

Death Valley ROCKS

Recreational Outdoor Campaign for Kids through Study



Teacher Manual
2010-2011 School Year

ROCKS Teacher Manual Table of Contents

Letter of Greeting..... 1

Forms – Introduction..... 2

 Parental Approval Form..... 3

 Photo Release Form..... 5

Essential Information

 Emergency Contact Numbers..... 6

 What to Bring – Student..... 7

 What to Bring – Adult..... 8

 DEVA Supplied Equipment..... 9

Logistics

 Student Logistics..... 10

 Chaperone Logistics..... 12

 Pre-Trip and Bus Logistics..... 15

 Camp Logistics..... 18

 Post-Trip Logistics..... 24

 Teacher Checklists..... 26

Curriculum

 Activity Guide* 28

 Sample Fall Program Itinerary..... 31

 Sample Spring Program Itinerary..... 34

 * Contact Education Specialist for specific information about state
 academic standard alignment of each activity

Evaluation

 Student Post-Trip Evaluation..... 37

 Teacher Post-Trip Evaluation..... 38



United States Department of the Interior

NATIONAL PARK SERVICE

Death Valley National Park
P.O. Box 579
Death Valley CA 92328

Dear Teacher,

Thank you so much for your interest in the ROCKS (Recreational Outdoor Campaign for Kids through Study) Program! We are proud to offer up Death Valley as a natural classroom for your students. Our curriculum, based on California and Nevada state standards for grades 4th – 8th grades, focuses heavily on the natural sciences (geology, ecology, astronomy), but also exercises your students' language arts, history, mathematics, and physical education skills. Many ROCKS programs additionally incorporate elements of service learning (for instance, invasive plant eradication), and/or citizen science. The Death Valley Education team looks forward to working with you to design a three-day, two-night program that meets your educational and recreational goals through a variety of hands-on, inquiry-based activities.

This manual was developed to introduce you to the practical details of the ROCKS program. As with any field trip, there is plenty of paperwork involved, both from your school and the National Park Service. But beyond that section, I hope you'll find the entries on what to bring, what we supply, logistics, curriculum, and evaluation helpful as you plan your Death Valley experience.

Never hesitate to call or email if you have questions or concerns as your program preparation evolves. Constructive criticism is always welcome as well. I look forward to working with you this season and in the years to come!

Sincerely,

Stephanie Kyriazis
Education Specialist
Death Valley National Park
stephanie_kyriazis@nps.gov
760-786-3226

Introduction to NPS Forms

There are three National Park Service forms relevant to the ROCKS program, one that you, the teacher, need to fill out in advance of your visit to the park, and two that need to be signed by the parents or guardians of the ROCKS participants.

The form you need to fill out is the Fee Waiver Form, which grants your bus(es) and however many private vehicles are travelling with you free entry to the park. To download this form, visit:

<http://www.nps.gov/deva/planyourvisit/educational-fee-waivers.htm>

and click on “This link.” Fill out all blanks in the form, but do not worry about the Eligibility criteria. Because you are associated with the ROCKS program, you are automatically eligible. Do fill out the Educational Purpose and Relevance sections. Return this form to me (either a digital scan of a signed copy by email, or hardcopy by mail or fax) to the addresses or fax number below **at least two weeks before** your scheduled ROCKS program.

Stephanie Kyriazis
P.O. Box 223
Death Valley, CA 92328
stephanie_kyriazis@nps.gov
Fax: 760-786-3246

The other two forms in this section are the Parental Approval Form and the Photo Release Form. The Parental Approval Form exists to legally protect students who are conducting volunteer work for the park (for instance, eradicating invasive plants). The teacher fills out the first part – you can use your school’s information rather than your personal address and phone number. The parent fills out the next section (since the students are minors), including a signature. The parent also fills out the third section with an emergency contact phone number, in case anything happens during the field trip. Finally, the student fills out the first section on the top of the second page, agreeing to serve as a volunteer.

The Photo Release form needs to be filled out by the parent or guardian of each student so the park can use images of the participants in various publication and presentations related to the program. Also, we take a group photograph during the program, to be given to the school. If a parent does not wish for their student to be photographed for these purposes, be sure to inform the education rangers on the first day of the field trip, so we can avoid capturing images of those students.

Volunteer Services Agreement for Natural Resources Agencies for Individuals or Groups

Please print when completing this form

Site Name Death Valley National Park	Agency National Park Service	Reimbursement (if any) No	
Name of Volunteer or Group Leader – Last, First, Middle	Home Phone	Cell Phone	Email Address
Street Address	City	State	Zip Code

IF VOLUNTEER IS UNDER AGE 18 – Name of Parent or Guardian	Home Phone	Cell Phone	Email Address
Street Address	City	State	Zip Code

I affirm that I am the parent/guardian of the above named volunteer. I understand that the agency volunteer program does not provide compensation, except as otherwise provided by law; and that the service will not confer on the volunteer the status of a Federal employee. I have read the attached description of the work that the volunteer will perform.

I give my permission for _____ to participate in the specified volunteer activity sponsored by _____ at Death Valley National Park
(Name of Sponsoring Organization, if applicable) (Name of Volunteer Duty Station)

From _____ to _____
(Date) (Date) (Parent/Guardian Signature) (Date)

Emergency Contact Name	Home Phone	Cell Phone	Email Address
Street Address	City	State	Zip Code

GOVERNMENT OFFICIAL COMPLETES THIS SECTION

Brief description of work to be performed. Include details such as minimum time commitment required, use of personal equipment, use of government vehicle, etc. Attach the complete job description to this form. If this is a group agreement, the leader is to provide the group name, a complete list of group participants to be attached to this form, and parental approval (above) completed for each volunteer under the age of 18.

Students will assist Death Valley National Park staff with service projects such as eradicating invasive plants, collecting images or data for Resource Management projects, wilderness restoration, or park beautification. All equipment and transportation will be supplied by the park.

Government Vehicle required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Valid State Driver's License <input type="checkbox"/> International Driver's License
Personal Vehicle to be used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Please verify that the volunteer is in possession of one of these documents. DO NOT keep a copy of the document for his/her file.

I understand that I will not receive any compensation for the above work and that volunteers are NOT considered Federal employees for any purpose other than tort claims and injury compensation. I understand that volunteer service is not creditable for leave accrual or any other employee benefits. I also understand that either the government or I may cancel this agreement at any time by notifying the other party.

I understand that my volunteer position may require a background investigation in order for me to perform my duties.

I understand that all publications, films, slides, videos, artistic or similar endeavors, resulting from my volunteer services as specifically stated in the attached job description, will become the property of the United States, and as such, will be in the public domain and not subject to copyright laws.

I do hereby volunteer my services as described above, to assist in agency-authorized work.

(Signature of Volunteer)

(Date)

The above-named agency agrees, while this arrangement is in effect, to provide such materials, equipment, and facilities that are available and needed to perform the work described above, and to consider you as a Federal employee only for the purposes of tort claims and injury compensation.

(Signature of Volunteer Manager/Coordinator)

(Date)

Termination of Agreement

Volunteer requests formal evaluation Yes No

Evaluation Completed _____
(Date)

Agreement terminated on _____
(Date)

(Signature of Volunteer Manager/Coordinator)

Public Burden Statement

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0080. The time required to complete this information collection is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) and U.S. Department of the Interior (USDI) prohibit discrimination in all programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA and USDI are equal opportunity providers and employers.

Privacy Act Statement

Collection and use is covered by Privacy Act System of Records OPM/GOVT-1 and USDA/OP-1, and is consistent with the provisions of 5 USC 552a (Privacy Act of 1974), which authorizes acceptance of the information requested on this form. The data will be used to maintain official records of volunteers of the USDA and USDI for the purposes of tort claims and injury compensation. Furnishing this data is voluntary, however if this form is incomplete, enrollment in the program cannot proceed.



Photo Release Form

I hereby grant the National Park Service permission to use my likeness in a photograph in any and all publications for Government or nongovernment purposes, including web site entries, without payment or any other consideration in perpetuity. I understand and agree that these materials will become the property of the National Park Service and will not be returned.

I hereby irrevocably authorize the National Park Service to edit, alter, copy, exhibit, publish or distribute this photo for purposes of publicizing the National Park Service's programs or for any other lawful purpose. In addition, I waive the right to inspect or approve the finished product, including written or electronic copy, wherein my likeness appears. Additionally, I waive any right to royalties or other compensation arising or related to the use of the photograph.

I hereby hold harmless and release and forever discharge the National Park Service from all claims, demands, and causes of action which I, my heirs, representatives, executors, administrators, or any other persons acting on my behalf or on behalf of my estate have or may have by reason of this authorization.

I am 18 years of age or older and am competent to contract in my own name. I have read this release before signing below and I fully understand the contents, meaning, and impact of this release. I agree to indemnify and hold the Government harmless for any and all losses, claims, expenses, suits, costs, demands and damages or liabilities on account of personal injury, death, or property damages of any nature whatsoever and by whomsoever made, arising out of the photographed activities in which I am taking part.

Signature/Date

Printed Name/Date

Address

City

State

Zip Code

Phone

If the person signing is under age 18, there must be consent by a parent or guardian, as follows:

I hereby certify that I am the parent or guardian of _____, named above, and do hereby give my consent without reservation to the foregoing on behalf of this person.

Parent or Guardian's Signature/Date

Parent or Guardian's Printed Name/Date

Privacy Act Statement: This information is provided to comply with the Privacy Act (PL 93-579). 5 U.S.C. 301 and 7 CFR 260 authorizing acceptance of the information requested on this form. The data you furnish will be used only to provide the National Park Service with contact information pertaining to this release form.

Emergency Contacts while at Death Valley National Park:

If you are trying to get an emergency message to a student, teacher, or adult helper:
Call San Bernardino dispatch at: 760-786-2330 or 909-383-5651 or 888-233-6518.

This dispatch center will radio our Law Enforcement rangers and they will deliver your message. Ensure that the dispatcher has the specific and accurate information that needs to be communicated.

Note: This dispatch center is for REAL emergencies. These dispatchers handle our fire, accidents, and medical emergencies. Thank you for NOT calling them unless you really need to reach your family member.

Other messages: If you have an important message that can't wait until the group returns, but is not "an emergency", please leave a message at Ranger Stephanie's work phone: **760.786.3226**. These messages will be checked at least once a day.

While in the park:

There is limited cell phone coverage (Verizon & ATT) in the immediate vicinity of Furnace Creek Ranch. In all other areas of the park, cell phones do not work!

STUDENT ARE NOT PERMITTED TO BRING CELL PHONES FOR USE IN THE PARK.

Teachers may bring and use cell phones for essential communications. It is at the teacher's discretion whether students will be permitted to bring cell phones for use **ON THE BUS ONLY** to communicate with parents while departing from and arriving back at school.

Rangers have radios to handle major medical situations and personal emergencies. If something concerns you, approach the Ranger staff.

If it is night or when the Ranger staff is not accompanying your group, there is a pay telephone at the Texas Springs Campground and at the Visitor Center. Dial 911 just as you would in the city. You can dial 911 without coins. Again, be specific about the nature and location of the emergency!

Note: You will reach the San Bernardino dispatch center. Emergency staff from the park will be dispatched to the location where you need them. Our staff is already aware of the school being in the campgrounds.

What to Bring – Student Personal Item Checklist

- Toothbrush and toothpaste
- Hairbrush
- Deodorant
- Washcloth
- Soap
- Feminine products
- Closed-toe sturdy shoes (no sandals or flip-flops!)
- Pajamas
- Warm jacket
- One long sleeve shirt or sweatshirt
- Long pants (loose is better, one or two pairs)
- One or two short sleeve shirts
- Underwear (two or three pairs)
- Socks (two or three pairs)
- Rain gear (yes, it can rain!)
- Hat with a brim
- Sunglasses
- Sunblock and chapstick with sunblock
- Flashlight
- Water bottle (at least ½ liter/16 oz)
- A small day pack
- Pillow (optional)
- Binoculars (optional)
- Camera (optional)

DO NOT bring your cell phone to use as a camera!

What NOT to Bring

- Cell phones
- Other electronics (mp3 players, portable video game consoles, etc.)
- Snacks or candy

What to Bring – Teacher / Chaperone Personal Item Checklist

- Toothbrush and toothpaste
- Hairbrush
- Deodorant
- Washcloth
- Soap
- Feminine products
- Closed-toe sturdy shoes (no sandals or flip-flops!)
- Pajamas
- Warm jacket
- One long sleeve shirt or sweatshirt
- Long pants (loose is better, one or two pairs)
- One or two short sleeve shirts
- Underwear (two or three pairs)
- Socks (two or three pairs)
- Rain gear (yes, it can rain!)
- Hat with a brim
- Sunglasses
- Sunblock and chapstick with sunblock
- Flashlight
- Water bottle (at least ½ liter/16 oz)
- A small day pack
- Pillow (optional)
- Binoculars (optional)
- Camera (optional)

What ELSE to Bring

- Cell phone for *essential* communications while in the Furnace Creek Ranch Area ONLY (no coverage in other parts of the park)
- Extra jackets for students who do not have, or who get very cold
- Extra flashlights for students who misplace or forget to bring them
- If you want a shower (cost is \$5 at Ranch), bring a towel and toiletries

ROCKS Program Supplied Equipment List

The following cooking & cleaning equipment will be supplied by Death Valley National Park.

Cooking Supplies

- 2 16 quart pots w/lids
- 1 8 quart pot w/lid
- 2 12" frying pans
- 4 water jugs
- 4 ice chests
- 1 colander
- 5 stove lighters
- 2 large serving bowls
- 2 griddles approx 12" x 20"
- 2 cutting boards
- 2 mixing bowls
- 3 small storage bowls
- 2 can openers
- 2 potato peelers

#

- 1 Large camp stove, w/propane canister
- 4 Smaller camp stoves, w/propane canisters
- 2 BBQ forks
- 2 tongs
- 4 steak type knives
- 2 large knives
- 2 measuring cup and spoon sets
- 3 large serving spoons
- 3 soup ladles
- 7 Small wooden spoons
- 3 large slotted spoons
- 3 rubber mixing spatulas
- 2 small coffee pots
- 48 s'more roasting sticks

Cleaning Supplies

Dish soap

Tin foil

Brillo pads

Collapsible wash tubs

Kitchen gloves

sponges

Paper towels

Student Logistics

First, you need to decide which students will attend. ROCKS requires no fewer than 24 students and no more than 60 students to participate. Because elementary and middle schools operate according to different frameworks, in terms of number of teachers and classes experienced by each student, our suggestions are different for primary and secondary participants.

Elementary Schools

The simplest approach is to invite all the students in one or two teachers' classrooms. Usually there will be a few students whose parents will not permit them to attend an overnight program in a distant location, so keep that in mind when deciding how many students to invite. If you wish to draw from a larger pool of students, consider instituting an application system similar to the one described below for Middle Schools. Once you know who is going, arrange for an orientation day with the ROCKS rangers. This program involves the NPS staff coming to your school to prepare the students for their visit, and can last from three hours to a whole school day, depending on your preferences. Topics covered include safety, logistics, expectations, and tent set up, plus a science-content lesson if time permits.

Middle Schools

Because students change classes throughout the day, ROCKS participants will inevitably miss the classes of teachers not involved in the program. Likewise, because of the limitation on the number of students who can attend a program, no teacher will be able to bring all of his or her students. You can choose to bring one or two class periods, especially if the focus of the course is applicable (e.g. earth science, or a relevant elective), or you can allow all, or most, of your students to apply for the trip.

In this case, arrange with the ROCKS rangers for an orientation day, in which a 30-40 minute presentation about the National Park Service and Death Valley is offered to all possible applicants, so they can make an informed decision about whether the trip is for them. The same presentation is delivered for each period of the day, until all necessary students have seen it. You then select participants based on criteria such as the quality of their response to application questions, behavior, teacher recommendations, and grades. It's a good idea to select a few alternates or waitlist students as well, in the event that someone is unable to participate at the last minute.

Once you've selected your participants, schedule an orientation program for just the students who are attending. This program involves the ROCKS rangers coming to your school for between two hours and all day, depending on your preferences. Topics

covered include safety, logistics, expectations, and tent set up, plus a science-content lesson if time permits.

All Schools

Attendance should be considered a privilege – you can use the trip as leverage to entice a certain standard of performance, academic and behavioral, from students who wish to go. Students who struggle with classroom-based learning, or who frequently act out in a non-malicious fashion often benefit from the hands-on, in-nature educational environment at Death Valley. So while we discourage teachers from bringing students who are likely to pose safety threats to themselves and others, or cause significant disruptions, we welcome those with alternative learning styles that occasionally manifest as non-productive behavior – Death Valley may be good for them!

Setting up groups

Once you know who's going, everyone has handed in their signed paperwork, and you are ready to tackle pre-trip logistics. One of your first steps will be to break the students into two different sets of groups:

Tent Groups:

These are single-gender groups of 5 to 6 students who will sleep in a tent together. You can organize students alphabetically, randomly, or according to social factors. Do try to make sure no conflicts are likely to arise (e.g. due to one odd girl out sleeping in the same tent as four best friends). Our tents sleep six comfortably, and for logistical simplicity we try to fill them, so avoid groups of 4 or 3. You may wish to arrange for around-camp chores to be executed by tent groups, for example, cooking dinner, laying out breakfast, laying out lunch, fetching water, or taking care of trash. Depending on the age and responsibility of your students, you may wish for adults to take care of these tasks instead. See the section on Camp Logistics for more information.

Activity Groups:

These are mixed-gender groups who will participate in small-group learning activities together. It may be tempting to allow students to conduct activities in their tent groups, but experience has shown that the dynamic tends to be more balanced in mixed-gender groups. This means that each student will belong to two different groups. If you bring one class, or up to 32 students, divide them into four activity groups. If you bring two classes, or more than 32 students, divide them into eight activity groups. This means you should have either four or eight groups, each with between four and eight students.

Chaperone Logistics

The following guidelines should help you select and prepare your chaperones for the ROCKS field trip. The ROCKS Rangers are extremely grateful for the support of our wonderful chaperones!

Before the trip

Selecting chaperones

Some schools prefer to have teachers and other finger-printed staff serve as chaperones for the ROCKS field trip. Other schools cannot spare the staff, or would prefer to have parents as chaperones. Either situation is fine. The ideal student to adult ratio is 6:1, which roughly works out to one adult per tent group, plus the lead teacher to coordinate at camp. If you wish to have slightly fewer or slightly more adults, that is fine, but you must have at least one adult per eight students, or else logistics become complicated, and not more than one adult per four students, or else the classroom spirit of the experience is diluted.

If you are working with an all-staff/teacher chaperone group, select participants based on availability, interest, prior camping/outdoor experience, and gender (it's valuable to have at least one woman and one man attend). The chaperones will serve as intermediaries between the students and what is likely to be their first camping experience – it is important to choose adults who will present a cheerful and comfortable demeanor to the students in this novel environment. Adults must respect the plants, animals and rocks, so the students will as well (no killing bugs, picking flowers, bad-mouthing venomous creatures, or pocketing rocks).

If you are selecting parents as some of your chaperones, you may use whatever criteria you wish (bearing in mind the recommendations above), but if you are likely to receive more volunteers than you have spaces, consider using one or more of the following methods / recommendations. To be completely fair, you can conduct a random drawing of all the interested parents. If you have students with special needs, and their parents are willing to attend, and able help with both their own child and other children, you may wish to have them along (make sure they know they will be responsible for a group of children, and must dedicate time to all of them). If you have parents with extensive camping experience, you may wish to have them along (make sure they know that they will not be in charge, but will contribute their skills to a collective effort). If there are parents you know will be problematic, avoid selecting them.

Pre-trip chaperone meeting

Chaperones should be informed of their responsibilities (either by you, or the rangers) at an evening meeting prior to the field trip. Make sure candidates understand

that they must attend this meeting. They should also understand that this is not a family camping trip, but a school field trip, where the priority is on standards-based learning. They need to know that they will be put to work, and should fulfill their responsibilities willingly, and behave in an appropriate manner at all times. If you plan to use lots of parent chaperones, consider scheduling a ranger-led evening meeting for those adults. At the elementary level, we usually arrange an evening meeting for the parents of all participating students, to allow them to ask questions, then schedule an additional 30 minutes to speak just with parent chaperones. At the secondary level, the all-parent meeting is optional, but it is still a good idea to get together with the chaperones. At this meeting, roles and expectations can be laid out, and logistics (such as what to bring) can be discussed.

During the trip

Roles

Chaperones should contribute significantly to the work that goes on around camp, while still allowing the students to exercise independence as they develop outdoor skills. Most chaperones will have at least two responsibilities – first, as the Tent Chaperone for one or two tents, and second, as leader of a student or chaperone work group, delineated below. The teacher should either ask for volunteers, or designate the roles to be held by each chaperone prior to arriving at Death Valley. Depending on how many adults you have, each may need to take on more or less than two responsibilities. These roles include:

Water bottle and sleeping bag labeler: uses a Sharpie marker to label student water bottles and sleeping bags as they are handed out. This takes place during camp set-up on the first day.

Food organizer: coordinates the unloading of food from the bus and setting up the food tent, organizes food into bins, bags, and ice chests in the food tent. Re-organizes leftover food on the last day, and prepares it for departure.

Lead cook: can be the same person throughout the trip, or rotate each meal. Coordinates cook crew (students or chaperones) by delegating necessary food-prep tasks.

Lead dish washer: can be the same person throughout the trip, or rotate each meal. Spearheads the post-meal clean-up effort, using a wash crew (students or chaperones).

Lead trash emptier: monitors the status of the trash cans and recycling bin, and either empties them him/herself, or delegates the task.

Lead water jug refiller: monitors the status of the water jugs, and either refills them him/herself, or delegates the task.

Lead ice chest monitor: monitors the status of the ice chests, and alerts the rangers at breakfast and/or dinnertime when they need refilling.

Firemaster: can be the same person throughout the trip, or rotate each evening. Builds and/or attends to the fire in camp, and extinguishes it before going to bed.

Bathroom attendants: of each gender make sure all students rotate through the bathrooms in the evening, and return safely to camp in groups of at least three. Tent Chaperones should rotate who fulfills this role each night.

These are the functional roles that the ROCKS rangers need your chaperones to fulfill. Feel free to designate additional responsibilities as needed to make camp life function according to your desires. Some roles (like trash emptier and jug refiller) can both be performed by the same person if you are short on adults, and other roles (like bathroom attendants) are transitory, so they can be combined with other responsibilities. Camp will run smoothly if everyone knows what they are responsible for doing!

Private Vehicles

All students should travel to the park on the charter bus(es) arranged for the field trip. However, if a few chaperones wish to bring their own private vehicles, they are welcome to do so. Please inform the ROCKS Rangers a few days before the field trip how many private vehicles will be in attendance. These vehicles will gain free entrance to the park under the school's fee waiver. The ROCKS program will not reimburse chaperones for mileage in their private vehicles, however, so gas costs are the responsibility of the driver. It can be advantageous to have one or two private vehicles on a field trip, in the event that a student becomes ill, or a family emergency requires him or her to travel home quickly. It also allows one or more chaperones to return to camp ahead of the bus to start preparing dinner at the end of the day.

Safety

The ROCKS Rangers always follow the same "Rule of 3" when accompanying students that we teach to the students themselves as they travel around Death Valley. Never go anywhere alone, and never go with just one other person. Although we are confident that all the chaperones that participate in the ROCKS program will be above reproach, in today's litigious society it's important to be cautious. Never be alone with a child away from the rest of the group – make sure there are at least two children with you, or a second adult if there is only one child. If you are in a very public place, this is not a concern – the rule is in play only when accompanying minors away from a crowd (i.e. to go to the bathroom or deliver first aid).

Pre-Trip Logistics

The following information will help you prepare for a smooth journey to Death Valley, and an efficient, effective experience at the park.

Before Departure

Name tags and backpacks

Create name tags for students to wear at all times so rangers and chaperones can identify them. Adult chaperones should also wear name-tags. There are two effective strategies for name tag construction: 1) A sturdy piece of material (either cardboard, or laminated paper), with the student's name written *on both sides*, worn around the neck and fastened by a string, or 2) A button name-tag fastened to the students clothing. Do not use sticker name-tags, as they tend to come off and create litter, or get covered up by clothing layers.

Students should bring a small day pack. This will hold their water bottle(s), clipboards, writing utensils, lunch, snacks, and clothing layers, including a hat. It is not a bad idea to make name-tags for backpacks as well, so student can be identified even when their back is turned, and so "lost" backpacks can be quickly returned to their owners.

Student money

You may allow students to bring a modest amount of money for purchasing souvenirs. If you are stopping at a fast food restaurant along the way to Death Valley, it can be used to purchase a meal or snacks as well. One strategy for keeping money organized (and not lost in the shuffle or stolen) is to have each student surrender their cash in a ziplock bag, with the original quantity written on an enclosed piece of paper, to an adult at the beginning of the trip. This adult can either be a single "treasurer" for the whole group or a "tent chaperone" for each small group of students. The money is kept in a safe place, and only given to the students during purchase opportunities. It is then retained by the adult in charge until the next opportunity arises.

Paperwork

Bring a folder with all necessary student paperwork. Be sure to separate (un-staple) forms that must be given to the rangers (permission slips, photo releases, and health forms) from those that stay with you. Be prepared to verbally inform rangers of students whose guardians denied photo permission, and students who have health issues that may impact their experience at Death Valley (for instance, asthma, sleep concerns, or allergies). Be aware of and carry out your school district policy regarding issuing drugs to students. This includes the appropriate procedure for students who request pharmaceuticals to treat spontaneous symptoms (for example, ibuprofen for cramps and headaches, allergy medication for runny noses and itchy eyes, or Tums for

upset stomachs), as well as students who must take prescription medication on a particular schedule to treat a specific condition. Consult with your school nurse, and designate an adult as the dispenser of medications according to procedure.

On the Bus

Electronic devices

When boarding the bus, students should be wearing a name tag, and carrying their backpacks with them. It is up to you whether to allow electronic devices like cell phones, portable video game consoles, or mp3 players on the bus as entertainment during the drive. Students may NOT use or possess these devices during the field trip, even at night in their tents. If you allow them on the bus, prepare a labeling and collection system so they can all be gathered into one place and stored safely during the ROCKS program, and returned to their owners for the ride back to school. Most charter buses include on-board DVD players and screens, so consider bringing appropriate movies to entertain the students during the ride.

Meals on the bus

Breakfast and lunch on the first day, and dinner on the last day are flexible meals. You may tell students to eat breakfast before they arrive at school to board the bus, or you may provide breakfast to be eaten on the bus. You may tell students to pack their own (hearty, generous) lunch for the first day, to be eaten either on the bus, or upon arrival in Death Valley, or you can have students assemble a brown-bag lunch you provide before they get on the bus. The final day, depending on your travel schedule, you may wish to either stop at a fast food restaurant en route, or have the students assemble a lunch-like brown-bag dinner. Make sure you coordinate with the bus driver ahead of time regarding protocols for eating and drinking on the bus. (See the section on Camp Logistics for more information about food.)

Rest stops

If you are travelling more than two hours to Death Valley, plan to stop at least once for a bathroom break at a gas station, rest area, or fast food restaurant. If travelling from Las Vegas, Pahrump, NV is a good rest stop. If travelling from Los Angeles via I-15, Barstow and/or Baker are good rest stops. If travelling from Los Angeles via US-14, Mojave and/or Ridgecrest and/or the Interagency Visitor Center in Lone Pine are good rest stops. Most charter buses include an on-board restroom, however, its capacity is usually limited, so encourage students to wait for rest stops. Budget at least three hours to drive from Las Vegas to Death Valley, and at least six hours to drive from Los Angeles. Bus drivers are legally constrained on the number of hours they may drive per day (10 hours), and the total number of hours they can be on the clock per day (15 hours). Work with the ROCKS rangers to develop a schedule of activities that respects these legal limits.

Trash bags and motion sickness

It's a good idea to bring your own trash bags onto the bus – large ones for gathering food wrappers and scraps, and small ones for students who get sick. Portions of the drive occur on windy, narrow roads, so be aware of students who may experience motion sickness, and locate them appropriately in the bus. Some schools have had success feeding students ginger cookies to settle nauseous stomachs. Although the carbonation can help settle stomachs, generally speaking, soda is not a good idea on the bus, as it makes a sticky mess if spilled.

Camp Logistics

This section includes information about how to organize and execute camp life. There are sub-sections on Arrival, Activity Books, Tents, Food, Fire, Trash, Water, Bathrooms, and Departure. You will be camping in the old group sites at the top of the hill in Texas Springs Campground, near Furnace Creek. While the ROCKS Rangers take primary responsibility for the students during the day's activities, and the evening astronomy program, in camp, the teacher is in charge, and the rangers may not be present at all times. Below you'll find suggestions for organizing the in-camp experience, but in the end, this is your operation, so do what you need to do to make it work for you! (And let the rangers know your plan, so they can follow along.)

Arrival

Whether you are arriving to the first activity site or directly to the campgrounds, students should have with them on the bus a water bottle, a hat, and a writing implement in their day pack. If they are doing an activity before they set up camp, make sure they have with them their bagged lunch, as well. If you are arriving directly to the campground, you may have the students assemble their lunch on site, if you wish.

As soon as you disembark the bus, be prepared to hand the ranger the relevant paperwork (permission slips, photo waivers and health forms), and brief him or her on any students who cannot have photographs taken, or students who have health conditions (like asthma or allergies) that may be aggravated during the trip. Do not start to unload the buses until the ranger orientation is done. Then, while the students are setting up their tents, a few adults may unload food and student luggage from the bus. These adults can set up and organize the food tent. Two adults should be on label duty, labeling both water bottles and sleeping bags with students' names using Sharpie markers (provided by the ROCKS Rangers). Students should not bring their luggage to their tent until the tents and sleeping bags are completely set up. As students finish their tent set-up, cycle them through the bathroom in groups of at least three in preparation for the afternoon's activities.

Field Notebooks

A big part of your students' interdisciplinary, standards-based experience in the ROCKS program occurs through their Field Notebooks. Most activities that take place in the park require the students to write, draw, and record data associated with their learning activities in a Field Notebook. To inspire enthusiastic participation in all activities, and induce the students to keep track of their Notebook during and after the

field trip, we encourage you to attach a grade to the students Field Notebooks, after the trip is complete. Very few activities have “right” or “wrong” answers – you can simply reflect on the completeness and effort exerted in attempting the exercises. Some schools have students prepare a report or write an essay about their Death Valley experience for a grade – you can make the grade for the Field Notebook supplementary to the grade they earn for the project you assign.

Tents

The students will set up their tents on the first day of the ROCKS program. Adults should allow the students to experience putting up a tent independently, though they may lend a hand for tasks that require someone tall, etc. There will be rangers available to assist with the set-up as well. Each tent group should have a “Tent Chaperone” to provide support for the students, though if you are short on adults, one chaperone may be in charge of up to two tents. Although it is helpful to have a Tent Chaperone that is the same gender as the students in the tent, it is not necessary. The duties of the Tent Chaperone include making sure students are all assembled and quiet when it’s time to get on the bus, supervising safe passage to restrooms, and overseeing any group work that has been assigned. The Tent Chaperone should also provide moral support and mediation if social conflicts arise.

Boys’ tents and girls’ tents will be located on separate sides of the campsite, and chaperone tents will be arrayed down the middle. Although we supply tents, sleeping bags and sleeping pads for the students, chaperones should plan on bringing their own camping equipment, though the ROCKS program can usually supply a few extras for adults who don’t have all the necessary elements.

One tent will be designated as the “Food Tent” and will hold all the cookware, stoves, and food, in bags, boxes, or coolers. Adults will be responsible for setting up and organizing this tent according to the needs of the group.

Tent Chaperones should pay careful attention to the tent set-up, so they can make sure all the tent parts are put away properly on the last day when students are breaking down camp.

Food

Schools that participate in ROCKS are responsible for providing food for their students (and usually the chaperones as well). Typically this involves collecting a modest amount of money from each student (\$10 to \$15 is typical), then purchasing groceries and supplies. The teacher may shop for the food, or may delegate the task to a group of chaperones. The ROCKS rangers highly recommend making “scholarships” available to students whose families cannot afford the food cost through fundraising or

making up the difference from those who do pay. Some schools are able to order food through their cafeteria, rather than shopping for it.

Food will be prepared in camp by adults and students. ROCKS provides most necessary cookware (see Supplied Equipment list for details), however, you will need to provide your own plates and utensils (most groups opt for paper and plastic disposables). After each meal, you will also need to wash all the cookware used – sponges and soap are provided by ROCKS. We recommend that you either designate specific tent groups to cook or clean, or specify which chaperones will be responsible for cooking and cleaning. It is very important that food scraps are not left around the camp site, as this will attract animals that you would rather avoid.

At minimum you will need to supply food for two dinners (days 1 & 2), two lunches (days 2 & 3), and two breakfasts (days 2 & 3). Depending on your resources, how far you have to travel the first day, and the socioeconomic status of your students, you may wish to provide breakfast and/or lunch on the first day, and dinner on the road on the third day as well.

You will eat breakfast and dinner in camp, while lunch will occur at various locations throughout the park. You can count on having access to stoves and sinks for breakfast and dinner, but lunch should be brown bag, prepared right after breakfast, and taken along with each student in their backpack when leaving camp for the day. Make sure you purchase either portable foods like fruit, cracker sandwiches, or Crustables, or sufficient ziplock bags for loose chips, cookies, sandwiches, etc. Some schools in the past have been ambitious and prepared hot breakfasts for their students (pancakes, eggs, bacon), but make sure you take into account the time and effort that will go into this preparation and cleaning (which must be complete before you leave camp).

The ROCKS program has at least four medium-to-large sized coolers that you can use on-site. We also have an unlimited supply of free ice. You will need to figure out how to get perishable foods to the park in the bus (i.e. boxes with ice, or borrow ice chests from chaperones), but once here, we have the resources to keep them cool for the rest of the trip. Ice can be topped off first thing in the morning, and in the evening at dinner time (before the astronomy program starts). You may wish to designate a tent group or a chaperone to be in charge of monitoring ice levels, and alerting the rangers as to which coolers need additional ice at these two times of day.

Be prepared to feed your students (and chaperones) abundantly! The ROCKS program has long days, filled with strenuous (and fun) learning activities, so each participant needs lots of healthy calories. Below you'll find various recommendations for each meal, but feel free to be creative! When considering what to make, remember you'll be preparing this outdoors, for lots of people, under potentially windy and/or dark conditions, so keep it simple, and prepare ahead when possible.

Breakfast: Flavored oatmeal packets (just add hot water), cereal boxes (just add cold milk), fruit (bananas, apples, and oranges), juice, yoghurt in plastic tubes (no spoons necessary), string cheese.

Lunch: sandwich fixings (at least bread, cold cuts, cheese, peanut butter & jelly – unless you have an allergic student), fruit (apples and oranges – bananas will get smooshed in brown bags), string cheese, chips (individual bags, or Pringles with ziplock baggies), crackers or cracker sandwiches (with cheese or peanut butter in between), trail mix, cookies, yoghurt in plastic tubes (no spoons necessary), juice, fruit snacks.

Dinner: Hot dogs (we have roasting sticks, so students can prepare them over the fire – but pre-boiling or is recommended, or an adult can prepare them ahead of time), tacos (pre-cook the meat and re-heat at camp), spaghetti (pre-cook the pasta, and quickly warm it in hot water – it'll take too long to make it from scratch), burritos.

For dessert one night, the ROCKS rangers may teach the students how to prepare cobbler using dutch ovens, a method of cooking used by the pioneers and 20 Mule Team drivers who travelled through Death Valley in the late 1800s. We supply the necessary ingredients for this experience. For dessert the other night, we highly recommend you bring supplies for s'mores (graham crackers, chocolate bars, and marshmallows), so you can initiate your students into this fun and long-enduring campfire tradition. We supply the roasting sticks.

Many students eat according to special diets – vegetarian, gluten-free, allergic to peanuts, etc. Make sure there are options for students following these diets at each meal. You may wish to allow students with particularly restricted diets to bring supplemental food for some or all meals, especially if a parent is coming along to assist, and adjust their contribution to the cost of group food accordingly.

Fire

The campfire is a classic part of the outdoor experience. Your campsite will have a fire ring, wood, and lighters or matches provided to start a fire. ROCKS rangers can provide kindling, but if you have newspaper or other readily combustible and clean-burning materials lying around, feel free to bring them. The best time to start the campfire is at the beginning of dinner, so it can be used for warmth, cooking and camaraderie after a hard day of learning. The park ranger can light the fire for you, or if there is a chaperone that enjoys building fires, they may do it instead. Due to liability concerns, do not allow students to light or tend the fire. While learning to build a campfire is a great lesson for young people, it is better tackled in a more intimate group situation (i.e. 4-H or Scouts). Maintain proper safety around the fire – don't let it get too big, don't allow students to run around the campsite, and never leave a fire unattended. You may choose to extinguish the fire after dinner, but before the astronomy program, or you may choose to leave it burning until after the astronomy program, to allow for one

more hand-warming session before the students go to bed. If you are going to keep the fire going until after the astronomy program, you **MUST** have at least one adult stay with the fire **AT ALL TIMES**. This means at least one person will not participate in the astronomy activity for that night.

There will be some time around dinner, and after astronomy, to engage in traditional campfire activities. This may include roasting s'mores, singing songs, reflecting as a group on the day's activities, and telling stories. As teacher, you can design the campfire experience to be as structured or unstructured as you see fit. ROCKS Rangers may or may not be around during these times. We recommend that you don't tell scary stories (or allow students to tell them to each other) in order to promote a peaceful evening and easy transition to bed. Quiet time in the campground is 10pm, so make sure the students don't disturb other campers after this hour.

We don't recommend that you build a fire in the morning at breakfast, due to time constraints and the difficulty of extinguishing it before departure for the day.

Trash and recycling

Several trash cans and a supply of trash bags will be available to you at the campsite. Your group is responsible for keeping the site clean. This means designating students or chaperones to regularly empty the trash cans, carrying full bags down to the dumpsters in the campground. Death Valley has co-mingled recycling. **PLEASE** encourage your students to recycle. We will provide a separate, labeled trash can for recyclables, and will orient the students and chaperones as to what can or cannot be recycled. Do what you can to monitor proper use of trash vs. recycling bins.

Water

Upon arrival, each student will be given a one-liter water bottle with the ROCKS logo on it to use during the program, and keep when they go home. ROCKS rangers will provide you with several large Gatorade coolers to fill with water so the students can top off their bottles throughout the day. Your group is responsible for refilling the large water jugs. There are several high-flow spigots located throughout the campground. A water jug can be carried between camp and the spigot for refills by two strong students or one adult. Designate a tent group or chaperone to be in charge of water refills. Make sure there are at least three jugs full before you leave in the morning (meaning students have already filled their water bottles, then the jugs are refilled again) – two to take with you on/under the bus, and one to leave at camp for immediate refills upon return at the end of the day.

Encourage your students to drink lots of water, even if they complain that they prefer flavored beverages. In the hot season, a person outdoors needs approximately 4

liters (or one gallon) of water per day. In the cooler season, 2-3 liters are recommended because of dry air and exertion. Most students will not drink this much without aggressive nagging. Dehydration can lead to symptoms like headaches, tiredness, dizziness, irritability, and insomnia. Keep everyone healthy and happy by taking group drink breaks periodically on the bus and during activities.

Bathrooms

Whenever students must depart from the rest of the group, which will usually be to go to the bathroom, they must do so in groups of at least three (of the same gender). If they go in groups of more than three, any subgroup that returns before the others must have at least three students in it, and they must leave at least three behind. That is, if five students go to the bathroom together, they must wait until all of them are finished before they return, but if six go together, they can return in two groups of three. At night, it is ideal for a same-gendered adult to accompany groups of students to the restroom. That adult can stay by the restroom and supervise the comings and goings of many groups of students. There are flush toilets and sinks available throughout Texas Springs Campground. Because these bathrooms are used by the general public as well as your school group, make sure students are well-behaved, quiet, and make allowances for other users.

Although there are no showers, encourage your students to clean up at least once a day using soap, water and washcloths – face, underarms, and feet are a good place to start. If adults want to take a shower, they can pay \$5 at the Xanterra check-in desk at Furnace Creek Ranch, and use the showers in the resort pool area. These showers should take place either before or after adults complete their camp responsibilities for the day.

Departure

On the morning of the final day, you will need to have the students and the camp completely packed up and ready to go before the bus arrives around 9:00 am. Encourage the students to pack up most of their belongings into their duffel bags the night before. Clean, organize, and put away as much cookware as possible, and organize or dispose of excess food the night before. Make sure each Tent Chaperone carefully supervises their group's tent break-down, such that all parts are put into the tent bag before it is turned into the rangers. Enlist students to help the rangers pack supplies back into the education trailer. Have the students refill their water bottles one final time, and go to the bathroom before boarding the bus. After the activity at the sand dunes, have a safe journey home!

Post-Trip Logistics

The ROCKS Rangers hope to maintain a relationship with your school for many years. Good relationships require communication, so we want to hear from you after the trip. We strive to improve the ROCKS program as a venue for hands-on learning and a positive life experience for your students. Let us know what you think.

Evaluations

We will provide you with written evaluation forms for your students to fill out after the field trip, and an envelope in which to return those forms. Also included will be one or more teacher evaluation forms, so we can hear your feedback as well. The ROCKS rangers value constructive criticism, so we can meet your needs even better the next time around.

Citizen Science Follow-up

Many ROCKS programs involve a Citizen Science component, in which your students will be expected to analyze Leaf Packs, log phenology observations, or enter GLOBE data into national or international Citizen Science databases after their trip to Death Valley. Work with the Education Specialist before and after the trip to clarify these procedures. We understand that your classroom schedules are already busy, so not every class will be able to follow-up, however we encourage you to do so – this data will help scientists around the world understand our environment better!

Post-visits

We love to see your students after their field trip, especially if they will be presenting reports, reading essays, or sharing their experience with other classes. We will make every effort possible to attend these events at your school, or participate in Science Nights or other campus activities that you think would benefit from a National Park Service presence. Give us as much notice as possible, and we will try to be there. Unfortunately, our busy schedules and limited government travel budgets sometimes make it impossible for us to attend every event, but know that even if we can't be there physically, we are with you in spirit!

Thank You Letters

Most of the funding for the ROCKS programs comes from donations to the Death Valley Natural History Association, our non-profit partner group. Sometimes they receive a large check from a single donor to support ROCKS. These donors love the heartfelt, illustrated letters that come from students in support of the program, and therefore are encouraged to repeat their generous gifts. After your trip, consider calling the ROCKS Rangers to see if there is a donor to whom your students might address their thank you letters. Of course, the rangers love to get letters, too, if you want your students to practice letter writing, and there aren't any big donors at the moment.

Ranger Thank-You Letters can be mailed to:

Stephanie Kyriazis

P.O. Box 579

Death Valley, CA 92328

Death Valley Natural History Association (non-profit partner) Letters can be mailed to:

Candace Lieber

P.O. Box 188

Death Valley, CA 92328

Scheduling Next Year's Trip

We begin scheduling next school year's trips in August – give us a call then, and we'll starting planning your next round of ROCKS!

Teacher Checklists

Pre-Trip Checklist

- Schedule your field trip dates with the Education Specialist
- Schedule an orientation visit to your school so students can decide whether to apply for the trip (usually secondary schools only)
- Schedule a pre-trip classroom visit (2 hours minimum for secondary, 3 hours minimum for elementary schools)
- Schedule an all parent meeting with the rangers (elementary schools) and/or a chaperone meeting (elementary and secondary)
- Work with Education Specialist to select appropriate activities for your field trip
- Work with Education Specialist to make charter bus reservations for your field trip
- Submit fee waiver form to Education Specialist (one month prior to trip date), photocopy and send home other paperwork like permission slips, health forms, and photo releases (several weeks prior to trip date)
- Select and orient chaperones
- Designate tent (same-gender) and activity (mixed-gender) student groups

Arrival Checklist

- Give paperwork (permission slips, photo waivers, and health forms) to ranger
- Unload students with their day packs, eat lunch if haven't yet eaten
- Welcome/orientation/safety talk by rangers
- While students set up tents, adults unload food and luggage from bus
- After tents and sleeping bags are set up, students bring luggage to their tents
- Students go to the bathroom before re-boarding the bus

Morning Checklist

- Breakfast eaten
- Bag lunch prepared
- All food cleaned up
- Students have day packs ready with clipboard, pencil, activity book, water bottle, bag lunch, hat, sunscreen, and layers suitable for the day's weather

- All other items are secured in tents, and tents are zipped up
- Water bottles full
- At least three water jugs refilled
- Ice chests refilled with ice
- Trash cans emptied if near full
- Student have gone to the restroom and brushed their teeth

Night Checklist

- Dinner food cleaned up
- Dishes done
- Campfire extinguished
- Ice chests refilled with ice
- Trashcans emptied if near full
- Students have gone to the restroom to clean up and brush their teeth

Chaperone tasks for teacher to assign

- Tent Chaperone (one per one or two tents)
- Water bottle and sleeping bag labeler (two on the first day only)
- Food organizer (one or two on the first and last days)
- Lead cook (one per camp meal)
- Lead dish washer (one per camp meal)
- Lead trash emptier (ongoing throughout trip)
- Lead water jug refiller (ongoing throughout trip)
- Lead ice chest monitor (ongoing throughout trip)
- Firemaster (ongoing throughout trip, or one each night)
- Bathroom attendant (at least one of each gender each night)

Death Valley Education Programs for ROCKS

Work with the education specialist to select the ROCKS activities that are right for you and your students. Program Time is the duration of the activities on-site. Travel Time is the **one-way** estimate of time required to travel from the Furnace Creek area to the activity site. Neither time estimate takes into account bus loading, unloading, or bathroom breaks, so add at least an additional 30 minutes. Travel time may vary if the site of the previous activity is closer to or further from the next activity site than Furnace Creek. See attached sample schedules to get a sense of what you can do with a fall or spring program.

Dune Detectives

Location: Mesquite Flat Sand Dunes near Stovepipe Wells

Program Time: 1.5 hours

Travel Time: 30 minutes

Description: Geology and biology come together in this inquiry-based ecology experience. Discern the origin of sand dunes, and literally follow in the footsteps of the creatures that call this extreme environment home. After solving some scientific mysteries, frolic in the dunes, roll down a hill, or bury yourself in sand. In the springtime, help the park battle against invasive species by leading your own eradication campaign!

Subjects: Geology, Biology, Ecology, Language Arts, Service Learning

Natural Bridge Exploration

Location: Natural Bridge Canyon (up a 1 mile, well-graded gravel road)

Program Time: 1 hour

Travel Time: 30 minutes

Description: Hike half a mile to this spectacular natural feature, and ponder how a natural bridge came to tower over a dry wash. Get to know the rocks that make this formation by creating a scientific field journal entry. This is a great activity to combine with lunch, as the natural bridge and canyon walls provide shade.

Subjects: Geology, Visual Arts, Language Arts, Physical Education

Salts, Faults, & Alluvial Fans

Location: Badwater

Program Time: 1.5 – 2 hours

Travel Time: 30 minutes

Description: By what tectonic forces can the land sink below the level of the sea? What evidence do we see of a dynamic earth? And why is there salt on the ground? Get a

taste of big-picture Basin and Range geology at the world-famous lowest spot in North America.

Subjects: Geology, Visual Arts, Physical Education

Ancient Environments

Location: Golden Canyon trail

Program Time: 1.5 – 2 hours

Travel Time: 15 minutes

Description: Over geologic time, dramatic changes in landscape and climate are the norm. In this activity, your students will learn to “read the rocks” and listen to the stories they tell of ancient environments. Compare these gradual changes to the rapid-fire climate change of today.

Subjects: Geology, Language Arts, Visual Arts, Physical Education

Into the Crater

Location: Ubehebe Crater

Program Time: 2 hours

Travel Time: 1 hour 15 minutes

Description: What made Ubehebe Crater? Was it a meteorite, a nuclear explosion, a volcano? Hike into the heart of this curious landform to gather clues and solve the mystery, then kinesthetically re-enact the event.

Subjects: Geology, Physical Education

Death Valley FISHERS (Fishery Investigations for Students through Hands-on Environmental Science)

Location: Salt Creek

Program Time: 3 hours

Travel Time: 30 minutes

Description: Fish in the desert. It sounds impossible, but the Salt Creek pupfish are hearty survivors, descendants of Ice Age lake-dwelling ancestors. Collect real long-term monitoring data for the National Park, while getting your hands wet handling fish. Explore the aquatic ecology of the stream by placing leaf packs to capture invertebrates, then analyze them back in your classroom three weeks later, entering the data in an online national citizen-science database.

Subjects: Biology, Ecology, Math, Physical Science, Language Arts, Visual Arts, Service Learning

Scotty’s Castle Education Tours (choose history or science focus)

Location: Scotty’s Castle

Program Time: 1 hour per tour, 30 minutes for additional science activity

Travel Time: 1 hour

Group size: Up to 19 per tour

Description: Tour this famous mansion in the desert. Choose the history tour to learn about Walter Scott, Albert and Bessie Johnson, and their adventures, both real and mythical, in the wild west. On this tour, explore the lower and upper levels of the house. Choose the science tour for a behind-the-scenes look at the technology that drove the castle. See how sun, water, and rocks drew Scotty, Albert, and Bessie to the desert, and allowed them to live there. On this tour, check out the lower level of the house, then descend into the basement.

Subjects: History, Physical Science, Visual Arts

Note: Availability of science tours may be limited. Scheduling free educational tours of Scotty's Castle requires an additional fee waiver form, which will only be granted after a general educational fee waiver has been obtained, and only if the purpose of the field trip includes curriculum related to the resources present at Scotty's Castle.

Night Hike

Location: Harmony Borax Works or Texas Springs Campground

Program Time: 1.5 – 2 hours

Travel Time: 15 minutes

Group size: Up to 60

Description: Death Valley has one of the darkest night skies in the country. Explore this precious resource, as you stroll along a level path in the dark, without flashlights. Learn about celestial objects, and the mysteries that take place beneath them.

Subjects: Astronomy, Biology, Physical Science, Physical Education

Schedule for Death Valley National Park: **(be prepared to be flexible!)**

DAY #1

Arrive/Depart	Location	Subject/assignment	Responsible
7:00am – on the bus	School	Arrive at Natural Bridge by 10:30 am	Teachers, Bus Driver
10:30am – 12:00pm	Natural Bridge	Most powerful force + Lunch	Rangers
12:00am – 12:30pm	Bus	Drive to Badwater, Bathroom Break	Bus Driver and Teachers
12:30pm– 2:00pm	Badwater	Salts, Faults, and Alluvial Fans	Rangers
2:00pm – 2:30pm	Bus	Drive to Texas Springs	Bus Driver and Teachers
2:30pm – 3:30pm	Texas Springs	Set up camp, Bathroom Break	Teachers, Students, Rangers
3:30pm – 3:45pm	Bus	Drive to Golden Canyon	Bus Driver and Teachers
3:45pm – 5:15pm	Golden Canyon	Ancient Landscapes	Rangers
5:15pm – 5:30pm	Bus	Drive to Texas Springs	Bus Driver and Teachers
5:30pm – 7:00pm	Texas Springs	Dinner	Teachers, Students
7:00pm – 8:00pm	Texas Springs	Junior Ranger Night Sky Introduction & Booklets	Rangers
8:00pm – 9:30pm	Texas Springs	Clean up, get ready for bed, quiet activities	Teachers/Students
10:00 pm	In your tent	Sleeping!!!	Teachers/Students

DAY #2

Arrive/Depart	Location	Subject/assignment	Responsible
7:00am – 8:30am	Texas Springs	Breakfast, make lunches and get ready for day.	Teachers/Students
8:30am – 10:00am	Bus	Drive to Scotty’s Castle	Bus Driver and Teacher
10:00am - 1:00pm	Scotty’s Castle	Scotty’s Castle tours, pipe experiment, water colors, lunch (see detailed schedule below)	Rangers
1:00pm – 1:30pm	Bus	Bathroom Break, drive to Ubehebe Crater	Bus Driver and Teacher
1:30 pm - 4:00 pm	Ubehebe Crater	The Great Crater Mystery	Rangers
4:00 pm - 5:00 pm	Bus	Drive to Texas Springs	Bus Driver and Teacher
5:00 pm - 7:00 pm	Texas Springs	Dinner	Teachers/Students
7:00 pm - 7:30 pm	Texas Springs	Finish up Junior Ranger Night Sky booklets, Bathroom Break	Rangers
7:30pm – 7:45pm	Bus	Drive to Harmony Borax Works	Bus Driver and Teacher
7:45pm – 9:30pm	Harmony Borax Works	Night Hike, Constellation Tour, Telescope Viewing	Rangers
9:30pm – 9:45pm	Bus	Drive to Texas Springs	Bus Driver and Teacher
9:45pm – 10:00pm	Texas Springs	Clean up, get ready for bed, quiet activities	Teachers/Students
10:00 pm	In your tent	Sleeping!!!	Teachers/Students

DAY #3

Arrive/Depart	Location	Subject/assignment	Responsible
7am – 9:00 am	Campground	Breakfast and clean up camp	Teachers/Students
9:00am – 9:30am	Bus	Drive to Sand Dunes	Bus Driver and Teachers
9:30am - 11:00am	Sand Dunes	Dune Detectives	Teachers, Students, Rangers
11:00am – 11:30pm	Bus	Drive to Furnace Creek	Bus Driver and Teachers
11:30pm - 2:00pm	Visitor Center and Borax Museum	Lunch, Visitor Center and Bookstore Rotations, Journaling activity. Bathroom Break.	Teachers, Students, Rangers
2:00pm – 5:00pm	Bus	Drive back to School	Bus Driver and Teachers
5:00pm – 5:30 pm	School	Off load and head home	Teachers/Students

Schedule for Death Valley National Park: **(be prepared to be flexible!)**

DAY #1

Arrive/Depart	Location	Subject/assignment	Responsible
6am – on the bus	School	Arrive at Campground by noon	Teachers
12:00pm – 12:30pm	Texas Springs Campground	Lunch, Bathroom Break (BB)	Rangers
12:30 pm – 2:00 pm	Texas Springs	Set up camp	Rangers, Teachers, Students
2:00 pm– 2:30 pm	Bus	Drive to Badwater	Bus Driver & Teachers
2:30 pm – 4:00 pm	Badwater	Salts, Faults, and Alluvial Fans, BB	Rangers
4:00 pm – 4:15 pm	Bus	Drive to Golden Canyon	Bus Driver & Teachers
4:15 pm – 5:30 pm	Golden Canyon	Ancient Environments	Rangers
5:30pm – 7:00pm	Texas Springs	Dinner, BB	Teachers/Students
7:00pm – 8:00pm	Texas Springs	Jr. Ranger Night Explorer Intro	Rangers
8:00pm – 10:00pm	Texas Springs	Reflection. Get ready for sleep; quiet hours and in tents by 10pm	Teachers/Students
10:00 pm	In your tent	Sleeping	Teachers/Students

DAY #2

Arrive/Depart	Location	Subject/assignment	Responsible
7:00am – 8:30am	Texas Springs	Breakfast, make lunches and get ready for day.	Teachers/Students
8:30am – 9:00am	Bus	Drive to Salt Creek	Bus Driver & Teachers
9:00am – 11:30 am	Salt Creek	Death Valley FISHES	Rangers, Teachers, Students
11:30am – 12:00pm	Salt Creek	Lunch + Science experiment	Teachers/Students, Rangers
12:00pm – 1:00pm	Bus	Drive to Scotty's Castle	Teachers/Students
1:00pm – 4:00pm	Scotty's Castle	Tours of Scotty's Castle, BB	Rangers
4:00 pm – 5:00pm	Bus	Drive to Texas Springs	Bus Driver & Teachers
5:00pm – 7:00pm	Texas Springs	Dinner, BB	Teachers/Students
7:00 pm – 8:30pm	Harmony Borax Works	Night Hike	Bus Driver, Teachers & Rangers
8:30pm – 10:00pm	Campground	Get ready for sleep; quiet hours and in tents by 10pm	Teachers/Students
10:00 pm	In your tent	Sleeping	Teachers/Students

DAY #3

Arrive/Depart	Location	Subject/assignment	Responsible
7:00am – 9:00 am	Campground	Breakfast, Take group picture, Breakdown and clean up camp.	Teachers/Students & Rangers
9:00am – 9:30am	Bus	Drive to Sand Dunes	Bus Driver, Teachers, Students
9:30am – 11:00am	Sand Dunes	Dune Detectives	Teachers/Students & Rangers
11:00am – 11:30am	Bus	Drive to Furnace Creek	Bus Driver, Teachers, Students
11:30am – 12:00pm	Furnace Creek	Eat Lunch	Teachers/Students & Rangers
12:00pm – 1:30pm	Furnace Creek	Explore Visitor Center, Bookstore, Reflection Activity	Teachers/Students & Rangers
1:30pm – 6:30pm	Bus	Drive back to School	Bus Driver, Teachers, Students
6:30pm	School	Off-load and head home!	Teachers/Students

Program Evaluation Sheet - Student

Please share with us your thoughts about the Death Valley ROCKS program. Complete this evaluation honestly and return to your teacher or a ranger. If you need more room, you can write on the back of this paper.

Circle one response for each statement listed below.

- | | | | | |
|--|----------------|-------|----------|-------------------|
| 1. The school visits from the rangers helped prepare me for this trip. | Strongly Agree | Agree | Disagree | Strongly Disagree |
| 2. The activities at the park were educational. | Strongly Agree | Agree | Disagree | Strongly Disagree |
| 3. The activities at the park were fun. | Strongly Agree | Agree | Disagree | Strongly Disagree |
| 4. There was enough time to complete the activities at the park. | Strongly Agree | Agree | Disagree | Strongly Disagree |

5. My favorite activity was: _____

Why? _____

6. My least favorite activity was: _____

Why? _____

7. Write something you learned during your trip to Death Valley here: _____

9. What types of feelings did you experience during your trip to Death Valley? What caused them?

10. I would recommend the following changes to the program: _____

Program Evaluation Sheet - Teacher

Please share with us your thoughts about the Death Valley ROCKS program – your comments will help us improve! Complete this evaluation return it to a ranger.

Circle one response for each statement listed below.

- | | | | | |
|--|----------------|-------|----------|-------------------|
| 1. The school visits from the rangers were worthwhile for the students and helpful for me. | Strongly Agree | Agree | Disagree | Strongly Disagree |
| 2. The activities at the park addressed state academic standards. | Strongly Agree | Agree | Disagree | Strongly Disagree |
| 3. I received the support I needed from the ranger staff while at the park. | Strongly Agree | Agree | Disagree | Strongly Disagree |
| 4. The pace of activities and camp life at the park was manageable. | Strongly Agree | Agree | Disagree | Strongly Disagree |

5. Which were your top three favorite activities, and why?

1) _____

Why? _____

2) _____

Why? _____

3) _____

Why? _____

6. Which were your two least favorite activities, and why?

1) _____

Why? _____

2) _____

Why? _____

7. What could we do to make this program work better for you logistically? _____

8. What could we do to make this program work better for you academically? _____

9. What other recommendations do you have for our program? _____
