

Part I Forest Health and Fuel Reduction Treatment Proposal

Lesson Plan

A: Introduction and Description

This lesson began as a defensible space unit 3 years ago. It was developed after a textbook section, and having the North Tahoe Fire Department coming on site to speak and show the students about their free chipping program during a Science Day program. The lesson was build as an informational piece for the students to explain to their parents about the dangers of not having defensible space, and fires in California made that a very obvious fact during that year. Students became concerned and wanted to take the information to their parents. They wrote letters informing their parents of the defensible space requirements and the free chipping program that the NT Fire Department had to offer.

This year the lesson took on three community organizations: The California State Park - Burton Creek. SWEP, and North Tahoe Fire Department. SWEP organizer, Jan Ellis was instrumental in contacting the CA State Park. Students will work in teams to evaluate the health of the forest and create a fuel reduction treatment plan. The students will write up a brief description to justify their recommendations that will be considered by the State Park for the prescribed burn that will happen in the Fall. The NT Fire Department will follow up with a demonstration and class presentation about defensible space and the community around us.

During this lesson, students will be working with Jan Ellis from SWEP. She will give a class presentation on "HOW" to evaluate, plot and gather information and report it to the park service. She will also guide the students through the outdoor activity with high school students from North Tahoe High acting as adult volunteers.

North Tahoe Middle School is nestled on the edge of the forest. It is a small school that is adjacent to the North Tahoe High School. The forest is in critical condition with many trees that are dead or dying. The forest is extremely dense with trees, brush, forest litter. Students are slightly aware of the prescribed burns that happen in the fall, only by having to live with the smoke that annoys them. They see the signs along side the roads during the spring and fall months. This lesson brings awareness to the forest health, defensible space, biodiversity, succession, and interdependence on living things upon each other.

Students will also become aware of their civic responsibilities and be able to evaluate themselves throughout the lesson.

As a reflective piece, students will produce an information pamphlet through their Language Art class. These pamphlets may be reproduced and placed in key locations throughout the community to inform them about the forest health, and defensible space.

B: Instructional Process -

1. Preparation: Describe content standards key events and necessary steps that happen prior to the service activity.

1) 6th Grade Science Standards

5. Organisms in ecosystems exchange energy and nutrients among themselves and with the environment.

B. over time, matter is transferred from one organism to others in the food web, and between organisms and the physical environment.

C. populations of organisms can be categorized by the functions they serve in an ecosystem.

D. different kinds of organisms may play similar ecological roles in similar biomes.

E. the number and types of organisms an ecosystem can support depends

- on the resources available and abiotic factors, such as quantity of light and water, range of temperatures, and soil composition.*
6. *Sources of energy and materials differ in amounts, distribution, usefulness, and the time required for their formation.*
 - A. *the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process.*
 - B. *different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and classify them as renewable or nonrenewable.*
 - C. *natural origin of the materials used to make common objects.*
 7. *Scientific progress is made by asking meaningful questions and conducting careful investigations.*
 - B. *select and use appropriate tools and technology to perform tests, collect data, and display data.*
 - C. *construct appropriate graphs from data and develop qualitative statements about the relationships between variables.*
 - D. *communicate the steps and results from an investigation in written reports and verbal presentations.*
 - E. *recognize whether evidence is consistent with a proposed explanation.*

2) 6th Grade Language Arts Standards

Reading 1.4: Using context clues to interpret unknown words in expository text.

Reading 2.3: Clarifying main ideas by using multiple sources of information.

Reading 2.4: Clarifying understanding by creating logical notes, summaries, or reports.

Reading 3.3: Analyze the influence of the setting on the problem and resolution.

Writing 1.1: Choose the form of writing suitable for the intended purpose.

***Writing 1.2: Expository writing that engages the interest of the reader, states a purpose, is developed with details, and has a good conclusion.*

Writing 1.3: Use an effective organizational pattern.

Writing 2.5: Write persuasively.

Language Conventions 1.1: Sentence structure.

Language Conventions 1.4: Correct capitalization

Language Conventions 1.5: correctly spell frequently misspelled words.

3) Civic Skill and Behavior

Personal Responsibility

Caring for others and for community

- **How will youth be involved in identify community needs or issues?**

Students will be able to identify the need for forest health/defensible space after reading through Prentice Hall Focus on Earth Science 6th Grade: Chapter 20 Section 1 - 3 and having discussions about forests. A lesson from "Project Learning Tree, Tree-tectives" will give the students knowledge of a healthy forest. Students will complete a tree damage report for the area closest to the parking lot of the school. At this point the students should generate the

idea that our forest needs help.

- **How will the community collaborate in the needs identification?**

California State Parks: Burton Creek property will be the site for the forest health evaluation. Information gathered will be given to the parks for their prescribed burn planned for that area in the fall of '06. North Tahoe Fire Department will present information about Defensible Space and provide a chipper to demonstrate and help students in a program to reduce forest debris in a reselected area. Sierra Watershed Education Partnership will provide class instruction prior to and during the gathering of information in the field. North Tahoe High School will provide students to help with the class gathering of field information.

- **List the Academic Content Standards and other student outcomes such as those for school-to-career, character education that will be addressed in this lesson plan.**

1) Science Standards:

5c: Students will be able to categorize the functions of populations of organisms and what functions they serve in the ecosystem.

5e: SWBAT determine the number and types of organisms and ecosystem will be able to support due to the resources and abiotic resources available.

6b: SWBAT classify renewable or nonrenewable resources

6c: SWBAT determine natural origin of the materials used to make common objects.

7b. SWBAT use scientific progress to select and use appropriate tools and technology to perform tests, collect data, and display data.

7c. SWBAT construct appropriate graphs from data

7d. SWBAT communicate the steps and results from an investigation in written reports.

7e. SWBAT recognize whether evidence is consistent with a proposed explanation.

- **List the Civic Responsibility (personal, social or civic) outcomes for students**

Personal Responsibility: *SWBAT make responsible choices during free time, follow through on responsibilities, uses materials respectfully, and show impulse control. SWBAT also have productive work habits such as completing class and homework assignments, be organized, participate in class, engage in material, work independently with minimum teacher support, stays on task, and shows best effort.*

Caring for others and for community: *SWBAT volunteer to help peers, have feelings for others, show patience with younger children. SWBAT demonstrate concern for needs of the class or community, cooperate in group situations, comprehend the groups needs as important, will not tease others, will be able to work on a project with people different than themselves, put trash and recycling items in the proper places, is considerate of the environment, and does not waste resources/materials*

- **Describe how students (and community partners) will know what students are expected to know and be able to do at the end of the lesson.**

Students will read and view information about the history of our forests and their management from a Project Learning Tree Lesson, a Defensible Space article from the Tahoe World, and a power point "Solving the Wildfire Crisis" from The Forest Foundation will also be presented.

Guest Speaker, Jan Ellis will present a lesson on the vigor of the tree, and explain the data

sheets that the students will be working from. Tape measures will be presented and a simulated tree plot will be used to practice reading the coordinates.

- **How will the prior knowledge of the student be identified and built upon (such as the use of a KWL)?**

Students will be asked opening questions to spark discussion prior to reading from the science textbook. Students will build upon information presented during the discussion.

- **What issues or needs must be addressed prior to the service (eg safety, risk management, personal or social issues, possible road blocks, school support or permission) so that the youth and or agency are well prepared.**

1. Students will be informed as to their requirements during the field inspection.

2. Behavior expectations will be reviewed.

3. Supervision will be provided by High School students, SWEP personnel, possible parents and the teacher

2. Action: Describe the service that will occur.

- How will you ensure that the service will be high quality?

By linking the Forest Health activity with the future Prescribed Burn by the CA State Park, the students will become active listeners and learners so they will do a competent job when determining which tress should remain and which should be removed.

- How will the service activity help students meet the content standards?

Students will be able to use their knowledge from the text and other reading to insure that their choices are well made. They will be putting the information into brochures to be distributed to family and the public.

- How will students identify the civic/social or personal responsibility areas that will be addressed in this lesson?

Students will fill out two surveys that will introduce them to the civic/social responsibilities. They will fill out the surveys at the end of the project to be able to evaluate their growth during the project.

- How will students participate in the service (individually / groups – after or during school)?

Students will be participating as groups in gathering the information and putting brochures together. Students will also work individually to write informational letters to their parents about the Defensible Space requirements for their home.

- Describe any supervision that will be necessary.

Students will be supervised by SWEP personnel, their teacher, high school students, fire personnel, and possible ranger and parent participation.

3. Reflection: Describe the methods that youth and others will use to reflect on the service-learning activity.

- Describe how students will reflect before, during and after the service activity.

Verbal discussion in the beginning, Cornell Note gathering will be used at the beginning of the lesson, data gathering and verbal reflection after the field day, letter writing to parents, civic responsibility surveys, and an informational pamphlet for the community.

- Describe what the students will be asked to reflect upon (e.g. content standards, civic responsibility)?

Students will reflect upon specific standards and civic responsibilities.

4. Student Assessment: Describe assessment methods that will be used to the students knowledge and skills.

- How will students be assessed on their learning (academic and civic standards).

Students will be assessed through an “Assessment of Student Performance on Standards” evaluation sheet . There will be 4 levels of performance (Emerging, Progressing, Proficient, Exemplary) along with Evidence. They will also be receiving a grade in Science and Language Arts.

- Please provide actual assessment instruments and directions for their use (eg traditional tests, KWL’s, performance based assessments, others).
Please see attached Assessment of Student Performance on Standards evaluation sheet.

5. Project Evaluation and Expansion: Describe how the quality of the service-learning activity will be evaluated.

- How will the following areas of impact be evaluated: Student Achievement of the Content Standards and Civic Responsibility, Role of Community Partner and how well were their community needs met.
- Describe how the project could be expanded.
The information gathered could be used for a potential ropes course site for the Tahoe Truckee Unified School District, and reduction of fuel in that area.

6. Celebration Public Recognition:

- Describe how the service will be celebrated.
- Describe how the public will be informed about the service and the learning accomplished.
Student recognition will “hopefully” be presented in the local newspaper, on a display board for the Open House, and through the school newsletter.

7. Materials and Staff Development Needs:

- Include instructional worksheets or forms that may be used in the lesson.
See attached
- Describe any staff development that might be appropriate / necessary for teachers and community partners.
None needed at present time.

8. Funding and Resource Support / Sustainability:

- Describe the funding and resources necessary to conduct the activity.
- Describe how the activity might be sustained.
This project has a yearly sustainability, as the need to inform the parents and public need to be aware of defensible space and their forest’s health. This information is critical to help eliminate a catastrophic fire from occurring.
- List the contact information of the Collaborating Partners that were indicated in Section E. of the Profile
SWEP
CA State Parks: Burton Creek
North Tahoe Fire Protection District
North Tahoe High School: Kirby Reed’s River Ecology Class/Spring Semester

Part II – Lesson Plan Profile

In the sections below you are requested to provide information on various dimensions of your lesson plan. This information will be used to help people find lesson plans that are of interest to them and will meet their needs. Some sections request that you type in information (Sections A,D) while others ask you to make selections from lists. To make selections from lists just delete the items that do not apply.

- A. Contact information on how to get in touch with the author of the lesson plan : leckert@ttusd.org
- B. The educational setting and the youth that will be engaged in the activity. 6th Grade Earth Science
- C. Kinds of service provided.

D. The content standards that will be address through the service-learning activity.

1) 6th Grade Science Standards

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Language Conventions 1.5: correctly spell frequently misspelled words.

3) Civic Skill and Behavior

Personal Responsibility

Caring for others and for community

E. The partners that provide collaborative support.

SWEP

CA State Parks: Burton Creek

North Tahoe Fire Protection District

North Tahoe High School: Kirby Reed's River Ecology Class/Spring Semester

F. The kinds of reflection that will occur before, during and after the activity

Verbal discussion in the beginning, Cornell Note gathering will be used at the beginning of the lesson, data gathering and verbal reflection after the field day, letter writing to parents, civic responsibility surveys, and an informational pamphlet for the community.

Section A: Contact Information and Lesson Abstract

Contact Information

Sponsoring Organization;

North Tahoe Middle School/Tahoe Truckee Unified School District

Lindee Eckert

P.O. Box 5099

Tahoe City, CA 96145

530-581-7070 ext. 4356

Fax: 530-581-1237

Leckert@ttusd.org

Superintendent Region - Select one

1,2,3,4,5,6,7,8,9,10,11

CDS code Provide the County / District / School code associated with the Sponsoring Organization (if applicable).

Abstract

Forest Health and Fuel Reduction Treatment Proposal

Burton Creek State Park

Abstract Provide a narrative of less than 150 words that will give the viewer an overview of the kind of service, grade level, content area and other pertinent information.

Degree of Complexity for Implementation Select one of the levels below to indicate the difficulty or complexity of the activity, eg a one time letter writing activity would be low and an ongoing school wide recycling program for the school and community would be high.

Medium

Section B: Educational Setting and Participant Information

This section provides information about the educational institution sponsoring the activity and the student participants providing the service.

Educational Institution - Select one

Public

Comprehensive Schools - Select the target grade levels for the lesson

4-6

7-8

9-12

Alternative Settings Select the setting that reflects the kind of program for which the lesson plan is designed.

Other

Participant Configuration Select the configuration of participants providing the service.

Whole Class Project

Cross-age or Multi grade

School Schedule- Select one

Traditional 9 month

Section C: Service Provided Kinds of service provided

Overview of Service

Level of Service – Select any or all of the following levels of service that will be focused on in the lesson

Direct Service – Participants work directly with the recipient of the service or directly provide a service.

Indirect Service – Participants work behind the scenes to channel resources to support others providing a direct service.

Advocacy – Making a difference through political action and or public education.

Service Issue Areas - Select the issue area(s) on which the lesson focuses.

Education

Public Works and Safety

Civic Action

Health

Human Services and Social Needs

Environment

Duration of Service Activity – Select one

Ongoing (annually or all the time)

Specific Service Activity Areas – Select any of the specific kinds of service that will be provided.

Educational

Dropout Prevention

Mentoring

Public Works and Safety

Building and Grounds Restoration / Preservation

Public Safety General (disaster preparedness, public works)

Housing and Home Repair

Historical Documentation and Collection

Conflict Resolution / Healthy Relationships

Safe Streets and Neighborhoods

Civic Action

Health

Personal Health / Hygiene Education

Health Prevention Services

Social Services

Fitness

Human and Social Needs

Mental Health

Family Life

Environment

Cleanups

Tree Planting

Local Conservation Corp

Restoration of habitat or lands

Public Access to Lands and Parks

Non Food Gardens

Recycling/ Conservation

Water Quality

Toxic Chemical Avoidance

Section D: Lesson Content Indicate the subject areas that the lesson plan will focus on, list the content standards civic responsibility goals or standards that will be address through the service-learning activity.

Subject Area(s) - Select all content areas that will be targeted in the lesson.
(CBEDS 1998)

Agriculture Education

Applied Technology and Computer Education

Business Education

Consumer and Home Economics

Visual and Performing Arts

Foreign Languages

English/ Language Arts

English Language Development

Health Education

History / Social Science

Industrial Technology

Mathematics

Physical Education

Safety Education

Science

California State Academic Content Standards – List the CDE academic content standards that will be address in the lesson.

CDE Standards Code: (e.g. H/SS 6.5,)

District standards (write out the standards that will be addressed in this lesson)

Other Standards (Optional)

Other Standards Describe the School to Career / Workforce Preparation / SCANS Competencies/ Character Education Standards or other standards that will be addressed in the lesson.

Civic / Social / Personal Responsibility Goals or Standards – Describe the kinds of student responsibilities that will be addressed in the lesson.

Civic Responsibility

Section E: Collaborating Partners Indicate the kinds of non-profit and for profit partners that provide collaborative support (Select all that apply).

Community Based Organizations (CBO)

Environmental Organizations

CBO's Other

Associations and Agencies

Educational Associations (PTA, Alumni,)

Associations Other

Local / State / Federal Governmental Agencies

Environmental

Forestry

Public Health

Civil Services

Parks and Recreation

Civil Agencies Other

Educational Institutions

Middle Junior High

High School

Partnership Academy

Corporation for National Service

Learn and Serve Higher Education

Learn and Serve Community Based

Learn and Serve Indian Tribes

AmeriCorp Members & NCCC

AmeriCorp VISTA

Retired Senior Volunteer Programs

Foster Grand Parents

Senior Companion

Individual Partners

Partners Other

For Profit Partners

Section F: Reflection Describe the kinds of reflection that will occur before, during and after the activity. Select all that apply

Reflection

Journals

Video / Pictorial presentation

Reflection Other