

Ecology Park Project

***A Study of the Ecosystems

Due date (entire project): **May 20th and May 21st, 2010**

Park Selection (include city): _____

Teacher Verification_____

Due date for Park selection: _____

Team Members (limit of three):

Student Team Members	World Language	Phone Number

Parent Transporting Students_____

Parent/Guardian permission_____

Signature Date

Name of Park_____ **Phone #** _____

This project is to be completed by all students in their second semester freshman science class. The point value is 200 points. Students are encouraged to choose parks with visitor centers (to get info) and/or parks with web (internet) support.

*Parents are welcome to call or email the instructor for further information.

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Student Check-Off List

In working as a group, it is helpful to have a check list to make sure that your project includes all items requested. Please use the list below, to check off items as you complete them.

X	Check Off Items When Completed	Team Member to Complete
	Project Site Approved by Teacher	All
	Student Team selected with contact numbers.	All
	Parent Volunteer to transport students to park.	
	Park Statistics and History	
	Expenses Log (Math Component)	
	Expository Tri-Fold Brochure (English /Computers)	
	Cultural Sister Park Comparison (World Languages)	
	Take a Hike and Map It! (Health and PE)	
	Photo Gallery with Captions	
	Biome Types Around the World (World Languages)	
	Ecology KeyTerms (15) related to your site. (Science)	
	Ecosystem identifications for your park. (Science)	
	Human Impacts And Solutions	
	Group Presentation	
	Extra Credit (Volunteer at Park) w/ Park Staff signature.	
	Peer Evaluations	

Possible Areas for Study

***Below are some possible areas for study and gathering data. Many others could be chosen with possible teacher approval.

Note: Research areas will be chosen on a first-come, first-served basis.

- Cabrillo National Monument (San Diego)
- Hurkey Creek (Idyllwild)
- Humber Park / Suicide Rock (Idyllwild)
- Palm Springs Tramway / San Jacinto Peak (Palm Springs)
- Elfin Forest (San Marcos)
- Blue Sky Ranch, Poway Lake (Poway, CA)
- Lake Skinner (Temecula)
- Diamond Valley Lake (Hemet)
- Channel Island National Park (Ventura)
- Death Valley National Park
- Yosemite National Park
- Pinnacles National Monument
- Sequoia / Kings Canyon National Park
- Joshua Tree National Park (29 Palms)
- Mojave National Park (Barstow)
- Zion National Park (Springdale, UT)
- Carlsbad State Beach (Carlsbad, CA)
- Anza-Borrego Desert Park
- Catalina Island (Long Beach)
- Arthur B. Ridley Desert Woodland
- Chino Hills
- Crystal Cove (Laguna Beach)
- Cuyumaca State Park
- Los Padres National Forest
- Palomar Mountain State Park
- Torrey Pines State Beach (La Jolla)
- Angeles National Forest
- San Bernardino National Forest
- San Elijo State Beach (Encinitas, CA)
- Cleveland National Forest
- Santa Rosa Plateau (Murrieta)

Park Statistics and History

1. Select a site.
2. Describe the type/kind of park.
3. Obtain a map of the site. Identify area of study.
4. Record the average monthly temperature and rainfall, if available.
5. Record the average number of visitors to the park, if available.
6. Research and write about the human history of the park/area.
7. Research and write about the geology and the geological history of the park.

Expenses Log

1. Collect data about the total cost of your visit to the park. Include the cost of all purchases and expenses related to travel to and from your destination.
2. Complete the Expenses Log sheet (see attached)
3. From your expenses data, make an equation to model the expense of any trip to the park for a given number of days.
4. Use your expense model to determine the cost of a trip to your cultural sister park.

Tri-Fold Travel Brochure

1. Create a tri-fold travel brochure.
2. Brochure should be persuasive and expository in its tone. The goal is to persuade other people to come and visit your research park.
3. Include park statistics like the best time to visit, amount of rainfall, total area, etc.
4. Include fact-based information about the park.
5. Include reasons why visitors should explore the park.
6. Reveal interesting and special features about the park.
7. Use pictures (you can model) and other visual information to sell your park.

Cultural Sister Park Comparison

1. Choose a park in your study language that is similar to your research site.
2. Use the internet to research your park.
3. Write down the languages and / or dialects spoken in the native area of your park.
4. Create a chart of 10 foreign language vocabulary terms that are related to your park.
5. Identify region and ecosystem and list longitude/latitude if available.
6. Discuss 5 plants and 5 animals that can be found at your sister park.

Take a Hike and Map It!

1. Take a 1-2 hour hike at your park and identify the trail on a map.
2. Take pictures of your team members on your hike.
3. Keep an entry log of date, time, and weather of the visit or visits
4. Illustrate/draw a detailed map of your travels
 - a. Show landmarks such as a creek, huge bolder, meadow, fence, etc.
 - b. Include a distance scale with miles and/or travel time.
5. Check a team member's heart rate throughout the hike.
6. Collect trash on your hike and take a picture of what you collected.

Ecosystem Identification

Identify the communities or ecosystems that your hike led you through and describe each community by including both the biotic and abiotic factors. Include photos of each habitat and include this in your photo gallery.

Include the following in your descriptions:

Biotic Factors: types of plants, insects, and animals.

Abiotic Factors: temperature, amount of light and precipitation, soil types, etc.

Examples of possible communities or ecosystems you may encounter on your hike:

1. Riparian/ fresh water ecosystem: creek/ stream, grasses, many trees.
2. Wetlands: marsh habitat or estuary (where salt and freshwater meet).
3. Chaparral: a desert-like coastal community with shrubs and small trees.
4. Redwood/ conifers: redwoods, pines, cooler temperatures, little ground covering.
5. Meadow: pond, grasses, wet ground with wild flowers
6. Ocean/ coastal: marshes, beach/ sand, tide pools

Enrich your Ecosystem Identification by doing the following:

- Make plant press and press your leaves
- Make plants rubs [of leaves, fruit/seed, and bark]
- Take photos of the plants/animals that you keyed out

Photo Gallery with Captions

1. Collect visual information about your park including captions for each picture.
2. Photo of team at entrance of park.
3. Photos of plants (with ID), animals, or evidence(s) of animals.
4. Photos of team members on your hike.
5. Photo of the trash your team collected at the park.
6. Photos taken on the way to or from your park, in the car, etc.

Describe Biome Types

See Text or Internet for support.

Your descriptions here should include rainfall, average temperatures, plants & animals normally found here, distribution around the globe, etc. Write your descriptions in a separate section of your project. Include information on the following biomes.

1. Savannas
2. Deserts
3. Temperate grasslands
4. Temperate Deciduous forests/ hardwood
5. Taiga/ Coniferous forests
6. Tundra
7. Marine Community
8. Fresh Water Community

Human Impacts at Park and Environmental Solutions

In your project and presentation you will need to discuss at least 3 human impacts at your park that have created a disturbance, caused damage to the environment or impacted wildlife or its habitat. Often, national or state parks have been developed to combat environmental threats by preserving land and the organisms that live there so future generations can witness the amazing diversity that this earth has to offer.

1. Discuss at least 3 environmental issues.
2. Propose possible solutions to those 3 environmental problems.
3. Whenever possible, use pictures or visual aids to reinforce the issue discussed.
4. Gather any literature or newspaper / journal articles related to your issues discussed.

Your Presentation

Create a visual project to display the collection of your information gathered and present your project to your class. All group members must present part of the project to the class.

Possible format for presentation:

1. Scrapbook
2. Video (must also have supplement of information that can be included in film)
*see teacher for details.
3. Student-generated website or wiki page.

Key tips for Successful Presentations (Present in Science Class)

1. Prepare note cards ahead of time and do not read directly from project.
2. Make eye contact with the entire class, not just the instructor.
3. Be familiar with the material, its meaning and the correct pronunciation.
4. Stay calm, focused and avoid nervous speech and behaviors (um, you know, like, etc)
5. Use a strong speaking voice and speak clearly.

Extra Credit Opportunity

Extra Credit.** Volunteer at your selected park for ***at least 2 hours of community service. Get a signature from a park employee to verify your participation. With an appropriate signature from a park employee, I will sign off on hours as part of your 40 total hours of required community service for high school graduation.

Take pictures of you and your team completing the volunteer work. Include the park employee if possible.

Standards of Behavior as a Visitor

1. Don't go alone.
2. Respect all rules [for example, many parks prohibit dogs, collecting any materials, building fires, etc. Always check out their rules first or ask if you aren't sure!]
3. Know how to identify possible dangers such as poison oak, rattlesnakes, and weak foundations along cliffs or waterways.
4. Leave everything as it was when you entered the park. (Leave No Trace!)
5. Pack out your litter!
6. Be aware of your surroundings at all times.

Expenses Log

Fuel	
(G)as (price per gallon)	
(M)PG of Vehicle Find online	
(D)istance Traveled (round trip in miles)	
Total Cost $=G \times (M / D)$	
Other Expenses	
Entrance Fee	
Campsite Fee	
Food (for the day)	
Total	

Park Project Grading Rubric

Include this page in the very front of your project.

Student Name(s) _____

Park Researched _____

Each category is rated on a 5 point scale to show the extent that you've completed each category: 5 = A; 4 = B; 3 = C; 2 = D; 1 = F; 0 = Not present.

_____PARK STATISTICS AND HISTORY

_____EXPENSES LOG

_____PARK BROCHURE

_____CULTURAL SISTER PARK COMPARISON

_____TAKE A HIKE AND MAP IT

_____PHOTO GALLERY AND CAPTIONS

_____BIOME TYPES AROUND THE WORLD

_____ECOLOGY KEY TERMS

_____ECOSYSTEMS IDENTIFIED AT YOUR PARK

_____HUMAN IMPACTS AT PARK AND SOLUTIONS FOR IMPACTS

_____GROUP PRESENTATION

_____TOTAL ECOLOGY PARK GRADE_____