

LESSON 1

Program Setup

OBJECTIVES

- Provide the park with an idea of pre-program student knowledge of paleontology;
- Begin student journals; and
- Establish student cooperative groups.

MAIN IDEA

To setup the education program through pre-program student knowledge inventory and establishment of tools such as student journals and cooperative groups.

ESSENTIAL SKILLS

- writing
- cooperating
- communicating

MATHEMATICAL SKILLS

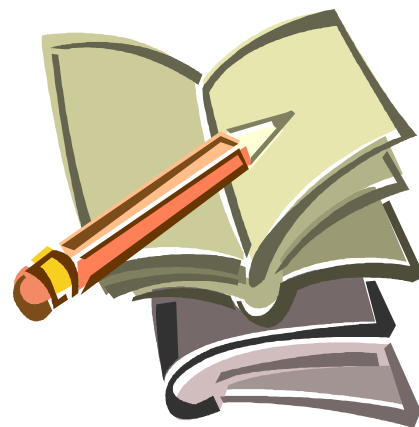
- recording information

MATERIALS

- student journals

PAGES TO PHOTOCOPY

- *What you know BEFORE*, pages 6-7



INTRODUCTION

The National Park Service is dedicated to establishing the National Park System as a distinct resource for the education community, thereby increasing connections between national parks and educators. The Service recognizes the educational value of park resources as well as the power educators have to help the American public connect with and understand the natural systems and cultural heritage that the parks protect. The education program at Petrified Forest National Park is one such example of connecting educators to park resources.

In order to continue to receive funding for programs like the education program, the park must justify the program and its effectiveness. Through tools such as the *What You Know BEFORE* and *What You Know AFTER* questions, as well as the program evaluation by teachers, statistics generated can be used to maintain and improve the program at Petrified Forest National Park.

LESSON FRAMEWORK

1. Activity: *What You Know BEFORE*

A student activity that provides Petrified Forest National Park with a general idea of what students understand about paleontology, fossils, geology, and their national parks before they begin work within this education program. This is an essential component of program evaluation for the park.

2. Student Journals

A student activity that is established in this lesson but continues throughout this program.

3. Student Cooperative Groups

Establishment of student cooperative groups encourages students to help and learn from each other. These groups should be maintained throughout this program.



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WHAT YOU KNOW BEFORE

TEACHER INSTRUCTIONS

OBJECTIVE

To provide an evaluation tool, when used with the *What You Know AFTER* questions, for Petrified Forest National Park to use in monitoring the successfulness of the education program.

MAIN IDEA

Completing and returning the questions provided in both the *What You Know BEFORE* and *What You Know AFTER* sheets helps the park to assess and improve the education program by providing an idea of the effectiveness of the program through student learning.

MATERIALS

- copies of *What You Know BEFORE* - one per student

PROCEDURE

1. Have each student complete the *What You Know BEFORE* questions on pages 6-7.
2. Mail the completed student surveys to:
Education Technician
Petrified Forest National Park
P.O. Box 2217
Petrified Forest, AZ 86028



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WHAT YOU KNOW BEFORE

You will soon go on a field trip to Petrified Forest National Park. Please take a few minutes to answer the questions below.

What school do you attend? _____

What grade are you in? _____ Have you gone to the park before today? ____ yes ____ no

What kind of field trip will you be going on? _____

Even though you may never have visited Petrified Forest National Park, can you think of two facts you know about the park or the National Park Service?

What is a fossil? Give an example of a fossil found at Petrified Forest National Park.

It is important to protect our natural resources. Fossils are an example of resources that are in danger of being destroyed. Can you list two reasons why fossils are being destroyed?

With any job, most people will do a variety of tasks. Think about all the jobs your teacher does. The same is true of paleontologists. List two jobs you think a paleontologist might do.

Geologic time is how scientists measure the age of the earth, the age of rocks, and the age of fossils. The Jurassic Period is the geologic time period when dinosaurs ruled the earth. Petrified Forest National Park represents the time *before* the dinosaurs. Do you know the geologic time period represented at the park?

National parks were created to protect natural and cultural resources for future generations. Can you explain why this is important?

THANK YOU FOR YOUR HELP!

Please return this completed form to:
Education Technician
Petrified Forest National Park
P.O. Box 2217
Petrified Forest, AZ 86028

STUDENT JOURNALS

Journals can be a bound book of blank pages or an accumulation of loose sheets of paper in a binder. Allow students to personalize their binder, encouraging them to be creative. They should include their name, grade, school, and a title on the cover of their journal.

Explain how journals will be used throughout the pre-visit lessons. Students should record their thoughts, ideas, notes, and questions in their journals, as well as work done during lesson activities. Journals are used as part of the scientific process to record observations, organize information, and pose reflective thoughts. They can also be used to develop good writing habits and critical thinking skills.

Here are some journaling questions that may help get your students started.

- What do you know about fossils?
- Why do you think national parks were created?
- What natural, cultural, or historical areas near your home do you think might be worth preserving?

When recording work done during an activity, you may want to encourage students to use the following format. This encourages scientific inquiry and recording of information throughout the program.

- Date
- Title
- Objective
- Materials
- Procedure
- Results

STUDENT COOPERATIVE GROUPS

Divide the class into student cooperative groups. Group size should be limited to four or five students, totaling no more than six groups per class. These will be the designated groups for each lesson, the field exploration, and the final project preparation and presentation.

During activities each student within a group should be responsible for a particular task, ie. observer, recorder, reporter, explainer, measurer, etc. Though the groups should not change, the tasks in each activity may be different. Students should have the opportunity to perform a different task based on their individual skills and lesson objectives. Encourage each student to try every task at least once.