

Parks As Laboratories: Studies of the Land, Water and Air

Outdoor Science Education for Grades 6–8 Students

Santa Monica Mountains National Recreation Area, National Park Service

Program

The *Parks As Laboratories: Studies of the Land, Water and Air* (PAL) program is a curriculum-based, hands-on science program meeting national and state standards, and is offered to grades 6–8 students from a primarily urban environment, giving them a link to the natural world. Using national park sites in the Santa Monica Mountains National Recreation Area as “outdoor laboratories,” the program gives students the opportunity to help the National Park Service (NPS) collect data about the air, soil, water, and trails. Students come to the park and conduct field investigations to measure air, soil, and water temperature; relative humidity; soil moisture and pH; water quality; and trail erosion, while also spending time learning about and enjoying the park. Students use GLOBE (Global Learning to Benefit the Environment, www.globe.gov) protocols and equipment to conduct most of their science investigations. The students’ data are used by NPS scientists to monitor the health of the park and by GLOBE scientists to do in-depth studies of the above disciplines. Back in the classroom, students can use their data to better understand science and the environment.

Students participating in the PAL program learn process skills used by NPS and GLOBE scientists, and they use and may improve their creativity and problem-solving skills. They also discover the importance and impact of natural resources on their lives and how national parks help preserve and protect the environment.

Teachers are provided with a free teacher’s manual and other program materials to help prepare students for the field trip. They may also be loaned two videos that introduce students to some of the activities they will do when they visit the park.

Program field trips are scheduled from the end of January through mid-June. Most groups arrive at the park by 10:00 a.m. and leave the park between 1:00 and 1:30 p.m.

Field Trip Locations

Field trips are conducted at several national park locations in the Santa Monica Mountains National Recreation Area, including Paramount Ranch, Rancho Sierra Vista, and Solstice Canyon. The location of each trip is determined by park staff based on distance from the school, impact on park sites, and park resources.

Transportation

Schools are encouraged to provide their own field trip transportation to/from the park. For eligible schools that are unable to do so, NPS may provide free bus transportation through its partner, the Recreational Transit Program (RTP). Teachers requesting free transportation should submit their program application at least six weeks in advance of their preferred trip date. RTP busses usually arrive at schools between 8:30 and 9:00 a.m. and return to schools by 2:00 p.m.

Teacher Substitutes

Teacher substitutes must be arranged by the school or teacher. NPS does not pay for teacher substitutes.

Student Testing

Each class is tested before and after the field trip, and the results help NPS staff assess the program’s effectiveness. Teachers use tests and Scantron test forms provided by NPS to test their students before they are introduced to the program material, and again after their field trip. Once the testing is complete, teachers return the test materials to NPS.

On the Field Trip

When students arrive at the park, they receive safety information, visit the restrooms, and then are assembled as a group, where they are introduced to the park and the PAL program. They are then split into teams (usually six students per team), introduced to their team coaches, and begin their investigations. Generally, there will be one coach per team to help the students; however, the students are encouraged to lead themselves through the protocols, with the coaches providing only guidance. After the team work is finished, students and coaches share their team data with the whole group and discuss the significance of their results. They are then welcome to eat lunch and (time permitting) explore the park before returning to school.

For more information, contact Mike Theune at the Santa Monica Mountains National Recreation Area. 805-498-0305 voice, 805-499-1098 fax, mike_theune@nps.gov

Parks As Laboratories

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Application Form: Winter / Spring 2009

PREFERRED PROGRAM DATES:
First Choice _____
Second Choice _____
Third Choice _____

Fill in the form, providing as much information as possible.

Review the potential program dates (below), and specify three preferred dates for your program (above).

Return the completed form by email to mike_theune@nps.gov or by fax to **805-499-1098**.

TEACHER	Name:		Past participant in this program?	
STUDENTS	Grade(s):	Number: (36 maximum)	Any special needs?	
SCHOOL	Name:			
	Address: street, city, zip (Program materials will be mailed to this address unless you instruct otherwise.)			
	School Type (e.g., traditional, charter, magnet, continuation, private, other):		School District:	
TELEPHONE NUMBERS (Please provide as many as possible!)	Teacher's Classroom:	Teacher's Cell:	Teacher's Home:	School's Office:
	FAX:	Best time and number to reach you by telephone:		
EMAIL ADDRESS				
TRANSPORTATION	Can you (e.g., your school or district) provide your own transportation to/from the park? Doing so may help others (with no transportation) visit the park, as NPS has limited bus funds!			
QUESTIONS OR COMMENTS				

Potential Program Dates as of December 12, 2008:

January 2009	February 2009	March 2009	April 2009	May - June 2009
Friday 23	Thursday 5	Thursday 5	Thursday 2	Not yet offered.
Friday 30	Friday 6	Friday 6	Friday 3	
	Thursday 12	Thursday 12	Thursday 9	
	Friday 13	Friday 13	Friday 10	
	Thursday 19	Thursday 19	Thursday 16	
	Friday 20	Friday 20	Friday 17	
	Friday 27	Thursday 26	Thursday 23	
		Friday 27	Friday 24	
			Thursday 30	