



# Lesson Plans



## 1. Wetland: Past Present future

<http://www.ncrtec.org/tl/camp/wetlands/wtlnds1.htm>

Standards Covered:

- 5th Grade- 3d, 3e, 6a-i
- 6th Grade- 2d, 5a-e, 6a-c, 7a-h
- 7th Grade- 3.1-3.5, 7a-e
- 8th Grade- 6a-c, 9a-g

Students investigate a local wetland ecosystem to determine how human interactions affect the system. Their investigation is guided by open-ended questions that they generate in work teams. This unit takes an interdisciplinary approach, looking at present-day issues related to the natural community, such as habitat destruction due to farming, roadways, housing, landfills, recreation, and environmental protection/restoration efforts.

## 2. Ducks Unlimited Unit Plans by Grade

[http://www.greenwing.org/dueducator/lesson\\_plans.html](http://www.greenwing.org/dueducator/lesson_plans.html)

Has complete student and teacher guides with reading materials and activity suggestions.

### a. Wetland Ecosystems I - Habitats, Communities and the Diversity of Life

#### [Student Manual, Grades 4-6](#)

A 26-page student manual for grades four to six. Nine lesson plans including hands-on, fun and interactive activities for use both in and outside the classroom. Subject areas include wetland organisms, abiotic/biotic, wetland types and zones, adaptations, life cycles, food webs, interactions, producers/consumers/decomposers, and natural and unnatural changes in the wetland.

### b. Wetland Ecosystems II - Interactions and Ecosystems

#### [Student Manual, Grades 7-8](#)

A 49-page student manual for grades seven and eight. Seven lesson plans and four field activities for use both in and outside the classroom. Subject areas include wetland types, energy pyramids, abiotic factors, feeding adaptations and organism relationships, population effects, human interventions and other ecological concepts. A variety of hands on field activities at a wetland site demonstrate sampling techniques, observation, team work, safety procedures, data analysis, experimentation and use of technology.

### c. Wetland Ecosystems III - Evolution, Diversity and the Sustainability of Ecosystems

#### [Student Journal, Grades 9-12 \(Acrobat PDF: 588KB\)](#)

A 31-page student manual for grades nine to twelve. Six lesson plans including field trip activities for use at a local wetland. Subject areas include environmental impact assessment, sociopolitical considerations in

environmental solutions, biodiversity, sustainable development, adaptations, natural selection, wetland types, pollution and taxonomy. A variety of hands-on field activities demonstrate sampling techniques, observation, teamwork, safety procedures, data analysis, experimentation and use of technology.

### 3. Create a Wetland Scene

<http://www.nationalgeographic.com/xpeditions/lessons/16/g35/freshwater35.html>

Standards Covered:

- 5th Grade- 3a-d, 4a-e

In this lesson, students will learn about the importance of wetlands. They will learn about the different types of freshwater wetlands, and the things that threaten their health. Finally, they will study specific examples of wetland areas of the U.S., and what is being done to protect them.

### 4. Filtering Water to prevent Pollution

<http://www.iit.edu/~smile/bi8701.html>

Standards Covered:

- 6<sup>th</sup> Grade- 5e, 6a-c, 7a-h
- 7<sup>th</sup> Grade- 7a-e
- 8<sup>th</sup> Grade- 9a-g

Students will see the techniques that are used to filter our water. Students will gain an idea as to various pollutants which can contaminate our water and an appreciation of the need to keep our water supplies clean.

### 5. How Pollution Disrupts our Natural Environment

<http://www.iit.edu/~smile/cb1198.htm>

Standards Covered:

- 4<sup>th</sup> Grade- 3a-d, 6a-f
- 5<sup>th</sup> Grade- 3d, 4a-e, 6a-i
- 6<sup>th</sup> Grade- 3a-d, 4a-e, 6a-c, 7a-h

In this activity, students will use experimentation and observation to describe ways that technology is helping to solve the problems of pollution. Students will be able to list 3 causes of air pollution and how it affects plant and animal life and also describe how Global Warming has affected our atmosphere.

## 6. Elementary Ecosystems

<http://www.nationalgeographic.com/xpeditions/lessons/08/gk2/ecosystem.html>

### Standards Covered

- 1<sup>st</sup> Grade- 2a-d, 4a-b
- 2<sup>nd</sup> Grade- 2b-d, 3c-e, 4c-d
- 3<sup>rd</sup> Grade 3a-e

This lesson teaches students the basics of species interdependency within an ecosystem or [habitat](#). Students will perform a simple simulation to see how one species can affect many others, and gain a basic understanding of the importance of [biodiversity](#). For older students, you may want to define and use the word "ecosystem" in the lesson.

## 7. Introduction to the Nature Journal- Smithsonian in your Classroom

[http://www.smithsonianeducation.org/educators/lesson\\_plans/journals/smithsonian\\_siyc\\_fall06.pdf](http://www.smithsonianeducation.org/educators/lesson_plans/journals/smithsonian_siyc_fall06.pdf)

### Standards Covered (English standards also covered)

- K- 1a, 2a-c, 4a-e
- 1<sup>st</sup> Grade- 2a-e, 4a-e
- 2<sup>nd</sup> Grade- 1b,g, 2a-f, 4a-f
- 3<sup>rd</sup> Grade- 3a-d, 5a-e
- 4<sup>th</sup> Grade- 2a-c, 3a-d, 6a
- 5<sup>th</sup> Grade- 2a-g
- 6<sup>th</sup> Grade- 5a-e

These classroom activities are intended as a preface or complement to a project increasingly popular in elementary and middle schools—the keeping of nature journals, whether on class outings or when the students are on their own. Included in the issue are words of advice for students from journal-keeping Smithsonian naturalists.

## 8. Reviled and Revered: Toads, Turtles, Snakes, Salamanders, and Other Creepers and Crawlers

[http://www.smithsonianeducation.org/educators/lesson\\_plans/herps/start.html](http://www.smithsonianeducation.org/educators/lesson_plans/herps/start.html)

### Standards Covered

- 3<sup>rd</sup> Grade- 3a-e, 5b
- 4<sup>th</sup> Grade- 2b, 3a-d
- 5<sup>th</sup> Grade- 2a-g
- 6<sup>th</sup> Grade- 5a-e
- 7<sup>th</sup> Grade- 3a-b, 5a-c

Throughout history, people have viewed reptiles and amphibians with a combination of fear, fascination, admiration, revulsion, and respect. In these lessons we'll look at this "love/hate relationship" – a long, colorful relationship that has elevated some herps to the

status of gods and doomed others to near extinction. But first we'll review some general information about the animals themselves.

## 9. Creature Feature

[http://www.blm.gov/education/00\\_resources/articles/some\\_like\\_it\\_hot/classroom.html](http://www.blm.gov/education/00_resources/articles/some_like_it_hot/classroom.html)

### Standards Covered

- 1<sup>st</sup> Grade- 2a-e
- 2<sup>nd</sup> Grade- 2a-f, 3e
- 3<sup>rd</sup> Grade- 3a-e
- 4<sup>th</sup> Grade- 2a-c, 3a-d
- 5<sup>th</sup> Grade- 2a, 3d-e
- 6<sup>th</sup> Grade- 5a-e, 6a-c

Students learn about riparian zones, design a creature adapted to living in a riparian zone, then answer questions about its features.

## 10. Native or Not

[http://www.blm.gov/education/00\\_resources/articles/the\\_big\\_empty/posterback.html#Native](http://www.blm.gov/education/00_resources/articles/the_big_empty/posterback.html#Native) (scroll down to find this lesson plan)

### Standards Covered

- 3<sup>rd</sup> Grade- 3a-e
- 4<sup>th</sup> Grade- 2a-c, 3a-d
- 5<sup>th</sup> Grade- 2a-g
- 6<sup>th</sup> Grade- 5a-e
- 7<sup>th</sup> Grade- 1a-d, 3a-e, 5a

Students explore local plant communities, collect plants, research their history, and determine if they are native or introduced.