

Integrating *No Child Left Inside* (NCLI) Within the Framework of *No Child Left Behind* (NCLB)



A Workbook for Teachers

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Introduction

Today's students have fewer opportunities to get in touch with the outdoors. As Richard Louv notes in his book *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder* (2005), increasingly sedentary lifestyles are leading to a growing range of childhood and adult maladies. Days spent outdoors at play were the norm in previous generations; now, sedentary play is much more common. This has inspired the *No Child Left Inside* movement, or *NCLI*.

No Child Left Inside promotes the development of an environmentally literate citizenry that is able to identify and address problems that impact quality of all life. This can be achieved by designing and offering meaningful outdoor experiences. *NCLI* provides opportunities for intellectual development, reconnects children to nature, and promotes responsible behavior. It integrates core academic topics with field experiences that provide important opportunities for students to engage in hands-on, real-world problem solving and scientific inquiry.

Integrating *NCLI* within the framework of *No Child Left Behind* (*NCLB*) may seem overwhelming. *NCLB* has led to prescriptive standards and assessment plans which have made integrating environmental concepts in the classroom more challenging. However, *NCLI* can be effectively combined with existing state standards to strengthen students' learning experience. This workbook offers a step-by-step approach that can help teachers integrate *NCLI* within the *NCLB* framework.



Objectives

By following this workbook, you will be able to:

- a. Design specific science-based activities that correlate with the state science standards
- b. Plan a lesson that integrates specific learning standards and the principles of *NCLI*
- c. Identify challenges to *NCLI* at your institution and determine how your teaching practices may address those challenges
- d. Share the outcomes of your project with other teachers

Implementation

So, how is *NCLI* related to teaching and how can educators integrate it within *NCLB*?

Educators are always exploring current trends and progressive teaching strategies to empower their students. The following model can help formal and non-formal educators to integrate environmental and outdoor topics into their curricula. The model has six steps.



Step 1

Identify the topic that you need to teach from your own curriculum. It is a good idea to pick a topic that is related to a local environmental issue, like pollution or population growth. This will be relevant to learner’s daily life and the impact of this learning will be lasting.

Example:

Grade: 6	Subject: Science
Topic: Weather – Humidity	

Common Myth about Environmental Education

It may seem like environmental education is only applicable to the science curriculum, but that is untrue. Math lessons can use real-world environmental data to motivate statistical analysis, and social science lessons can analyze the historical, economical and cultural factors that affect environmental issues in the community. All disciplines can use environmental education to stimulate discussions of citizenship and community action.

Step 2

Using the learning standards available at <http://www.isbe.state.il.us> (or similar standards available for your state) to identify the goals, standards, and benchmarks that are most appropriate for your discipline, topic, and grade level. Be as clear as you can be.

The worksheet on the following page should help you record the state's goals, standards, and benchmarks. Use this form to help you plan your lesson. For step 2, you should complete the information required on the worksheet on the following page.

Example:

Grade: 6

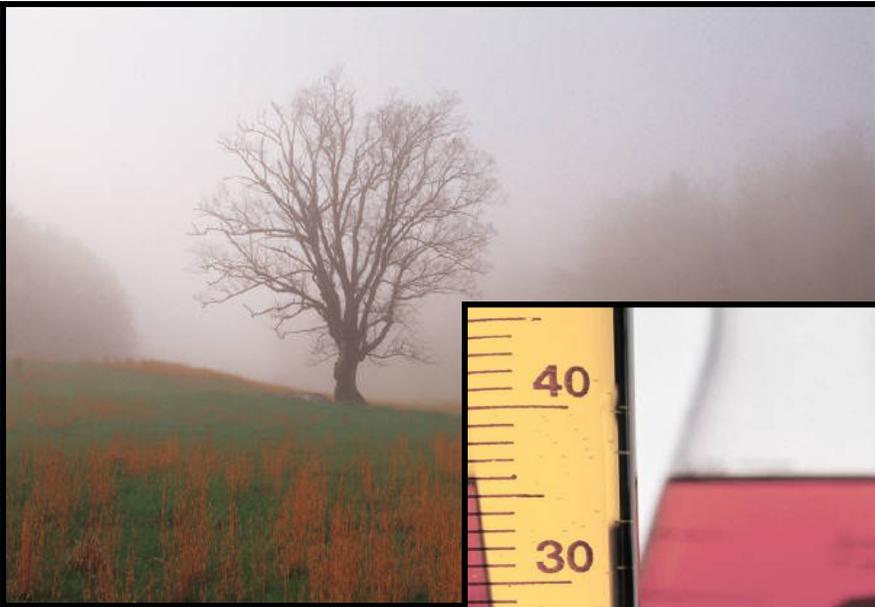
Subject: Science

Topic: Weather – Humidity

ILS Goal: 11A, 12E

ILS Standard: 11A3a, 11A3c, 11A3f, 11A3g, 12E2a, 12E3a

Activity: Use psychrometers to record humidity data on school grounds and determine relative humidity both indoors and outdoors. Compare changes in humidity with other atmospheric conditions that may affect humidity.



Lesson plan worksheet

Name: _____

Grade: _____

School: _____

Subject: _____

Topic:

ILS Goal(s):

ILS Standard(s):

Activity: *Include the location to be used and any materials necessary for the activity*

Assessment: *How will you assess student learning?*

Step 3

Identify an activity idea or experience that you would like to use for teaching the lesson. Describe the activity in the final section of the lesson plan worksheet. Be sure to include details on the location that the field experience will occur in as well as the materials the students will need to complete the activity. If necessary, describe any pre-requisite knowledge the students will need before beginning the activity.

Unfortunately, it is impossible to pursue every great lesson idea. Some may be too time consuming, cost-prohibitive, or may not support the state standards enough to include in the curriculum. In order to assess the feasibility of your activity or experience, complete the SWOT analysis worksheet found on the next page.

Definition: SWOT Analysis

SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. It is commonly used in business situations, but the SWOT analysis is a useful tool for gaining understanding and making decisions in a variety of situations. The SWOT analysis provides a framework for reviewing the activity, strategy, and direction prior to planning the methodology of an idea or experience.

Example:

<p style="text-align: center;">Strengths</p> <ul style="list-style-type: none">• Existing curriculum connection• Time frame fits curriculum better for going outside	<p style="text-align: center;">Weaknesses</p> <ul style="list-style-type: none">• Weather issues for outdoor part• Must stay away from windows (potential distraction for students)• Poor quality of psychrometers• Need additional aides for behavior issues
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none">• Already own equipment• Able to go outside with prior approval	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none">• Time constraints in the period• Student behavior• Want to use interior courtyard as well as other areas, but it is not permitted

SWOT Analysis

Analyze the strengths, weaknesses, opportunities and threats related to the activity, and write them in the appropriate quadrants below.

STRENGTHS

WEAKNESSES

OPPORTUNITIES

THREATS

Step 4

It is important to have another educator review your idea or activity. Ask peers or colleagues to look over your idea and provide feedback, and then revise your plan. Pay close attention to any threats or weaknesses your colleagues find.

You should also identify the specifics of the learning experience and define your indicators of success. Make sure that you have all the resources needed for your activity.

Definition: Indicators of success

Indicators of success measure how effective instruction is, and whether or not you met your goals. Generally, this is a measure of whether or not students learn. Oakes (1989) argues that indicator systems also should include assessments of school context, such as increased use of resources.

Step 5

Time to implement your activity!

Now that you have all the pieces in place, conduct your activity. Remember to account for the threats you identified in the SWOT analysis, especially anything that could jeopardize the students' safety. Immediately after the activity, record your thoughts on the experience, including modifications you may want to make before attempting the activity again.



Step 6

Conduct both formative and summative assessment to determine the activity's effectiveness and to revise your activity.

Definition: Formative and Summative Assessment

There are two types of assessment. Formative assessment occurs frequently throughout instruction. It can be used to make changes to instruction based upon student performance. While formal assessments, like quizzes, can be used for formative assessment, other less formal measures are often used, including observation, reflection, or even surveys.

The other type of assessment is summative assessment. It generally takes place after a period of instruction is completed. Summative assessment measures how much learning has occurred (e.g., by grading or scoring a test or paper).

Example:

Grade: 6

Subject: Science

Topic: Weather – Humidity

ILS Goal: 11A, 12E

ILS Standard: 11A3a, 11A3c, 11A3f, 11A3g, 12E2a, 12E3a

Activity: Use psychrometers to record humidity data on school grounds and determine relative humidity both indoors and outdoors. Compare changes in humidity with other atmospheric conditions that may affect humidity.

Assessment: Students will submit a report detailing the humidity data. The report should also include an explanation of the changes in humidity, as researched in local weather reports.

Sample English Lesson

Grade: 10

Subject: English

Topic:

Adjectives, description, scene, mood

ILS Goal(s):

3.A – Use correct grammar, spelling, punctuation, capitalization and structure.

3.B – Compose well-organized and coherent writing for specific purposes and audiences

ILS Standard(s):

3.A.4 – Use standard English to edit document for clarity, subject/verb agreement, adverb and adjective agreement and verb tense; proofread for spelling, capitalization and punctuation; and ensure that documents are formatted in final form for submission and/or publication.

3.B.4a – Produce documents that exhibit a range of writing techniques appropriate to purpose and audience, with clarity of focus, logic of organization, appropriate elaboration and support and overall coherence.

Activity:

Periodically, as weather permits, students will go outdoors to the field outside of the English wing and describe what they see. Students should focus on simply listing adjectives to describe a single item or feature, like the clouds or a specific tree.

Repeat the exercise whenever the scene is changed in a significant way, like after a rainstorm or in spring when plants start growing. Gradually increase expectations, to include additional features or a pre-determined mood.

Assessment:

After completing the observation exercise, students should turn their list of descriptions into a short paper (a few sentences or paragraphs) that uses the description to create a specific mood.

Sample Math Lesson

Grade: 7

Subject: Math

Topic:

Measurement, ratios, geometry, statistical analysis

ILS Goal(s):

6.C – Compute and estimate using mental mathematics, paper-and-pencil methods, calculators, and computers.

6.D – Describe the relationship between two sets of data using ratios and appropriate notations (e.g., a/b , a to b , $a:b$).

7.A – Measure and compare quantities using appropriate units, instruments, and methods.

7.C – Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.

10.A – Organize, describe and make predictions from existing data.

10.B – Formulate questions, design data collection methods, gather and analyze data and communicate findings.

ILS Standard(s):

6.C.3a Select computational procedures and solve problems with whole numbers, fractions, decimals, percents and proportions.

6.D.3 Apply ratios and proportions to solve practical problems.

7.A.3a Measure length, capacity, weight/mass and angles using sophisticated instruments (e.g., compass, protractor, trundle wheel).

7.C.3a Construct a simple scale drawing for a given situation.

10.A.3b Compare the mean, median, mode and range, with and without the use of technology.

10.B.3 Formulate questions, devise and conduct experiments or simulations, gather data, draw conclusions and communicate results to an audience using traditional methods and contemporary technologies.

Activity:

On three successive days, students will go outside, each day at a different time (morning, noon, and afternoon). The first time they will work with a partner to measure their height and to measure their shadow. The next two times, they will only measure the length of their shadow. Each time the class will need to determine the angle of the sun above the horizon.

The activity will be conducted in the lawn outside of the math wing. The students will need tape measures, large protractors, and pen and paper to record the results.

Assessment:

Students will find the mean, median, and mode for both height and shadow length (at each separate time) for the entire class. They should also draw diagrams showing how the angle of the sun is related to the length of the shadow.

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Disclaimer

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This workbook is not intended to advocate any particular viewpoint and does not necessarily reflect the opinions of the Environmental Protection Agency or Northern Illinois University. Use of this workbook is recommended for educational purposes only.

This workbook can be freely downloaded from <http://www.niu.edu/ncli> and used or disseminated for educational purposes.

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