

# LESSON 5 Value Assessment

## OBJECTIVES

- Assess values and ethics as related to paleontology and petrified wood theft;
- Appreciate the mission of the National Park Service to provide enjoyment while still preserving resources and values; and
- Recognize that choices have consequences.

## MAIN IDEA

To understand different values regarding protection of petrified wood as a paleontological resource.

## ESSENTIAL SKILLS

- cooperating
- open-minded attitude
- cultural values
- multiple perspectives
- evaluation
- analysis
- synthesis
- decision making
- listening

## MATHEMATICAL SKILLS

- interpreting data
- logic

## MATERIALS

- student journals

## PAGES TO PHOTOCOPY

- *Natural Wonders Vanish by the Piece* page 52
- *Petrified Wood, A Costly Souvenir* page 53
- *Public Meeting Agenda* page 56
- Role play identities pages 57-58
- Cover letter page 60

The following table aligns this lesson with the Arizona Science Standards (5-24-04). Most curriculum connections shown are implicit within the lesson. Others are achieved through teacher interaction with the class, including discussion of the background information provided. Teachers are encouraged to expand on the lesson to increase its potential as an educational tool and a fun learning experience.

<b>CURRICULUM CONNECTIONS: PALEONTOLOGY LESSON 5 VALUE ASSESSMENT</b>					
Arizona Science Standards (5-24-04)					
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Strand 1: Inquiry Process	C3-PO2 C3-PO5 C4-PO1	C3-PO1 C3-PO2 C3-PO3 C3-PO4 C4-PO1*	C3-PO1 C3-PO2 C3-PO3 C3-PO6 C3-PO5	C3-PO1* C3-PO2* C3-PO3 C3-PO4 C3-PO5 C3-PO7 C4-PO5*	C3-PO1* C3-PO2* C3-PO3 C3-PO7 C3-PO8* C4-PO5*
Strand 2: History & Nature of Science	C1-PO2		C1-PO4 C2-PO3	C1-PO4 C2-PO3*	C1-PO4 C2-PO1*
Strand 3: Science in Personal & Social Perspectives	C1-PO1	C1-PO1 C1-PO2 C1-PO3 C2-PO2		C2-PO1* C2-PO2*	C2-PO1* C2-PO2*
Strand 4: Life Science	C3-PO2				
* repetition of a performance objective from an earlier grade level					

## INTRODUCTION

Environmental ethics and values vary from culture to culture and change over time. We each have our own set of ethics and values which are often different from someone else's. Actions are based on personal choices and those choices always have consequences, sometimes good and sometimes bad. As we grow older, as we learn more about our ourselves, our culture, our environment, and our heritage, our ethics and values will change.

Students should be able to identify or become aware of their personal ethics and values. Their values are what determine their behavior and thus, their affect on the environment. By analyzing their personal ethics and values, they can implement change if needed and be examples to those who are unaware of how their behavior affects the environment around them.

## LESSON FRAMEWORK

### 1. Mission of the National Park Service

Background information for teachers about the mission of the National Park Service and the balance each park must find between protection of resources and enjoyment by visitors.

### 2. Activity: *Reading Assignment*

A student activity that familiarizes students with the problem of petrified wood theft at Petrified Forest National Park.

### 3. Activity: *Public Meeting*

An in- class activity conducted as a role play and led by the teacher. In the format of a public meeting, students discuss differing viewpoints on what to do about the problems of petrified wood theft at Petrified Forest National Park.

### 4. Activity: *Letter to Park Superintendent*

A student activity that reinforces their values and ethics concerning the theft of petrified wood from Petrified Forest National Park and provides them with a personal connection to the park.

### MISSION OF THE NATIONAL PARK SERVICE

Values are an important part of the mission of the National Park Service:

*The National Park Service preserves unimpaired the natural and cultural resources and **values** of the National Park System for the enjoyment, education, and inspiration of this and future generations. The park service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world. (emphasis added)*

Within the mission statement, look for these words: “preserves unimpaired” and “enjoyment.” It is often a delicate balancing act to both preserve and to provide enjoyment for visitors. If a proposed road to an area of exceptional scenic beauty cuts through a paleontological site, should the road be built? Barricades at Crystal Forest, Giant Logs, and Long Logs trails may prevent visitors from fully enjoying the petrified wood deposits, but what about the damage due to erosion from off-trail walking or the larger amounts of stolen or displaced petrified wood if visitors were given complete access?

The values of preservation and enjoyment may result in very different management ideas. Making decisions about park resources is often difficult as administrators change and the values of the public change. Based on previous lessons, students should already understand how humans and cultures vary and change over time. As this change occurs, environmental values and ethics also change. Decisions made today may be considered the wrong choice in the future.

In the early days of national parks, the mission statement was taken directly from the National Park Service enabling legislation, the Organic Act:

*To conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*

Emphasis was placed on “enjoyment” by early administrators. Roads, trails, and buildings were built to provide access into the national parks. Predators, the “undesirables;” were killed to better provide visitors with opportunities to see and feed the “preferred” wildlife. Bear feeding stations were commonplace in large parks and became a significant part of the visitor experience. Streams and lakes were stocked with nonnative fish. Nonnative plants were brought in to enhance scenery in developed areas. These decisions were applauded in the early years of the park service. Administrators today are learning from these past mistakes.

Public values play a significant role in the management of parks. In the early years, wilderness was to be developed and conquered with access provided for all. Park managers cut trees, built roads, and killed predators. But as these wild areas dwindled, their value increased. Today wilderness is prized for its wildness and inaccessibility. It is protected as a place where humans shall not conquer nature, but let nature alone. Wilderness areas offer a refuge from development without roads, trails, motorized vehicles, powerlines, intrusive sound, and even intrusive light that dims starlight in the night sky.

# Reading Assignment

## Teacher Instructions

### Objective

To familiarize students with the problem of petrified wood theft at Petrified Forest National Park.

### Main Idea

By reading one or both of the articles provided, students will have a better understanding of the problems Petrified Forest National Park is facing with continued theft of petrified wood.

### Materials

- copies of the articles provided - enough for one article per person
  - Natural Wonders Vanish by the Piece*, page 52
  - Petrified Wood, A Costly Souvenir*, page 53

### Procedure

1. Divide students into their cooperative groups and provide members of each group with one of the articles provided. Make sure that both articles are in each of the cooperative groups.
2. Ask students to read through the articles.
3. Have each cooperative group discuss the article, identifying the problems of petrified wood theft at Petrified Forest National Park. Here are some questions to help you get the discussion started:
  - Why do visitors to the national park steal petrified wood?
  - Why is it important to leave the petrified wood where it is found within the national park?
  - What is the national park doing to prevent visitors from stealing petrified wood?
  - What can I do to help the national park?
4. Introduce the mission of the National Park Service and the difficulties the service has in providing enjoyment for visitors while also protecting fragile natural and cultural resources. *You'll find information about the mission of the National Park Service on page 50.* Here's an example question to pose to students:
  - Since petrified wood theft is such a problem, should all trails through the petrified wood areas be *closed* to foot traffic? This might protect the resources, but how would it affect visitor enjoyment? What would you do if you were park management?
5. Using their journals, ask students to write down their ideas about the theft of petrified wood. You may also want them to write the mission of the National Park Service in their journals.

# Natural Wonders Vanish by the Piece

## by Joe Kullman

Crowds flocked as usual to Arizona's national parks and forests this summer and, as usual, took a lot of what they came to see back home with them. Literally tons of it. More fossils from the Petrified Forest, more of Sedona's red rocks, and more stone chiseled from the Grand Canyon's walls will end up on knick-knack shelves everywhere from Apache Junction to Amsterdam, officials say.

What many visitors consider harmless souvenir collecting is leading to "permanent loss of a part of our cultural heritage," said Dave Simon of the National Parks Conservation Association, a watchdog group that advocates protection of public land. The organization recently put Arizona's Petrified Forest on its annual America's Most Endangered Parks list for the second year in a row after a study showed visitors are taking an estimated 12 tons of petrified wood from the national park every year.

"Sometimes this stuff isn't malicious, but people don't realize the full impact of what they are doing," said Greg Woodall, an archaeologist working in the Grand Canyon. "People think it doesn't matter if they take a few wild flowers or pebbles from the canyon, but what would happen if a million people take them?" Woodall asked.

Petrified Forest officials know the answer. While park rangers have caught a few people with their car trunks packed with petrified wood, it's the small takings by some of the 800,000 visitors each year that add up. "Most of the time it's hand-sized pieces, but overall the effect is dramatic," said Karen Beppler-Dorn, the park's Chief of Resource Management. Souvenir hunting is defeating efforts to protect primitive natural conditions critical to scientific research.

The Petrified Forest in particular offers "the best place in the world to study Triassic Period fossils. ...It was a very important epoch in the development of life on Earth," said Dave Simon of the National Parks Conservation Association. The organization is lobbying Congress to double the size of Petrified Forest to protect adjacent areas containing equally significant sites.

Conservationists' pleas that collecting Petrified Forest mementos robs society of potential treasure troves of knowledge seems to be working. "People's consciences start to bother them after they steal," Beppler-Dorn said. "At least once a week we will get an envelope or a shoebox sent to us with petrified wood someone felt bad about taking. They're coming from all over the world."

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Adapted from: Kullman, J. Scottsdale Tribune. *Natural Wonders Vanish by the Piece*. Monday, August 20, 2001.

# Petrified Wood, a Costly Souvenir

by Electa Draper

Some national park forests burn up. Some get stolen, piece by tiny piece. In the heart of the Painted Desert of eastern Arizona, roughly 600,000 people a year traipse through Petrified Forest National Park. About 12 tons of fossilized wood goes out the gates with them when they leave. This happens despite warnings that even the smallest of illicit souvenirs could rate a \$275 fine.

“If you go to the Crystal Forest, look at an area (off trail) that’s just covered with petrified wood, just glistening in the sun,” says the park’s Chief of Resources, Karen Beppler-Dorn. “Then look at an area where people walk, and it’s been picked clean. You really lose something. You lose the feel of the place. It makes me sad for the people who can’t see the park as it once was.”

It’s not uncommon for the park to receive a box of returned wood. People, in a fit of remorse, return stolen wood and often enclose what the park has come to call “conscience” letters. “My dog died, my wife left me, my truck broke down, ever since I took this wood,” Beppler-Dorn says, describing one class of penitents, those who think they were jinxed by the forbidden wood. Or, “My mom took this rock in 1945 and now she’s passed away, so I’m returning it.”

The problem is, once a rock is taken it can’t go home again. It has lost its “context.” Its journey stripped it of any scientific value, even if someone picked it up in one part of the park and dropped it in another. Purloined pieces are not welcomed back into the fold; they’re discarded on a rock pile. “Once they’re gone, they’re gone,” Greg Caffey, Chief Ranger, says.

All this thievery occurs despite the fact that legal pieces of petrified wood, priced from 50 cents to \$5,000, have always been available in the concessionaire’s gift shop at the park entrance as well as in curio shops that stretch for a hundred miles along Interstate 40 east and west of the park. All this commercial petrified wood came from private land outside the 93,000-acre park.

Adapted from:

Draper, E. *Petrified wood costly souvenir for park, taker*. Denver and the West, April 29, 2001, Page 1B,3B

# Public Meeting

## Teacher Instructions

### Objective

To introduce students to different values and ideas concerning petrified wood theft at Petrified Forest National Park.

### Main Idea

Using a role play activity in a public meeting format, each student cooperative group will present the ideas of a pre-made identity. These identities offer very different values and ethics concerning what to do about petrified wood theft at Petrified Forest National Park.

### Materials

- copy of the Public Meeting Agenda - one per cooperative group
- copies of the role play identities - one identity per cooperative group
- optional: gavel

### Procedure

**1.** Divide students into their cooperative groups and provide each group with a copy of the meeting agenda and one of the role play identities.

NOTE: *The National Park Service - Ranger Fossil Wood* identity could be represented by a group of teachers or a student group from outside the class. This gives the Public Meeting more “reality.” The park ranger must impartially listen to the ideas presented and may ask questions during the question and answer periods. It is the job of the park ranger to take the ideas presented by the public back to the National Park Service for further consideration. A fun option would be to call Petrified Forest National Park and see if a real park ranger can attend your meeting!

**2.** Set the stage: This is a Public Meeting between the National Park Service, the local community, and visitors to the area to discuss the problems of petrified wood theft within Petrified Forest National Park. The park service is looking for new ideas on how to stop petrified wood theft.

**3.** Give the groups time to prepare their presentation. Encourage them to be creative! They should be allowed to use appropriate props and to present their ideas as a speech or drama by one or more members of the group. Regardless of their personal ethics and values, they must role play the ideas of the identity provided.



**4.** You will be the moderator for the meeting. You must remain impartial! Call the meeting to order (a gavel is a lot of fun!), state the purpose, review the meeting rules, and read through the agenda.

**5.** Call up each “identity” in turn. Remind each group that they have only 10 minutes for their presentation followed by a 5 minute question and answer period. It is important to keep the meeting running in a formal fashion so that it does not get out of hand. Make sure students follow the meeting rules and respect whoever is talking.

**6.** End the meeting by thanking everyone for coming.

**7.** Discussion after the meeting: Ask students to share their personal ethics and values about the protection of petrified wood within the park. Here are some questions to help you get the discussion started:

- How did you feel about petrified wood theft before the activity?
- Do you feel any different now?
- Do you think your ethics and values have changed because you have heard other ideas and have more knowledge about the subject?
- How easy is it to change someone’s ethics and values?
- What if everyone were allowed to take just one piece of petrified wood from the park as a souvenir?
- What if every person who left the park was stopped and searched for stolen petrified wood?
- What if petrified wood were no longer for sale in the park at the Fred Harvey gift shops?

# Public Meeting on Petrified Wood Theft at Petrified Forest National Park

## Meeting Agenda

### Meeting Rules:

1. Each presentation is limited to 10 minutes, followed by a 5 minute question and answer period.
2. Respect the moderator and do not talk when he/she is talking.
3. Respect the presenters and do not talk when they are talking.
4. Respect each other and do not talk when someone else is asking a question.

5 minutes Introduction by Moderator

10 minutes Tourist from New York - Justice Done

5 minutes Questions

10 minutes Local Landowner - Letem Haveit

5 minutes Questions

10 minutes Local Business - Earnest Mymoney

5 minutes Questions

10 minutes Conservation Group Member - Saveitfor Thefuture

5 minutes Questions

10 minutes Private Tour Guide - Noah Itall

5 minutes Questions

10 minutes National Park Service - Ranger Fossil Wood

5 minutes Questions

**Tourist from New York - Justice Done**

Justice Done is a frequent visitor to Petrified Forest National Park. She is shocked at the amount of petrified wood that goes missing in the park each year. She believes in the national park idea, that these places are set aside to protect and preserve the natural and cultural heritage of America for future generations. Justice Done suggests that law enforcement be more severe. She suggests raising the minimum fine from the current \$275 for petrified wood theft to \$1000. The park should make more arrests and put thieves in jail. She encourages other visitors to report wood theft they witness. In her Neighborhood Watch program at home a lot of crime is stopped by neighbors reporting suspicious activity.

**Local Landowner - Letem Haveit**

Letem Haveit owns land near the national park. He loves walking through his property and finding pieces of petrified wood. He owns the land, therefore he owns the petrified wood and can do whatever he likes with it. Letem Haveit suggests that visitors be allowed to wander through the park and pick up one small piece of petrified wood for themselves. He wants others to experience the same joy he does, as they find their very own, personal piece of petrified wood from the land, and not from a gift shop's barrel of rocks. He argues that since the park is federal land, it belongs to everybody; so everybody should be able to take home some petrified wood from it.

**Local Business - Earnest Mymoney**

Earnest Mymoney owns a local rock shop near the park. He does a good business selling petrified wood that he collects from his land or buys from other landowners. He spends a lot of time and money polishing up the best of his petrified wood and making unique items to sell. Earnest Mymoney suggests that the park get more strict with visitors who steal petrified wood, because when they steal the wood, they won't buy any from him and it takes away his business. He suggests that every car leaving the park be stopped and searched for stolen petrified wood. He's willing to donate flyers to hand out to visitors at the entrance station that explain the park's wood theft policy and provide directions to his rock shop so that visitors can *legally* take home their own piece of petrified wood.

### **Conservation Group Member - Saveitfor Thefuture**

Saveit For Thefuture wants stricter law enforcement in the park with more publicity when a thief is caught. She suggests that park rangers carry video cameras in their patrol vehicles to document wood theft violations. The video tapes could then be sold to a news station or True Crimes show. The money made would help pay for the increased law enforcement. The publicity around the world would help visitors understand the importance of the petrified wood and the consequences of stealing it before they even stepped foot in the park.

### **Private Tour Guide - Noah Itall**

Noah Itall leads guided tours into Petrified Forest for clients from around the world. He believes that because of the personal attention he gives to his clients, he has prevented a lot of wood theft. Noah Itall suggests that all visitors through the park must be part of a guided group. No one should be allowed to travel through on their own. Guides would provide the best and most personal interpretation of petrified wood to encourage its protection, instead of theft, by visitors.

### **National Park Service - Ranger Fossil Wood**

Ranger Fossil Wood is looking for creative ideas to help protect the petrified wood without impacting visitor enjoyment, meeting the mission of the National Park Service. She listens closely to all the suggestions presented and has the following thoughts. Increased fines for stealing petrified wood would have to be done at the Washington level. Distributing free pieces of petrified wood to visitors was tried once, but many thought, "If one is OK, why not two?" So wood was still lost. If a wood theft report comes to a park ranger with a vehicle description, that vehicle is stopped and searched. This takes time and often leaves visitors very unhappy. Videotaping would definitely generate some publicity, but it may not be the kind the park wants to have. Requiring visitors to have a guide is already done in some park sites, but only in certain areas within the park - not the whole park. Ranger Fossil Wood tells those attending the meeting that he will take all the ideas presented today back to Petrified Forest National Park and present them to the Superintendent and other administrators. She thanks everyone for coming and sharing their ideas. She hopes that they continue to have new ideas and that they will share them with the National Park Service.

# Letter to Park Superintendent

## *Teacher Instructions*

### **Objective**

To offer students an opportunity to voice their ideas and concerns about petrified wood theft at Petrified Forest National Park.

### **Main Idea**

By writing a letter to the Superintendent at Petrified Forest National Park, students are challenged to voice how they feel about the theft of petrified wood from the park and to present ideas on ways to prevent future theft.

### **Materials**

- paper and pen

### **Procedure**

**1.** Have students draft a letter to the Superintendent of Petrified Forest National Park. This can be done individually or as a cooperative group activity. Here are some ideas to help you get the letters started:

- Write about how you feel about petrified wood theft from Petrified Forest National Park.
- Write about why you think it is important that the petrified wood stays in the park where it is.
- Write down your ideas on ways to prevent visitors from stealing petrified wood.

**2.** Complete the cover letter on the next page, or write one of your own.

**3.** Collect the letters and mail them to the park:

Superintendent  
Petrified Forest National Park  
P.O. Box 2217  
Petrified Forest, AZ 86028

Date

Petrified Forest National Park  
P.O. Box 2217  
Petrified Forest, AZ 86028

Dear Superintendent,

As part of the education program, **ROCKIN' THROUGH THE AGES: FROM FOSSILS TO PETROGLYPHS**, my students have completed Lesson 5, *Value Assessment*, by writing a letter to you concerning their thoughts and ideas about petrified wood theft at Petrified Forest National Park.

We hope that you find these letters not only interesting but also useful as you continue to find creative ways to prevent the theft of petrified wood from the park.

Sincerely,