td>all questions can apply discussion</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

A.4.2 Collect information, make predictions, and offer explanations about questions asked.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Info/Pred/Expln</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sc: Electricity</strong></td>
<td>Dif ways to light bulb Objects conduct/insulate</td>
<td>Lab books circuits/switches</td>
<td>X</td>
</tr>
<tr>
<td><strong>Sc: Rocks &amp; Minerals</strong></td>
<td>Exp: light test, streak test</td>
<td>Lab Bks &amp; Journal</td>
<td>X</td>
</tr>
</tbody>
</table>
| **Sc: Chemical Testing** | Exp: | Record in Lab Bks & Reading books | X | X
A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Ans/Conc/Revise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc: Electricity</td>
<td>Lab books: predict, record results, &amp; observe</td>
<td>Lab Books</td>
<td>X X X</td>
</tr>
<tr>
<td>Sc: Minerals</td>
<td>Identify Rocks, minerals</td>
<td>Test, Quiz, lab</td>
<td>X X</td>
</tr>
<tr>
<td>Sc: Chemical Testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rdg: Earth Patrol Theme</td>
<td>Journal: Env. Theme &amp; Attitudes</td>
<td>Research Papers</td>
<td>X X X</td>
</tr>
</tbody>
</table>

A.4.4 Communicate their understanding to others in simple terms.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Communicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sc: Rocks/Minerals</td>
<td>Oral discussion with partners, small groups, whole class</td>
<td>Journal/Lab bks</td>
<td>X</td>
</tr>
<tr>
<td>Chemical testing</td>
<td>Reports</td>
<td>Share Lab results</td>
<td>X</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td>Form/change ideas</td>
<td>X</td>
</tr>
<tr>
<td>Sc: Internet Research</td>
<td></td>
<td>reports, speech, plays, projects</td>
<td>X</td>
</tr>
<tr>
<td>Rdg: Internet Research</td>
<td></td>
<td>report, poem, play Projects, powerpt, presentation</td>
<td>X</td>
</tr>
<tr>
<td>: Powerpoint</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Music: Earth Day</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Recycling</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
EE Standards: B. Knowledge of Environmental Processes & Systems

Content Standard:
Students in Wisconsin will demonstrate an understanding of the natural environment and the interrelationships among natural systems.

Performance Standards – by the end of Grade 4 students will:

Energy and Ecosystems:

B.4.1 Describe the flow of energy in natural systems, citing the sun as the source of energy on the earth; e.g., a food chain.

|----------------------|-------------------------------|------------------------------|---------------|

B.4.2 Illustrate how they use energy in their daily lives.

|-------------------|---------------------------------------------|-----------------------------|-------|

B.4.3 List sources of energy, distinguishing between renewable and nonrenewable sources.

<table>
<thead>
<tr>
<th>Topic: Junior Achievement</th>
<th>Activity: Identify Natural Resources</th>
<th>Performance: Wkshts; group Activities</th>
<th>List/Ren-non</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Topic: Earth Patrol: Rdg Theme</th>
<th>Activity: Environmental Video</th>
<th>Performance: Discussion</th>
<th>X</th>
</tr>
</thead>
</table>

B.4.4 List the components of an ecosystem, including the qualities of a healthy habitat.

|----------------------|-------------------------------|-----------------------------|---|

<table>
<thead>
<tr>
<th>Topic: Earth Patrol Theme</th>
<th>Activity: Read/Discussion</th>
<th>Performance: Discussion</th>
<th>X</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Topic: The Great Kapok Tree</th>
<th>Activity: Act out story as skit</th>
<th>Performance: Participation</th>
<th>X</th>
</tr>
</thead>
</table>

B.4.5 Describe natural and human-built ecosystems in Wisconsin

|--------|-----------|--------------|---------------|

M-42
<table>
<thead>
<tr>
<th>Topic: Natural Resources and Environmental Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.4.6</strong> Cite examples of how different organisms adapt to their habitat</td>
</tr>
<tr>
<td><strong>Activity:</strong> Daily Science <strong>Question of the Day</strong> <strong>Performance:</strong> Check Answers <strong>Cite Adapt.</strong></td>
</tr>
<tr>
<td><strong>B.4.7</strong> Draw a simple hydrologic cycle</td>
</tr>
<tr>
<td><strong>Activity:</strong> Daily Science <strong>Question of the Day</strong> <strong>Performance:</strong> Check</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.4.8</strong> Describe and give examples of natural resources; e.g., water, minerals, soils, air</td>
</tr>
<tr>
<td><strong>Activity:</strong> Junior Achievement <strong>Group Presentation &amp; Activities</strong> <strong>Performance:</strong> Describe/Examp.</td>
</tr>
<tr>
<td><strong>Activity:</strong> SS-Lumbering, Mining, Agriculture <strong>Performance:</strong> X</td>
</tr>
<tr>
<td><strong>Activity:</strong> Rocks &amp; Minerals <strong>Observation; relate to Wi</strong> <strong>Performance:</strong> Discussion</td>
</tr>
<tr>
<td><strong>Activity:</strong> B.4.9 Distinguish between renewable and nonrenewable resources <strong>Performance:</strong> Distinguish</td>
</tr>
</tbody>
</table>

See B.4.3

<table>
<thead>
<tr>
<th>Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.4.10</strong> Describe how they use natural resources in their daily lives</td>
</tr>
<tr>
<td><strong>Activity:</strong> Junior Achievement <strong>individual &amp; Group Projects</strong> <strong>Performance:</strong> Describe</td>
</tr>
<tr>
<td><strong>Activity:</strong> SS <strong>Video Series</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.4.11</strong> List jobs in the community that result from or are influenced by processing and using natural resources</td>
</tr>
<tr>
<td><strong>Activity:</strong> Junior Achievement <strong>Resource map</strong> <strong>Performance:</strong> List</td>
</tr>
<tr>
<td><strong>Activity:</strong> SS <strong>Video Series</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.4.12</strong> Determine the cause of different types of pollution</td>
</tr>
<tr>
<td><strong>Activity:</strong> Daily Science <strong>Question of the Day</strong> <strong>Performance:</strong> check</td>
</tr>
<tr>
<td><strong>Activity:</strong> Earth Patrol Theme &amp; Just a Dream Story <strong>Lab book follow-up</strong> <strong>Performance:</strong> Disc</td>
</tr>
</tbody>
</table>
EE Standards: C. Environmental Issue Investigation Skills

Content Standard:
Students in Wisconsin will be able to identify, investigate, and evaluate environmental problems and issues.

Performance Standards – by the end of Grade 4 students will:
C.4.1 Identify environmental problems and issues

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainforest</td>
<td>Videos, Disc’s, Research</td>
<td>Persuasive Speeches</td>
<td>X</td>
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<tr>
<td></td>
<td></td>
<td>Memorize Poems</td>
<td></td>
</tr>
<tr>
<td>Endangered Animals</td>
<td>Research, Write Letters</td>
<td>Power Point Presentation, Speeches</td>
<td>X</td>
</tr>
</tbody>
</table>

C.4.2 Apply ideas of past, present, and future to specific environmental issues

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify</th>
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</thead>
</table>
| C.4.3 Identify people and groups of people that are involved in the issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify</th>
</tr>
</thead>
</table>
| C.4.4 Identify some of the decisions and actions related to the issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify</th>
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</thead>
</table>
| C.4.5 Identify proposed solutions to the issue and discuss arguments for and against the issue

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
<th>Identify/Discuss</th>
</tr>
</thead>
</table>
Content Standard: Students in Wisconsin will use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills.

Performance Standards – by the end of Grade 4 students will:

D.4.1 Demonstrate knowledge of a decision-making process that includes selecting and using data, suggesting possible alternatives, predicting consequences, and being aware of available resources.

<table>
<thead>
<tr>
<th>Topic: Junior Achievement</th>
<th>Activity: Business Activities</th>
<th>Performance: Profit sheet, Create own Business</th>
</tr>
</thead>
</table>

D.4.2 Identify and give examples of short-term and long-term solutions to a problem.

|-----------------|-------------------------------|-------------------|

|---------------------------|-------------------------------|-----------------------------|

D.4.3 Identify two or more ways to take positive environmental action; e.g., posters, letters, and speeches.

<table>
<thead>
<tr>
<th>Topic: Endangered Animals</th>
<th>Activity: Posters</th>
<th>Performance: Posters</th>
</tr>
</thead>
</table>

D.4.4 Communicate with local, state, or national officials regarding an environmental topic.

|-----------------|---------------------------------------------|-----------------------------------|

<table>
<thead>
<tr>
<th>Topic: Protecting Animals</th>
<th>Activity: Writing Letters, Speakers</th>
<th>Performance: Quiz, Letter content</th>
</tr>
</thead>
</table>

D.4.5 Explain how they can influence an environmental issue.

<table>
<thead>
<tr>
<th>Topic: Recycling/Pollution</th>
<th>Activity: Persuasive Essays</th>
<th>Performance: Essays</th>
</tr>
</thead>
</table>

|---------------------------|-----------------------------|---------------------|

D.4.6 Develop a plan, either individually or in a group, to preserve the local environment.

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<tr>
<th>Topic:</th>
<th>Activity:</th>
<th>Performance:</th>
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</table>

M-45
**EE Standards: E. Personal and Civic Responsibility**

**Content Standard:**
Students in Wisconsin will develop an understanding and commitment to environmental stewardship.

**Performance Standards** – by the end of Grade 4 students will:
E.4.1 Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Performance:</th>
<th>Id/Desc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling</td>
<td>recycle at home &amp; school</td>
<td>participation; graph</td>
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</table>

E.4.2 Understand how their personal actions impact their civic responsibilities toward the environment.

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<th>Topic</th>
<th>Activity</th>
<th>Performance:</th>
<th>Understand</th>
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</thead>
<tbody>
<tr>
<td>Recycling</td>
<td>Discussions</td>
<td>Speeches</td>
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Appendix N.  Matrix of EE Standards K-4

There are six elementary schools, grades K-3, in the Sparta School District. These schools are paired under the direction of three principals. The following key is being used to indicate the pairing and the standards met by the corresponding curricula in the schools.

Key for the Matrix and the Audits of Wisconsin State EE Standards

SS- abbreviation for the elementary schools under the direction of Mr. Richard Baudek; Southside & Leon

LL-abbreviation for the elementary schools under the direction of Ms. Carolyn Jenkins; Lawrence Lawson & Cataract

LV-abbreviation for the elementary schools under the direction of Mr. Roddick; Lakeview & Maplewood

X – means that the standard is being taught at that school pair, in the grade level above the column

X X – means that there are two parts to the standard being taught

X X X - means that there are three parts to the standard being taught

* - means the standard is not covered in all elementary schools; and must be met by the end of 4th grade
Elementary Matrix of K-4 Standards Correlations

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<th>Stnd.</th>
<th>SS-K</th>
<th>LL-K</th>
<th>LV-K</th>
<th>SS-1</th>
<th>LL-1</th>
<th>LV-1</th>
<th>SS-2</th>
<th>LL-2</th>
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<th>LL-3</th>
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Recomendations for Improving the EE Standards Within the Intermediate School of the Sparta School District Gr. 4

- Use of the Definition of Environmental Education to direct the teaching of the standards.

- Use of the list of Wisconsin State EE Standards, to be aware of current standards that should be incorporated into all subject area curriculum plans, with the greatest emphasis in art, health, science, and social studies education.

- Use the Matrix of EE Standards to determine what standards could be addressed more within the curriculum.

- Note the three standards; C.4.3, C.4.4, & C.4.5 that need incorporation into the existing curriculum for fourth grade. Use of the compiled Extension Activities requested by the administration, to meet these standards. Any other appropriate activities may be substituted in place of the extensions, as long as the three standards are addressed.

- Utilize the Resource List when prepping for lessons, to bring environmental issues into the study of various topics and develop any of the state EE standards.

- Have fun looking at local topics and watching your students get involved!
Extension Activities for 4th Grade Teachers

The activities that follow are to meet the EE Standards: C.4.3,4,5 which specifically states,

"to identify people and groups of people that are involved in the issue; identify some of the decisions and actions related to the issue; and identify proposed solutions to the issue and discuss arguments for and against the issue."

[The 'issue' is any environmental problem or issue; applying the history, present stance, and future aspects of a specific issue such as....
Human population growth; pollution- litter, water, or air; natural resources-economics, regulations & laws, soil, water, minerals, mining, fuel sources, trees, air; habitat-rainforest, desert, prairie, forest, savannah, ocean, everglades, coral reef, lake, pond, river, stream, marsh, swamp, fen, tundra, mountain; Animals-endangered, threatened, extinct, adaptation, camouflage, birth rate, gestation, genetic diversity, space requirement, shelter, niche; Plants-adaptation, food chain, nutrient cycles, temperature requirements, sun-source of food, water, soil, Ecosystems, water cycle, wilderness, ...]

4th Grade Topics that allow for incorporation:
Art-various
Rainforests
Endangered Animals-loss if habitat
Minerals-mining
Electricity-conservation; renewable sources-solar, wind, water
Arbor/Earth Day themes
Recycling
SS-Lumber, agriculture, mining industry and Natural Resource Use; History of..
Careers as related to Natural Resources
*Junior Achievement-Identify Natural Resources...
*Earth Patrol-themes
*Daily Science- Question of the Day

Methods: Using a discussion, brainstorm session, individual research project or journal entry, Venn Diagrams in large or small groups; have students discuss any environmental issue [see list above].

Answer the following questions:
Who may be involved in this issue? What group may they belong to? What views may they hold about it? What arguments are for and against the issue? What decisions have been made in the past? Present? Future? What actions have been taken in the past? Present? Future? What solutions are possible? What would be the result of any particular solution? What solution would you choose and why?
Rainforest Topic:
Students will research/learn about the reasons for the cutting of the rainforests, as an economic need for the people living there. The necessity to create pasture land to raise beef for export—primarily to fast food chains [in North America]. Discuss the groups of people that benefit from the cutting and those affected by the loss of rainforest habitat. Discuss the biodiversity present in this habitat and the abundance of medical compounds found in the varied plant species. Solutions shall be brainstormed in small groups, as “indigenous people” finding a new product(s) from the rainforest that is renewable, that will prevent the clear cutting and still produce economic support for their community. Have students research plants and animals to devise products, real or otherwise, that may help their issue. Use internet resource list—last 4, to get lists of products available from rainforest products. Discuss long-term outcomes of continued rainforest habitat loss. Discuss solutions.

Suggestions:
SS/Humanities: impact on native culture, history of other forest depletions (Wis.), projections of cause and effect impact on world geographical locations.
Health: medical plant destruction, healthful foods raised in rainforest, climate changes
Com. Arts: writing to org’s that lead to destruction, to groups that protect rainforests, pen pals in rainforest areas, reading books about…, creating a play
Arts: Henry Rousseau paintings, beauty of plants, animals, insects, creation of a rainforest in classroom or hall, rainforest music
Science: impact on food chains/webs, endangered species, undiscovered flora & fauna, species diversity vs. Wisc.
Foreign Lang: effective communication with Rainforest governments, native people, ability to understand a different culture
Math: square miles/hectacres of land destroyed, scale model of, economic benefits & detriments

Minerals Topic:
It is with strong recommendation that mining & natural resources become an emphasis in this unit. The USGS site—on the internet resource list: “..craddock..” is to be used to identify at least two lessons to be used in science, social studies, art, health, or any other appropriate course of study. As a unit, the fourth grade teachers should review the site and decide how best to incorporate the issue and fulfill the Standard C requirements. The lessons are excellent and quite varied. I suggest that the “insect identification in a healthy water system” lesson be used in the science class; having students use a sample from the Beaver Creek, just west of the school site. It can tie directly to the art class, as well.
Other Suggestions:

- Use of open-ended discussions of environmental topics to introduce issues and develop environmental ethics.

- Journal writing to allow students the opportunity to communicate their personal thoughts regarding environmental issue discussions. Such as... "Who would be affected and how, by ...(pick any issue from the list)"

- Extensions that allow students to contact people involved in or affected by environmental issues; to gather information or express their views.

- Facilitation of letter writing opportunities, ex. Provide addresses of government officials; local, state, and federal. Use editorial page of local paper for local issues; discussions and debates.

Some teachers feel uncomfortable teaching ethics and values. Remember that you are introducing facts about past, present, and future issues. Guide students to develop their own values, remain objective, and remember they come from different backgrounds and will not necessarily demonstrate the same values. That is the goal. Using local issues and resources will develop motivation and real life ties to the issues.
Appendix Q. Inservice: Resource List

Resource List

The following is a compilation of local resources that you can use in your preparation to teach environmental education.

- My personal information to assist you in specific searches
- Details about the WCEE at the University of Wisconsin Stevens Point
- Liaison for Environmental Education at your building
- List of Internet resources to begin searches
- List of local contacts for local issues
- List of topics available in the Intermediate School Library
- List of topics available at the Sparta Free Library

Kristen Mueller  phone 269-1007...feel free to call and ask for assistance finding specific information, activities, or resources. Or email

karpfk@bigfoot.com

WCEE Resources Library-located on the 4th floor in the Library. Vast array of curriculum materials; specific topic books, games, & teaching materials; staff to assist you in location of materials; teacher-use system to check out materials to take home up to 3 weeks; web search of materials available, hours, phone number at the following:

http://www.uwsp.edu/cnr/wcee/wcee/resources/resources.htm

Dawn Woodquast- 7th grade teacher at Meadowview Middle School, Room # F112  Phone direct dial at 269-2185 extension is #2291. She receives WCEE mailings four times a year with resource packets, curriculum, teacher workshop & course information, and various student activities. If you need to take a course for license renewal, see her for opportunities designed for teachers.
Internet Resources: for searches use, "topic teaching+materials"

http://library.uwsp.edu/vrd/natural.htm This is a virtual library-extensive links to sites that apply to all related fields-you can probably find it here....

http://www.dnr.state.wi.us/org/caer/ce/eek/teacher/calendar.htm Designed for teacher use-a must see of information and opportunity!

http://www.lakestateslumber.com/thelog.html forestry issues & educational history...good for background information

http://www.brillion.k12.wi.us/counseling/wiseducationsite.html source of educational links in Wisconsin, including all school districts online.

http://www.uwm.edu/Library/CCM/eduweb.html Awesome jumping point to unbelievable number of websites...various topics, tons of resources.

http://www.schoolforest.com New site for teachers designed by a teacher as a Master’s project...check it out and give him some feedback!

http://www.uwgb.edu/birds/wso/wisc-org.htm Source of organizations, nature centers, natural areas, and misc. organizations...excellent listing for students and adults with ecological interests and how to join others or explore individually.

http://www.earth-sea.com/States/wisconsin.shtml Wonderful diving board to jump into Environmental Sites of Wisconsin.....or any state you choose!

http://www.7s.com/basic_e/earth_day_teach_page_no_3.php resource of Earth Day links .....lots for everyone!

http://craddock.t.tripod.com/amd_experiments-html.htm USGS background information for teachers, students and parents and experiments for testing for acid mine drainage. Excellent for unit in minerals....soils....more links

http://www.pbs.org/journeyintoamazonia/teacher_raw.html

http://www.arthur.k12.il.us/arthurgs/rainfles.htm

http://www.ktca.org/newtons/14/rainforestanimal08.html

http://eelink.net/ various EE links, Lessons, and topics.
304.2 END
World Conservation Monitoring Center. Endangered environments. Milwaukee, WI:
Gareth Stevens, [1995].

Note: Discusses all types of habitats, including coral reefs, wetlands, and
tropical forests.

304.2 LAM
Lambert, Mark. The future for the environment. New York: Bookwright Press,
[1986].

Note: Explains that the natural world is near a crisis-point and suggests what
measures are needed to preserve our environment.

304.2 LAM
1985].

Note: Discusses the causes of pollution, its effects on the environment, and
what is being done to repair some of the damage it has caused.

333.7 MAC
MacEachern, Diane. Save our planet : 750 everyday ways you can help clean up the

Note: Tips for ways to cut down on pollution in the home, garden, garage,
supermarket, office, and community.

333.7 MIL
Miles, Betty and Nivola, Claire. Save the earth! : An ecology handbook for kids.
New York: Knopf, [1974].

Note: Discusses the ecological problems of land, air, and water pollution in the
world today. Includes projects that illustrate these problems and possible
solutions to them.

333.7 PRI
Pringle, Laurence. Restoring our earth. Hillside, N.J: Enslow Publishers,
[1987].

Note: Discusses the ecological restoration of prairies, marshes, forests,
rivers, and other damaged environments of North America.

333.7 SAT

Note: Discusses sources of energy using wind, water, solar, and atomic power
which will meet the world's needs after oil, gas, and coal resources are
exhausted.

333.7 WAT

Note: Explains the pros and cons of various fuels and energy sources and
discusses why we must and how we can conserve energy.
Note: This book examines major environmental issues surrounding land, giving examples of attempts to solve global problems and sources for more information.


Note: This book examines major environmental issues surrounding water, giving examples of attempts to solve global problems and sources for more information.


Note: Describes various types of wetlands, their ecological importance, and the plants and animals found there.


Note: Describes how and why various species of animals and the tropical rain forests are threatened with extinction and discusses the importance of ensuring their survival.


Note: This book examines major environmental issues surrounding wildlife, giving examples of attempts to solve global problems and sources for more information.


Note: Describes ways people help some wild animals in need of human protection, particularly in keeping their environments safe for them to live without injury.


Note: Text and photographs depict the cause and effects of the Midwest flood of 1993.


Note: Presents examples of successful efforts to protect natural resources.

Note: Discusses the origins, possible results, and prevention of the environmental problem known as the greenhouse effect.

Note: Presents activities and experiments which demonstrate how living things interact with each other and the environment. Includes instructions for making miniature ecosystems.

Miller, Christina G and Berry, Louise A. Acid rain : a sourcebook for young people. New York: J. Messner, [1986].
Note: Discusses the causes and effects of acid rain and examines possible solutions to this environmental problem.

Patten, J. M. Trash. Vero Beach, FL: Rourke Book Co, [1995].

Patten, J. M. Oil spills. Vero Beach, FL: Rourke Book Co, [1995].

Patten, J. M. Acid rain. Vero Beach, FL: Rourke Book Co, [1995].

Patten, J. M. Polluted air. Vero Beach, FL: Rourke Book Co, [1995].

Patten, J. M. Poisoned water. Vero Beach, FL: Rourke Book Co, [1995].

Patten, J. M. Toxic wastes. Vero Beach, FL: Rourke Book Co, [1995].

Note: Describes the phenomenon of garbage, what it can indicate about particular cultures, and past and present problems and methods of solid waste disposal and management.

Note: Describes hazardous substances in our environment, how they get there, and the problems they cause.

Note: Examines the cause and effects of radioactive waste and nuclear contamination and what governments are doing to combat them.
363.72 KAL
Note: Shows how the ever-growing tide of refuse threatens the environment and wastes resources, and how recycling helps in conservation efforts.

363.73 BER
Note: Explains why oil spills occur and how they are cleaned up and suggests strategies for preventing them in the future.

363.73 HAS
Note: This book examines major environmental issues surrounding air, giving examples of attempts to solve global problems and sources for more information.

508.31 Mur
Note: This book highlights a number of the world's deserts, defines what constitutes a desert, and describes the environment, including some of the plants and animals that live in these arid regions.

531 WAL
Note: Sun, photosynthesis, chlorophyll, fossil fuels, pollution, pollutants, environment, oil refineries, kinetic energy, generators, hydroelectric power plants, nuclear energy, solar energy.

550 WIL
Note: Discusses the structure, atmosphere, climate, and features of our planet and examines its activity and natural resources.

551.47 PLA
Flaherty, Michael and Saunders, Mike. Tidal waves and flooding. Brookfield, Conn: Copper Beech Books, [1998].
Note: This book explains the causes and effects of tidal waves and flooding and examines their environmental impact.

551.48 HIS
Note: Describes the conditions that led up to the severe flooding in the Mississippi River Valley in 1993.

551.5 ROB
Note: Looks at air and how it affects the whole earth, the environment, weather, people, and nature.
551.5 SIM
Note: Describes the atmospheric conditions which create thunderstorms, hailstorms, lightning, tornadoes, and hurricanes and how violent weather affects the environment and people.

574 WHY
Note: Examines how living things survive in different environments, cope with changes taking place around them, and depend on each other for survival.

574.5 CRE
Creative Educational Society (Mankato, Minn.). The ecology of North America. Mankato, Minn, [1971].
Note: Describes some of the animals of North America, their habitats, their interrelationships with other animals and plants in their environment, and man's role in destroying or maintaining the ecological balance.

574.5 LAN
Note: Discusses the environmental conditions of rain forests, the plants and animals that live in these forests, and the dangers of deforestation.

574.5 RAD
Note: Explores the rigid, wave-resistant structure formed by skeletons of corals, which provides a favorable environment for the symbiotic existence of marine plants and animals.

574.92 JOH
Note: Text and photographs examine the different kinds of coral reefs and their composition and describe the variety of fish, mollusks, crustaceans, and other animals that live in the reef environment.

577.34 RIC
Note: Provides information about rainforest environments, and discusses the connection between the climate, plants, soil, and animals of the tropical regions.

577.44 PAT
Note: Describes the characteristics of the North American prairie, the plants and animals found there, and the efforts made to preserve and restore the landscape that once stretched unbroken from southern Canada into northernmost Mexico.
577.5 PHI

Note: Illustrations and text describe five different types of land environments located in countries throughout the world, including deciduous forests, deserts, tundras, savannas, and rain forests, that serve as homes to a wide variety of plants and animals.

577.6 SNO

Note: Illustrations and text describe five freshwater environments located in countries throughout the world that serve as homes to a wide variety of plants and animals.

577.7 BAK

Note: Discusses topics such as waves, food chain, ocean resources, and pollution; includes a Fiji tale about why the fishermen of the island of Kandavu are protected from sharks.

582.16 HAM

Note: Describes the parts of a tree, the place of trees in the environment, and products made from trees.

591.5 GRO

Note: The relationships of living things to each other and to their natural environment. Coastlines, Eastern Forests, Grasslands, Deserts, and Western Mountains of the North American continent.

591.6 LES
Lesinski, Jeanne M. Exotic invaders: killer bees, fire ants, and other alien species are infesting America! New York: Walker, [1996].

Note: Describes five species that are not native to North America—the sea lamprey, fire ants, zebra mussels, European starlings, and African honey bees—and efforts to handle the problems their introduction has caused.

591.9 BRO
Bronin, Andrew and Stahl, Ben F. The cave: what lives there. New York: Coward, McCann & Geoghegan, [1972].

Note: Describes the formation and environment of caves and the characteristics and habits of the animals that inhabit them.

591.9 ROO

Note: Introduces animals that are a part of the ecosystem of the Pacific Northwest, discussing how they depend on one another and their environment for survival.
7

597.8 MAR

Note: Describes, in text and photographs, the physical characteristics, habits, and natural environment of the Pine Barrens treefrog.

628.4 BAN

Note: John Todd attempts to clean the toxic waters of Chattanooga Creek with a Living Machine.

639.3 Con

Note: This book describes the efforts of an elementary school to clean up a nearby stream.

639.9 JOH

Note: Follows the story of a bald eagle that was found in a roadside ditch with a bullet wound through surgery, recovery, and release from the Gabbert Raptor Center in St. Paul, Minnesota.

639.9 WHI

Note: Text and photographs follow the story of an abandoned Harbor seal pup who is rescued and cared for at the New England Aquarium until she is strong enough to return to her natural environment.

665.2 PIP

Note: Discusses oil, a natural resource which is a primary source of energy and numerous important by-products.

974.4 CHE

Note: An environmental history of the Nashua River, from its discovery by Indians through the polluting years of the Industrial Revolution to the ambitious clean-up that revitalized it.

977.5 BAD


Note: WISCONSIN, HERITAGE, ENVIRONMENT, CAPITAL, IMMIGRATION, CRIME, ART, MOVIE STARS, BASEBALL, FOOTBALL, FISHING, ETHNIC, INDIANS, POLLUTION, CONSERVATION, WEATHER, CIRCUS.

COS 533.6 WHE

Note: Computer software, an interdisciplinary, multimedia tool which can be used with nearly every subject and grade level to understand the science of air pollution, the social issues involved, and learn how to make informed decisions about environmental issues.

COS 912 CHI

Note: Explore the natural environment of the world through over 60 exciting full-motion videos, 200 photos, sound and narrated descriptions of animals and places around the world. Educational games. Grades 3-8.

MAG WIS
Wisconsin Natural Resources. [April 1996]. (Back issues for three years)


PRO 372.3 BRE

PRO 511 Mar

Note: Enrichment activities and blackline masters.

PRO MAG TEA (All issues routed.)
EE News. Environmental Education in Wisconsin/ Fall '01. [Fall 2001].


R 304.2 POL

Note: Text, photographs, and maps focus on areas of the world in which human activity is destroying the natural balance.

R 550 FAR

Note: Presents the principles of Earth science, discussing such topics as the structure and chemical makeup of the Earth, geological dating, world biomes, and the atmosphere.

Note: Explores the Earth's oceans, their extent, physical features, wildlife, and the threat pollution poses to their future.

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5. Trashing the planet: how science can help us deal with acid rain, 1990  
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6. Sustaining the earth, 1990  
   Bar code: 89039268  
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### ENVIRONMENT-ACTIVITIES

1. Our world, 1990  
   Bar code: 89039021  
   ISBN/ISSN: 0911019308  
   Type: T7  
   Call number: +745.5 B5480  
   Childrens/PT shelf

### ENVIRONMENTAL CAREERS

2. Opportunities in environmental careers., 1981  
   Bar code: 89008988  
   Call number: 639.9 F2160

### ENVIRONMENTAL EDUCATION NETWORK

3. Conservation programs  
   Bar code: 89051719  
   Call number: +Pam  
   Pamphlet file/Childrens

### ENVIRONMENTAL ENGINEERING

4. The natural house catalog: everything you need to create an, 1996  
   Bar code: 89057115  
   ISBN/ISSN: 0684801981  
   Type: A6  
   Call number: 690.8 P317n

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### ENVIRONMENTAL ENGINEERING—EXPERIMENTS

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   Bar code: 89046467  
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   Call number: 613 H349

Q-14
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RAINFOREST ECOLOGY--BELIZE
   Q-19
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2. The emerald realm : Earth's precious rain forests, 1990
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   Call number: 333.75 H18t

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1. The fate of the forest : developers, destroyers, and defenders of the, 1989
   Bar code: 89035112    ISBN/ISSN: 0860912612    Type: A3
   Call number: 333.75 H355f

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   Bar code: 89040813    ISBN/ISSN: 1854352768    Type: A5
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   Bar code: 89040634    ISBN/ISSN: 0822525038    Type: J3
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   Bar code: 89017144    ISBN/ISSN: 0852197195    Type: A3
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   Bar code: 89040787 ISBN/ISSN: 0517582155 Type: A5
   Call number: 591.52 Ad17L
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   Call number: PAM Pamphlet file / reference room
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   Call number: 598.9 B282b
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   Call number: +JR 574.5 G894 Reference/Childrens
4. Easy-to-make endangered species to stitch & stuff, 1992
   Bar code: 89047802 ISBN/ISSN: 0913589608 Type: A7
   Call number: 745.592 D294e
5. Vanished species, 1989
   Bar code: 89039881 ISBN/ISSN: 0831727829 Type: A5
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Bar code: 89038816
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Type: A3
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   Type: A3

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   Call number: 508 N219
   ISBN/ISSN: 0679733000
   Type: A5

3. Endangered wildlife of the world, 1993
   Bar code: 89046955
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   Type: A3

4. Our endangered wildlife
   Bar code: 89055909
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5. Saving our wildlife, 1990
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   Type: A3
   Childrens

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   Type: J5
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   Type: J3
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ECOLOGY

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2. Crinkleroot's guide to knowing the trees, 1992
3. This Bright Land., 1972
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Type: A5
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Bar code: 89049695
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Type: JF
Childrens/Picture Books

5. Desert giant : the world of the saguaro cactus, 1989
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Childrens/Reading Rainbow

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ECOLOGY
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3. The Earth care annual, 1992, 1992
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5. The encyclopedia of animal ecology, 1987
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5. Forest fires, 1995
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6. Ponds and pond life, 1993
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## ECOLOGY

### 1. Rain forests, 1992
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### 5. Grolier wellness encyclopedia, 1992
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- **ISBN/ISSN:** 0879678682  
- **Call number:** 613.8 G994  
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### 6. The ecology of commerce : a declaration of sustainability, 1993
- **Bar code:** 89049499  
- **ISBN/ISSN:** 0887306551  
- **Call number:** 658.408 H312e  
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## ECOLOGY

### 1. Heloise, hints for a healthy planet, 1990
- **Bar code:** 89038605  
- **ISBN/ISSN:** 0399516255  
- **Call number:** 363.7 H369h  
- **Type:** A3

### 2. Animals in peril : how "sustainable use" is wiping out the world's, 1994
- **Bar code:** 89054216  
- **ISBN/ISSN:** 0895296489  
- **Call number:** 333.95 H854a  
- **Type:** A3

### 3. How the forest grew, 1980
- **Bar code:** 89033151  
- **ISBN/ISSN:** 0688842321  
- **Call number:** +574.5 J312h  
- **Type:** J5  
- **Childrens**

### 4. Brother eagle, sister sky : a message from Chief Seattle, 1991
- **Bar code:** 89047122  
- **ISBN/ISSN:** 0803709692  
- **Call number:** +970.004 B795  
- **Type:** J9  
- **Childrens**

### 5. A Walk through a rain forest : life in the Ituri Forest of Zaire, 1994
- **Bar code:** 89054002  
- **ISBN/ISSN:** 0531111687  
- **Call number:** +574.5 J41w  
- **Type:** J5  
- **Childrens**

### 6. How trees help me, 1992
- **Bar code:** 89045758  
- **ISBN/ISSN:** 0865055548  
- **Call number:** +582.16 K126t  
- **Type:** J5  
- **Childrens**

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### 1. I am a part of nature, 1992
- **Bar code:** 89045761  
- **ISBN/ISSN:** 0865055521  
- **Call number:** +582.16 H524  
- **Type:** J5  
- **Childrens**
1. What are food chains and webs?, 1998
   - Call number: +574.5 K126n
   - Bar code: 88063197
   - ISBN/ISSN: 0865058768
   - Type: J5

   - Call number: +577.16K126w
   - Bar code: 89040607
   - ISBN/ISSN: 0525444955
   - Type: A3

3. The Most beautiful roof in the world: exploring the rainforest canopy, 1997
   - Call number: +574.52 L335m
   - Bar code: 89061531
   - ISBN/ISSN: 0152008934
   - Type: J5

4. Who eats what?: food chains and food webs, 1995
   - Call number: +574.5 L361w
   - Bar code: 89054529
   - ISBN/ISSN: 0060229829
   - Type: J5

5. Tree trunk traffic, 1989
   - Call number: +591.52 L391t
   - Bar code: 89045263
   - ISBN/ISSN: 0525444955
   - Type: J5

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**ECOLOGY**

1. Lawn care
   - Call number: PAM
   - Bar code: 89043221
   - ISBN/ISSN: 0870445502
   - Type: A5

2. Our awesome earth, 1986
   - Call number: 508 L51o
   - Bar code: 89013781
   - ISBN/ISSN: 0870445502
   - Type: A5

3. Troubled waters, 1991
   - Call number: 363.73 L524t
   - Bar code: 89040810
   - ISBN/ISSN: 185435275X
   - Type: A3

4. Air scare, 1991
   - Call number: 363.73 L524a
   - Bar code: 89040811
   - ISBN/ISSN: 1854352741
   - Type: A3

5. Dying forests, 1991
   - Call number: 574.5 L524d
   - Bar code: 89040813
   - ISBN/ISSN: 1854352768
   - Type: A5

   - Call number: 363.7 L524w
   - Bar code: 89040814
   - ISBN/ISSN: 1854352776
   - Type: A3
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<td>5. The simple act of planting a tree: a Citizen Forester's guide to, 1990</td>
<td>89038756</td>
<td>0874776023</td>
<td>635.977 L664s</td>
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<td>6. Rain forests and reefs: a kid's-eye view of the tropics, 1996</td>
<td>89060616</td>
<td>0531112810</td>
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<td>3. Design for a livable planet: how you can help clean up the environment, 1990</td>
<td>89038742</td>
<td>0060551658</td>
<td>363.7 N1ld</td>
<td>A3</td>
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<tr>
<td>4. America's Last Chance., 1970</td>
<td>89014970</td>
<td>0589806369</td>
<td>500's</td>
<td>A5</td>
</tr>
<tr>
<td>5. Our green and living world: the wisdom to save it, 1984</td>
<td>89027480</td>
<td>0521268427</td>
<td>333.95 Ou7a</td>
<td>A3</td>
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<td>6. Fire: friend or foe, 1998</td>
<td>89065085</td>
<td>0395730813</td>
<td>+574.5 P272f</td>
<td>J5</td>
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**ECOLOGY**

1. A Log's life, 1997
   Bar code: 89061297
   Call number: +574.5 P475L

2. Trashing the planet: how science can help us deal with acid rain, 1990
   Bar code: 89038751
   Call number: 363.73 R211t

3. Once there was a tree, 1989
   Bar code: 89061035
   Call number: +582.16 R662o

4. Prairies and grasslands, 1983
   Bar code: 89033236
   Call number: +574.5 R782p

5. Wetland, 1996
   Bar code: 89057234
   Call number: +574.5 Sa99w

6. River and stream, 1996
   Bar code: 89057235
   Call number: +574.5 Sa99r

ESC=Exit  
F1=HELP  
F=Forward  
B=Backward  
1-6=Full display
B=Backward     F=Forward    1-6=Full display    ESC=Exit

F1=HELP   EOS INTERNATIONAL MANAGER SERIES CIRCULATION - VER 7.1 05/21/02

ECOLOGY

1. Lake and pond, 1996
   Bar code: 89057236  ISBN/ISSN: 0805040897  Type: J5
   Call number: +574.5 Sa99L  Childrens
2. The Living forest, 1990
   Bar code: 89040198  ISBN/ISSN: 0894902709  Type: J5
   Call number: +574.5 Sch65L  Childrens
3. 90 important things you must know to successfully survive the 90's, 1992
   Bar code: 89044265  ISBN/ISSN: 0961048050  Type: A3
   Call number: 332.024 St31n
4. Noah's garden: restoring the ecology of our own back yards, 1993
   Bar code: 89047662  ISBN/ISSN: 039565738  Type: A5
   Call number: 574.526 St34n
5. Miracle under the oaks: the revival of nature in America, 1995
   Bar code: 89057986  ISBN/ISSN: 0671780425  Type: A3
   Call number: 333.7 St47m
6. Pond life, 1983
   Bar code: 89033237  ISBN/ISSN: 0516017055  Type: J5
   Call number: +574.5 St71po

NATURAL RESOURCES

Q-31
1. **Environmental protection**  
   Bar code: 89041331  
   Call number: PAM  
   Type: APA  
   Pamphlet file / reference room

2. **Environmental almanac : Information Please, 1992, 1992**  
   Bar code: 89043013  
   Call number: 333.7 N622  
   ISBN/ISSN: 0395596262  
   Type: A3

3. **The control of nature, 1989**  
   Bar code: 89038917  
   Call number: 304.2 M241  
   ISBN/ISSN: 0374128901  
   Type: A3

4. **Natural resource management, Camp McCoy, Wis., 1972**  
   Bar code: 89018493  
   Call number: 977.554 N219  
   ISBN/ISSN: 057a891030  
   Type: A9

5. **Natural resources, 1998**  
   Bar code: 89062564  
   Call number: 333.7 N219  
   ISBN/ISSN: 0893569127  
   Type: A3

6. **Miracle under the oaks : the revival of nature in America, 1995**  
   Bar code: 89057986  
   Call number: 333.7 St47m  
   ISBN/ISSN: 0671780425  
   Type: A3

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**EOS INTERNATIONAL MANAGER SERIES CIRCULATION - VER 7.1 05/21/02**

**NATURAL RESOURCES - U.S. - MANAGEMENT**

1. **Renewing America: Natural Resource Assets and State Economic, 1984**  
   Bar code: 89018748  
   Call number: 333.7 N844r  
   ISBN/ISSN: 0934842329  
   Type: A3  
   300's

**NATURAL RESOURCES -- MAPS**

2. **The new state of the earth atlas : a concise survey of the environment, 1995**  
   Bar code: 89054275  
   Call number: 333.7 Sel3n  
   ISBN/ISSN: 0671891030  
   Type: A3

**NATURAL RESOURCES -- PRESERVATION**

   Bar code: 89038525  
   Call number: 333.75 L588r  
   Type: A3

**NATURAL RESOURCES -- WISCONSIN**

4. **Wisconsin--Wildlife and natural resources**  
   Bar code: 89043302  
   Call number: PAM  
   Type: APA  
   Pamphlet file / reference room
Organizations Providing Rainforest Education Information

Animals of the Rainforest
www.animalsoftherainforest.org
89 Garden Drive
Fairport, NY 14450, USA
(1-716) 377-3321
* photo gallery of rainforest animals
* links to other resources for students and teachers

Conservation International
www.conservation.org
2501 M Street NW, Suite 200
Washington, DC 20037, USA
(1-800) 429-5660
* provides resources & expertise to promote biodiversity
* educational materials include a packet geared towards teaching children and young adults

Earth Foundation
www.earthfound.com
5151 Mitchelldale, Suite B-11
Houston, TX 77092, USA
(1-800) 566-6539
* in partnership with The Nature Conservancy's Adopt An Acre Program
* educational programs include letter-writing campaigns, student newsletters, curriculum kits, videos, teacher workshops, classroom outreach, & trips to tropical countries
* sponsors a t-shirt fundraising project

Earth's Birthday Project
www.earthsbirthday.org
P.O. Box 1536
Santa Fe, NM 87504-1536, USA
(1-800) 698-4438
* in partnership with The Nature Conservancy's Adopt An Acre Program
* distributes free educational materials including a teacher's guide, videos, & other instructional resources

Earthwatch
www.earthwatch.org
3 Clock Tower Place, Suite 100
Box 75
Maynard, MA 01754, USA
(1-800) 775-0188
* opportunities for teachers & students to participate in the field
* detailed on-line lessons & activities are available on their website

Environmental Defense Fund
www.edf.org
257 Park Avenue South
New York, NY 10010, USA
(1-800) 684-3322
* The National Environmental Access Project provides environmental information to schools & teachers
  (e-mail: schoolcoordinator@edf.org)
* Earth to Kids section on website

National Arbor Day Foundation
www.arborday.org
100 Arbor Avenue
Nebraska City, NE 68410, USA
(1-888) 448-7337
* publishes instructional kits for educators
* sponsors Rain Forest Rescue educational programs
* Junior Steward informative newsletter

National Wildlife Federation
www.nwf.org
1400 16th Street NW
Washington, DC 20036, USA
(1-800) 822-9919
* nonprofit organization that works to protect wildlife & other natural resources
* various programming includes environmental camps & summits, educational materials, & literature
* rainforest kits & multimedia productions available to educators

Rainforest Action Network
www.ran.org
221 Pine Street, Suite 700
San Francisco, CA 94111, USA
(1-415) 398-4404
* protects the rainforests & the rights of indigenous peoples
* teacher's packet, fact sheets, lesson plans & other publications available, including Rainforests Forever, a curriculum supplement for grades 3-6
* Kids' Corner section on website

Rainforest Alliance
www.rainforest-alliance.org
65 Bleecker Street
New York, NY 10012, USA
(1-888) MYEARTH
* website takes children on a trip through the rainforest while teaching them about the animals and people that live within
* classroom activities, rainforest facts, how to create a tropical rainforest in your classroom, etc. available on-line for teachers

Save the Rainforest, Inc.
www.lasculces.com/~saverfn
PO Box 16271
Las Cruces, NM 88004
(1-888) 608-9435
* in partnership with The Nature Conservancy's Adopt An Acre Program
* educational programming includes a curriculum kit, videos, posters, & ecology courses in tropical countries
* sponsors a t-shirt fundraising project

WWF
www.wwf.org
1250 24th Street NW
PO Box 97180
Washington, DC 20037, USA
(1-800) CALL-WWF
* Windows on the Wild, an environmental education program that includes education materials for teachers and students on various environmental issues
* order on-line educational resources such as Vanishing Rainforest Kit which includes materials, posters & a video
### Local Contacts:

<table>
<thead>
<tr>
<th>Entity</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin DNR</td>
<td>269-6901</td>
</tr>
<tr>
<td>Elroy-Sparta State Trail &amp; Wildcat Mtn State Park</td>
<td>337-4775</td>
</tr>
<tr>
<td>Jordan Skiff, Dir. Of Public Works-Sparta</td>
<td>269-6511</td>
</tr>
<tr>
<td>Monroe County History Room</td>
<td>269-8680</td>
</tr>
<tr>
<td>Sparta Free Library</td>
<td>269-2010</td>
</tr>
</tbody>
</table>
Appendix R. Inservice: Survey of Project

Survey for the Environmental Education Standards' Audit & Follow-up Process

1. Please indicate the ease in use of the survey tool, to determine the EE standards that are taught within your grade-level.

   Very Difficult  Somewhat Difficult  Fair  Somewhat Easy  Very Easy
   X                X                X             X           X

2. Please indicate your thoughts about the meeting time necessary to accomplish the goal of identifying standards in the curriculum.

   Too Long        As Expected        Shorter Than Expected
   X               X                  X

3. Was using staff meeting times to accomplish this goal a satisfactory use of the meeting time.

   No               Yes

4. Would you prefer another method to identify standards?

   No               Yes-if so: please indicate how >>>>

5. How well did you understand the EE standards, before this project?

   Not at all  Somewhat Unclear    OK   Good   Very Well
   X     X                X          X

   *** If Not at All or Somewhat Unclear-Clarify on Reverse >>>>>>>>>>>

6. Please indicate your thoughts on the length of the project, (January to May)

   Too Long        Too Short          Timely
   X                X                  X

7. Do you feel confident using the recommendations within your curriculum?

   No confidence  Little confidence  OK   Will Try   Easy to Implement
   X       X               X           X           X

8. To what extent will you include 'The Recommendations' in your teaching next year?

   Not at all  Occasional  Some  Fair Amount  Great Extent
   X        X       X       X           X
9. To what extent will you utilize the Resource List to identify more possible activities?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Occasional</th>
<th>Some</th>
<th>Fair Amount</th>
<th>Great Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

10. To what extent will having the list of EE standards, help you to teach them more effectively?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Occasional</th>
<th>Some</th>
<th>Fair Amount</th>
<th>Great Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

11. Having gone through this process, has your awareness of the EE standards and how you can teach them, changed? [circle one]

- No Change
- Understand Them Better
- More Aware & Will Address

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Understand Them Better</th>
<th>More Aware &amp; Will Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

12. Please note any positive aspects of having done this activity and how it will change your perception of teaching environmental education.

13. Please note any helpful suggestions that could improve upon a similar project for future facilitators and staff.

14. Other comments...

If you would like further assistance in teaching about environmental education in your classroom, please put your name, class you teach, & the school you are at, below. Please include a summer phone number and what you specifically would like help with. I will contact you in the near future to help with your concerns. Please complete & remove this survey and turn it in @ the office. Thanks! Kristen 😊
Appendix S.  Elementary Recommendations Packet

Recommendations for Improving the EE Standards Within the Elementary Schools in the Sparta School District

- Use of the Definition of Environmental Education to direct the teaching of the standards.

- Use of the list of Wisconsin State EE Standards, to be aware of current standards that should be incorporated into all subject area curriculum plans, with the greatest emphasis in art, health, science, and social studies education.

- Use the Matrix of EE Standards to determine what standards could be addressed more within the curriculum.

- Use the "Extension Activities for Elementary Teachers" for ideas and understanding environmental issues.

- Use of the "Terms & Glossary List" whenever applicable to discussions/activities; as appropriate to the grade level.

- Utilize the Resource List when prepping for lessons, to bring environmental issues into the study of various topics and develop any of the state EE standards.

- Have fun looking at local topics and watching your students get involved!

*** Please tear off the back page Survey, complete and return it to your principal, by FRIDAY MAY 31, 2002.

If you forget to turn it in, please mail it to KRISTEN MUELLER
At 9529 Gardener Ave
Sparta, WI 54656

Thank YOU for your participation!
Definition of Environmental Education:

From the Wisconsin Environmental Education Board (WEEB)...
“A lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, ethical awareness and sensitivity for the relationship between humans and the environment, and commitment to engage in responsible individual and cooperative actions. By these actions, environmentally literate citizens will help ensure an ecologically and economically sustainable environment.”

From the Belgrade Charter...1975
“The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.”

From the Tbilisi Declaration.....1977
“Environmental education is a process aimed at developing a world population that is aware of, and concerned about, the total environment and its associated problems, and which has the knowledge, attitudes, skills, motivation, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.”

Goals of EE:
- To foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas;
- To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment;
- To create new patterns of behavior of individuals, groups and society as a whole towards the environment.
Wisconsin Curriculum Model for Environmental Education

**KEY**
- Major Emphasis
- Minor Emphasis

**SUBGOALS**

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<tr>
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<th>GRADE LEVELS</th>
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<td>K, 1, 2, 3</td>
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<tr>
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<td>3, 4, 5, 6</td>
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<tr>
<td>Environmental Ethic</td>
<td>7, 8, 9, 10</td>
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<tr>
<td>Citizen Action Skills</td>
<td>11, 12</td>
</tr>
<tr>
<td>Citizen Action Experience</td>
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The need to develop educational programs that enable student citizens to acquire a universal environmental ethic has been recognized both nationally and internationally. Such an ethic, it is believed, would result in adult citizens working to prevent and resolve environmental problems and issues, thereby ensuring a sustainable future for all of Earth's inhabitants. Programs of this type should be developed with the following goal in mind.

The goal of environmental education is to help students become environmentally aware, knowledgeable, skilled, dedicated citizens who are committed to work, individually and collectively, to defend, improve, and sustain the quality of the environment on behalf of present and future generations of all living things.

Five subgoals may be extracted from this goal statement.

**Perceptual Awareness:** To help students develop the ability to perceive and discriminate among stimuli; to process, refine, and extend those perceptions; and to concurrently acquire an aesthetic sensitivity to both natural and built environments.

**Knowledge:** To help students acquire a basic understanding of how the natural environment functions, how its functioning is affected by human activity, and how harmony between human activity and the natural environment may be achieved.

**Environmental Ethic:** To help students develop a universal ethic on which they may act to defend, improve, and sustain the quality of the environment.

**Citizen Action Skills:** To help students develop the skills needed to identify, investigate, and take action toward the prevention and resolution of environmental issues.

**Citizen Action Experience:** To help students gain experience in applying acquired perceptual awareness, knowledge, an environmental ethic, and citizen action skills in working toward the prevention and resolution of environmental issues at all levels, local through universal.

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**Subgoal: Perceptual Awareness**

To help students develop the ability to perceive and discriminate among stimuli; to process, refine, and extend those perceptions; and to concurrently acquire an aesthetic sensitivity to both natural and built environments.

Perceptual awareness develops when a stimulus, a sensory input from outside the body, is combined with thoughts and feelings inside the body to produce meaning. A program planned to help students develop a perceptual awareness encompasses much of receiving and responding,
Wisconsin State EE Standards

EE Standards: A. Questioning and Analysis

Content Standard:
Students in Wisconsin will use credible research methods to investigate environmental questions, revise their personal understanding to accommodate new knowledge and perspectives, and be able to communicate this understanding to others.

Performance Standards – by the end of Grade 4 students will:
A.4.1 Make observations, ask questions, and plan environmental investigations.
A.4.2 Collect information, make predictions, and offer explanations about questions asked.
A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations.
A.4.4 Communicate their understanding to others in simple terms.

EE Standards: B. Knowledge of Environmental Processes & Systems

Content Standard:
Students in Wisconsin will demonstrate an understanding of the natural environment and the interrelationships among natural systems.

Performance Standards – by the end of Grade 4 students will:

Energy and Ecosystems:
B.4.1 Describe the flow of energy in natural systems, citing the sun as the source of energy on the earth; e.g., a food chain.
B.4.2 Illustrate how they use energy in their daily lives.
B.4.3 List sources of energy, distinguishing between renewable and nonrenewable sources.
B.4.4 List the components of an ecosystem, including the qualities of a healthy habitat.
B.4.5 Describe natural and human-built ecosystems in Wisconsin
B.4.6 Cite examples of how different organisms adapt to their habitat
B.4.7 Draw a simple hydrologic cycle

Natural Resources and Environmental Quality
B.4.8 Describe and give examples of natural resources; e.g., water, minerals, soils, air
B.4.9 Distinguish between renewable and nonrenewable resources
B.4.10 Describe how they use natural resources in their daily lives
B.4.11 List jobs in the community that result from or are influenced by processing and using natural resources
B.4.12 Determine the cause of different types of pollution
EE Standards: C. Environmental Issue Investigation Skills

Content Standard:
Students in Wisconsin will be able to identify, investigate, and evaluate environmental problems and issues.

Performance Standards – by the end of Grade 4 students will:
C.4.1 Identify environmental problems and issues
C.4.2 Apply ideas of past, present, and future to specific environmental issues
* C.4.3 Identify people and groups of people that are involved in the issue
* C.4.4 Identify some of the decisions and actions related to the issue
* C.4.5 Identify proposed solutions to the issue and discuss arguments for and against the issue

EE Standards: D. Decisions and Action Skills

Content Standard:
Students in Wisconsin will use findings from environmental issue investigations to develop decision-making skills, and to gain experience in citizen action skills.

Performance Standards – by the end of Grade 4 students will:
D.4.1 Demonstrate knowledge of a decision-making process that includes selecting and using data, suggesting possible alternatives, predicting consequences, and being aware of available resources
D.4.2 Identify and give examples of short-term and long-term solutions to a problem
D.4.3 Identify two or more ways to take positive environmental action; e.g., posters, letters, and speeches
D.4.4 Communicate with local, state, or national officials regarding an environmental topic
D.4.5 Explain how they can influence an environmental issue

EE Standards: E. Personal and Civic Responsibility

Content Standard:
Students in Wisconsin will develop an understanding and commitment to environmental stewardship

Performance Standards – by the end of Grade 4 students will:
E.4.1 Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them
E.4.2 Understand how their personal actions impact their civic responsibilities toward the environment
There are six elementary schools, grades K-3 in the Sparta School District. These schools are paired under the direction of three principals. The following key is being used to indicate the pairing and the standards met by the corresponding curricula in the schools.

Key for the Matrix and the Audits of Wisconsin State EE Standards

SS- abbreviation for the elementary schools under the direction of Mr. Richard Baudek; Southside & Leon

LL-abbreviation for the elementary schools under the direction of Ms. Carolyn Jenkins; Lawrence Lawson & Cataract

LV-abbreviation for the elementary schools under the direction of Mr. Roddick; Lakeview & Maplewood

X – means that the standard is being taught at that school pair, in the grade level above the column

X X – means that there are two parts to the standard being taught

X X X – means that there are three parts to the standard being taught

* - means the standard is not covered in all elementary schools; and must be met by the end of 4th grade
Matrix of K-4 EE Standards Correlations

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<th>LL-K</th>
<th>LV-K</th>
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Extension Activities for Elementary Teachers

The following information is to help guide you in developing the state standard which is not covered by grade 4. It is obvious that you will address it at the level and ability of your students. Your discussions may just be introductions to feelings about an issue. It all depends on the topic and your students. You will be amazed how easily you can ask questions and get your students thinking about the world around them and how they depend upon it.

The activities that follow are to meet the EE Standards: C.4.3,4,5 which specifically states,

"to identify people and groups of people that are involved in the issue; identify some of the decisions and actions related to the issue; and identify proposed solutions to the issue and discuss arguments for and against the issue."

[The 'issue' is any environmental problem or issue; applying the history, present stance, and future aspects of a specific issue such as....
Human population growth; pollution- litter, water, or air; natural resources- economics, regulations & laws, soil, water, minerals, mining, fuel sources, trees, air; habitat-rainforest, desert, prairie, forest, savannah, ocean, everglades, coral reef, lake, pond, river, stream, marsh, swamp, fen, tundra, mountain; Animals- endangered, threatened, extinct, adaptation, camouflage, birth rate, gestation, genetic diversity, space requirement, shelter, niche; Plants-adaptation, food chain, nutrient cycles, temperature requirements, sun-source of food, water, soil, Ecosystems, water cycle, wilderness, ...]

Methods: Using a discussion, brainstorm session, individual research project or journal entry, Venn Diagrams in large or small groups; have students discuss any environmental issue [see list above].

Answer the following questions:
Who may be involved in this issue? What group may they belong to? What views may they hold about it? What arguments are for and against the issue? What decisions have been made in the past? Present? Future? What actions have been taken in the past? Present? Future? What solutions are possible? What would be the result of any particular solution? What solution would you choose and why?
• Use of open-ended discussions of environmental topics to introduce issues and develop environmental ethics.

• Journal writing to allow students the opportunity to communicate their personal thoughts regarding environmental issue discussions.

• Extensions that allow students to contact people involved in or affected by environmental issues; to gather information or express their views.

• Facilitation of letter writing opportunities, ex. Provide addresses of government officials; local, state, and federal. Use editorial page of local paper for local issues; discussions and debates.

• Drawings about topics and issues.

• Creating artwork from litter-to reuse and recycle it.

• Student plays to demonstrate people involved in environmental issues and their actions.

• Simple science experiments to demonstrate some of the concepts involved in a particular issue-utilize the Internet Resource List for many lessons, even K-1!

Some teachers feel uncomfortable teaching ethics and values. Remember that you are introducing facts about past, present, and future issues. Guide students to develop their own values, remain objective, and remember they come from different backgrounds and will not necessarily demonstrate the same values. That is the goal. Using local issues and resources will develop motivation and real life ties to the issues.
Terms & Glossary List: K-3

Kindergarten:
Flora-plant kingdom; plants
Sun-source of all energy on earth
Root, stem, leaf, flower, fruit-diagram
Dirt as a need for nutrients to plants, medium to grow within
Cycles-metamorphosis; change & sequence; ref. To
water cycle,
  butterfly & frogs,
  day & night,
  adaptations of various animals to change
  Seasons-winter, spring, summer, fall-change in animals too
Food pyramid-sun>plants>animals>humans
Ecosystem-environments: ponds vs forest systems; adaptations of flora & fauna
Pollution-types and why not to do it; jobs associated with resources-recycling
Natural resources; water, minerals, soil, air....nonrenewable vs renewable ex.
  Trees....Lorax
Rainforest ecosystem-compare to Wisconsin environment; animals
History of past, present and future ideas related to env. Issues....any
Identify groups of people affected by env. Issues

First Grade:
Organisms-plants as flora and animals as fauna
Insects as animals-6 legs
Plants-seed, sprout, plant; root, stem, leaf, flower, >seed
Sun as source of Earth’s energy; aquarium & terrarium; soil
Parts of the flower
Observation of env. With senses-sight, sound, taste, feel, smell
Comparison of similarities & differences> use of “keys”
Conservation-wise use
Recycle-reuse
People adapting to habitat; pilgrims and changes, pioneers
Preservation of the local environment: Arbor day tree plantings

Second Grade:
Soil types-compare and identify as natural resource>resulted in settling and
farming the state; percolation of water,
Ocean-plant adaptations to water; pollution effects on turtles and whales-
plastics thought to be jelly fish and death of...
Water cycle; clouds, wind, rain, evaporation, ect.
Ecosystems-worms as decomposers, necessary to plants use of nutrients
Observe; clouds, soil, butterflies, marine animals, forest trip opportunities-all senses.
Electricity-sources of, coal, natural gas, solar, wind-renewable...
Food as energy-source the sun
Natural ecosystems-beaver lodges-habitat vs. human built ecosystems
Dinosaurs and adaptations to habitats
Careers related to resources-guest speakers jobs/related
Pollution-smoking, cars, industry, warnings for public, solutions
Endangered animals, habitat loss, hunting, human impacts
State history of immigrants to Wisconsin-mining, farming, trees-impacts
Environmental actions; posters, letters, speeches, tree plantings
Compost vs burning; pros and cons

Grade 3
Plants-parts, cycle, habitat; sun as source of energy for earth
Forest-canopy, floor, flora & fauna, habitat, niche("jobs")
Moon cycles-tides, water cycle
Variable/control in experiments
Predict and explain natural phenomenon; weather, plants, forest trip
Habitat-source of life for an organism-food, water, space, shelter
Ecosystem-group of living things that are interdependent and the natural resources that they share, soil, water, sunlight,
Camouflage-adaptation of plants and animals to survive
Env. Preservation/conservation, harvest of food, choices

These terms and concepts are not limited to the grades listed above. They are a reference list for the topics as they occur in the corresponding curricula. Anytime a topic or idea can be related to a discussion, you are encouraged to make a point to discuss it with the students. The reinforcement of these concepts outside of the typical science class, will help students to make "world connections" to the past, present, and future. Please refer to the list of Wisconsin State EE Standards for more concepts that students will do by Grade 4
Resource List

The following is a compilation of local resources that you can use in your preparation to teach environmental education.

- My personal information to assist you in specific searches
- Details about the WCEE at the University of Wisconsin Stevens Point
- Liaison for Environmental Education in your district
- List of Internet resources to begin searches
- List of local contacts for local issues

Kristen Mueller  phone 269-1007...feel free to call and ask for assistance finding specific information, activities, or resources. Or email
karpfk@bigfoot.com

WCEE Resources Library-located on the 4th floor in the Library. Vast array of curriculum materials; specific topic books, games, & teaching materials; staff to assist you in location of materials; teacher-use system to check out materials to take home up to 3 weeks; web search of materials available, hours, phone number at the following:

http://www.uwsp.edu/cnr/wcee/wcee/resources/resources.htm

Dawn Woodquast- 7th grade teacher at Meadowview Middle School, Room # F112  Phone direct dial at 269-2185  extension is #2291. She receives WCEE mailings four times a year with resource packets, curriculum, teacher workshop & course information, and various student activities. If you need to take a course for license renewal, see her for opportunities designed for teachers.
Internet Resources: for searches use, “topic teaching+materials”

http://library.uwsp.edu/vrd/natural.htm This is a virtual library-extensive links to sites that apply to all related fields-you can probably find it here....

http://www.dnr.state.wi.us/org/caer/ce/eek/teacher/calendar.htm Designed for teacher use—a must see of information and opportunity!

http://www.lakestateslumber.com/thelog.html forestry issues & educational history...good for background information

http://www.brillion.k12.wi.us/counseling/wiseducationsite.html source of educational links in Wisconsin, including all school districts online.

http://www.uwm.edu/Library/CCM/eduweb.html Awesome jumping point to unbelievable number of websites...various topics, tons of resources.

http://www.schoolforest.com New site for teachers designed by a teacher as a Master’s project...check it out and give him some feedback!

http://www.uwgb.edu/birds/wso/wisc-org.htm Source of organizations, nature centers, natural areas, and misc. organizations...excellent listing for students and adults with ecological interests and how to join others or explore individually.

http://www.earth-sea.com/States/wisconsin.shtml Wonderful diving board to jump into Environmental Sites of Wisconsin.....or any state you choose!

http://www.7s.com/basic_e/earth_day_teach_page_no_3.php resource of Earth Day links .....lots for everyone!

http://craddock.tripod.com/amd_experiments-html.htm USGS background information for teachers, students and parents and experiments for testing for acid mine drainage. Excellent for unit in minerals....soils....more links

http://www.pbs.org/journeyintoamazonia/teacher_raw.html

http://www.arthur.k12.il.us/arthurgs/rainfles.htm

http://www.ktca.org/newtons/14/rainforestanimal08.html

http://eelink.net/ various EE links, Lessons, and topics.
Organizations Providing Rainforest Education Information

Animals of the Rainforest
www.animalsoftherainforest.org
89 Garden Drive
Fairport, NY 14450, USA
(1-716) 377-3321
* photo gallery of rainforest animals
* links to other resources for students and teachers

Conservation International
www.conservation.org
2501 M Street NW, Suite 200
Washington, DC 20037, USA
(1-800) 429-5660
* provides resources & expertise to promote biodiversity
* educational materials include a packet geared towards teaching children and young adults

Earth Foundation
www.earthfound.com
5151 Mitchelldale, Suite B-11
Houston, TX 77092, USA
(1-800) 586-6539
* in partnership with The Nature Conservancy's Adopt An Acre Program
* educational programs include letter-writing campaigns, student newsletters, curriculum kits, videos, teacher workshops, classroom outreach, & trips to tropical countries
* sponsors a t-shirt fundraising project

Earth's Birthday Project
www.earthsbirthday.org
P.O. Box 1536
Santa Fe, NM 87504-1536, USA
(1-800) 698-4438
* in partnership with The Nature Conservancy's Adopt An Acre Program
* distributes free educational materials including a teacher's guide, videos, & other instructional resources

Earthwatch
www.earthwatch.org
3 Clock Tower Place, Suite 100
Box 75
Maynard, MA 01754, USA
(1-800) 776-0188
* opportunities for teachers & students to participate in the field
* detailed on-line lessons & activities are available on their website

Environmental Defense Fund
www.edf.org
257 Park Avenue South
New York, NY 10010, USA
(1-800) 684-3322
* The National Environmental Access Project provides environmental information to schools & teachers
  (e-mail: schoolcoordinator@edf.org)
* Earth to Kids section on website

National Arbor Day Foundation
www.arborday.org
100 Arbor Avenue
Nebraska City, NE 68410, USA
(1-888) 448-7337
* publishes instructional kits for educators
* sponsors Rain Forest Rescue educational programs
* Junior Steward informative newsletter

National Wildlife Federation
www.nwf.org
1400 16th Street NW
Washington, DC 20036, USA
(1-800) 822-9919
* nonprofit organization that works to protect wildlife & other natural resources
* various programming includes environmental camps & summits, educational materials, & literature
* rainforest kits & multimedia productions available to educators

Rainforest Action Network
www.ran.org
221 Pine Street, Suite 700
San Francisco, CA 94111, USA
(1-415) 398-4404
* protects the rainforests & the rights of indigenous peoples
* teacher's packet, fact sheets, lesson plans & other publications available, including Rainforests Forever, a curriculum supplement for grades 3-6
* Kids' Corner section on website

Rainforest Alliance
www.rainforest-alliance.org
65 Bleecker Street
New York, NY 10012, USA
(1-888) MYEARTH
* website takes children on a trip through the rainforest while teaching them about the animals and people that live within
* classroom activities, rainforest facts, how to create a tropical rainforest in your classroom, etc. available on-line for teachers

Save the Rainforest, Inc.
www.lascruces.com/~saverfn
PO Box 16271
Las Cruces, NM 88004
(1-888) 608-9435
* in partnership with The Nature Conservancy's Adopt An Acre Program
* educational programming includes a curriculum kit, videos, posters, & ecology courses in tropical countries
* sponsors a t-shirt fundraising project

WWF
www.wwf.org
1250 24th Street NW
PO Box 97180
Washington, DC 20037, USA
(1-800) CALL-WWF
* Windows on the Wild, an environmental education program that includes education materials for teachers and students on various environmental issues
* order on-line educational resources such as Vanishing Rainforest Kit which includes materials, posters & a video
Survey for the Environmental Education Standards' Audit & Follow-up Process

1. Please indicate the ease in use of the survey tool, to determine the EE standards that are taught within your grade-level.

   Very Difficult  Somewhat Difficult  Fair  Somewhat Easy  Very Easy
   X                X                X   X               X

2. Please indicate your thoughts about the meeting time necessary to accomplish the goal of identifying standards in the curriculum.

   Too Long  As Expected  Shorter Than Expected
   X        X                  X

3. Was using staff meeting times to accomplish this goal a satisfactory use of the meeting time.
   No            Yes

4. Would you prefer another method to identify standards?
   No            Yes—if so: please indicate how >>>>

5. How well did you understand the EE standards, before this project?

   Not at all  Somewhat Unclear  OK  Good  Very Well
   X            X            X  X            X

   *** If Not at All or Somewhat Unclear—Clarify on Reverse >>>>>>>>>>>

6. Please indicate your thoughts on the length of the project, (January to May)

   Too Long  Too Short  Timely
   X          X            X

7. Do you feel confident using the recommendations within your curriculum?

   No confidence  Little confidence  OK  Will Try  Easy to implement
   X              X                X  X            X

8. To what extent will you include 'The Recommendations' in your teaching next year?

   Not at all  Occasional  Some  Fair Amount  Great Extent
   X            X          X  X            X
9. To what extent will you utilize the Resource List to identify more possible activities?

- Not at all
- Occasional
- Some
- Fair Amount
- Great Extent

10. To what extent will having the list of EE standards, help you to teach them more effectively?

- Not at all
- Occasional
- Some
- Fair Amount
- Great Extent

11. Having gone through this process, has your awareness of the EE standards and how you can teach them, changed? [circle one]

- No Change
- Understand Them Better
- More Aware & Will Address

12. Please note any positive aspects of having done this activity and how it will change your perception of teaching environmental education.

13. Please note any helpful suggestions that could improve upon a similar project for future facilitators and staff.

14. Other comments...

If you would like further assistance in teaching about environmental education in your classroom, please put your name, class you teach, & the school you are at, below. Please include a summer phone number and what you specifically would like help with. I will contact you in the near future to help with your concerns. Please complete & remove this survey and turn it in @ the office. Thanks!  Kristen ☺
Appendix T. Project Survey Results

Results from the Survey for the EE Standards’ Audit of All K-4 Teaching Staff

1. Please indicate the ease in use of the survey tool, to determine the EE standards that are taught within your grade-level.

<table>
<thead>
<tr>
<th>Ease in Use</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Difficult</td>
<td>0</td>
</tr>
<tr>
<td>Somewhat Difficult</td>
<td>5</td>
</tr>
<tr>
<td>Fair</td>
<td>13</td>
</tr>
<tr>
<td>Somewhat Easy</td>
<td>13</td>
</tr>
<tr>
<td>Very Easy</td>
<td>2</td>
</tr>
</tbody>
</table>

2. Please indicate your thoughts about the meeting time necessary to accomplish the goal of identifying standards in the curriculum.

<table>
<thead>
<tr>
<th>Meeting Time</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too Long</td>
<td>3</td>
</tr>
<tr>
<td>As Expected</td>
<td>28</td>
</tr>
<tr>
<td>Shorter Than Expected</td>
<td>2</td>
</tr>
</tbody>
</table>

3. Was using staff meeting times to accomplish this goal a satisfactory use of the meeting time.

<table>
<thead>
<tr>
<th>Use of Meeting Time</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
</tr>
</tbody>
</table>

4. Would you prefer another method to identify standards?

<table>
<thead>
<tr>
<th>Preference</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Yes-if so: please indicate how &gt;&gt;&gt;&gt;</td>
<td>5</td>
</tr>
</tbody>
</table>

5. How well did you understand the EE standards, before this project?

<table>
<thead>
<tr>
<th>Understanding Level</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>5</td>
</tr>
<tr>
<td>Somewhat Unclear</td>
<td>8</td>
</tr>
<tr>
<td>OK</td>
<td>12</td>
</tr>
<tr>
<td>Good</td>
<td>7</td>
</tr>
<tr>
<td>Very Well</td>
<td>0</td>
</tr>
</tbody>
</table>

*** If Not at All or Somewhat Unclear-Clarify on Reverse >>>>>>>>>>>>>>>>

6. Please indicate your thoughts on the length of the project, (January to May)

<table>
<thead>
<tr>
<th>Project Length</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too Long</td>
<td>2</td>
</tr>
<tr>
<td>Too Short</td>
<td>4</td>
</tr>
<tr>
<td>Timely</td>
<td>25</td>
</tr>
</tbody>
</table>

7. Do you feel confident using the recommendations within your curriculum?

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>No confidence</td>
<td>0</td>
</tr>
<tr>
<td>Little confidence</td>
<td>0</td>
</tr>
<tr>
<td>OK</td>
<td>12</td>
</tr>
<tr>
<td>Will Try</td>
<td>19</td>
</tr>
<tr>
<td>Easy to Implement</td>
<td>2</td>
</tr>
</tbody>
</table>
8. To what extent will you include ‘The Recommendations’ in your teaching next year?
Not at all  0  Occasional  1  Some  19  Fair Amount  11  Great Extent  3

9. To what extent will you utilize the Resource List to identify more possible activities?
Not at all  1  Occasional  5  Some  14  Fair Amount  13  Great Extent  0

10. To what extent will having the list of EE standards, help you to teach them more effectively?
Not at all  1  Occasional  2  Some  9  Fair Amount  16  Great Extent  5

11. Having gone through this process, has your awareness of the EE standards and how you can teach them, changed? [circle one]
No Change  5  Understand Them Better  18  More Aware & Will Address  10

12. Please note any positive aspects of having done this activity and how it will change your perception of teaching environmental education.
Reminder of what’s to be done
Realize much of this is already done within my existing curriculum.
Reading through standards makes you more aware of what they are.

13. Please note any helpful suggestions that could improve upon a similar project for future facilitators and staff.

14. Other comments...
It is great to know we have a resource in you! Thanks
The following graphs show the information from the Survey for the corresponding numbered questions.

1. Audit Survey Use

5. EE Standards Understanding Before Project

7. Confidence Using Recommendations

8. Extent of "Recommendations" Inclusion into Curriculum
9. Utilization of Resource List

10. Use of the EE Standards List to Teach More Effectively

11. Change in EE Standards Awareness re: Teaching

12. & 13. 4th Grade Comments

- "I am more aware of them and how I can incorporate them into other content areas."
- "I will certainly try some of the activities that are suggested."
- "Thanks for the bibliography and other sources."
Elementary Comments:

- "Realize much of this is already done within my existing curriculum."
- "Reading through standards makes you more aware of what they are."
- "Reminder of what's to be done."
- "Easy to integrate."
- "I like the integration."
- "Awareness." "Good Reference."

More Elementary Comments:

- "Very Interesting to see how each school building view what they do/not cover."
- "Will help develop a unit devoted to EE."
- "I will extend discussions & projects to include all aspects of the standards."
- "Aware.../Include EE in daily teaching & expectations that need to be met."
### Middle School Matrix of Standards Correlations

<table>
<thead>
<tr>
<th>Stnd.</th>
<th>Gr. 5</th>
<th>Gr. 6</th>
<th>Gr. 7</th>
<th>Gr. 8</th>
<th>Missing</th>
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</thead>
<tbody>
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<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.8.2</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.8.3</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>A.8.4</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td></td>
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<td>B.8.7</td>
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</tbody>
</table>

Note: The table represents the correlation of standards across different grades (Gr. 5, Gr. 6, Gr. 7, Gr. 8) and indicates whether the standard is missing (denoted by a cross 'x') or present. A blank cell indicates a standard that is not applicable or not included in the specific grade.