Dear User:

Since 1936, Virginia State Parks have served to preserve the Commonwealth’s natural and historic resources and to provide opportunities for people to enjoy and learn about those resources. Several of Virginia’s State Parks and Natural Areas—Caledon, Chippokes, Leesylvania, Mason Neck, Seashore, Westmoreland and York River—are intimately linked with one of the region’s most precious and most threatened resources, the Chesapeake Bay. Increasingly, these parks have a vital role in the future of the Bay.

Because only a tiny fraction of the Chesapeake Bay region falls within the bounds of these parks and natural areas, they can provide only minimal direct protection to the Bay. However, through education—especially the education of Virginia’s young people—these parks and natural areas can play a major part in protecting and restoring the Bay.

*Your Backyard Classrooms* makes it easy, fun and rewarding for classes, grades K-12, to use these seven parks for learning about the Chesapeake Bay and the region’s natural and cultural heritage. Included are 40 activities that address an array of subjects and important Bay issues and concepts while satisfying State Standards of Learning objectives. The activities are designed to involve students before, during and after field trips, and encourage them to make hypotheses, observations and inferences. Although each activity includes a concise step-by-step procedure, group leaders are encouraged to mix, match and adapt activities to customize field trips to meet their own instructional goals.

Please use *Your Backyard Classrooms* often and join in the fight to save the Chesapeake Bay.

Sincerely yours,

[Signature]

Ronald D. Sutton
To the Teacher

What Research Says to the Field Tripper

The thought of a class field trip, especially in an outdoor setting, can cause jitters in even the most experienced teacher. The purpose of this guide is to provide lots of ideas for activities to keep students organized, on task, and excited about learning in Virginia’s estuarine parks. The tips in this section will help to make the trip an outstanding learning experience.

Some great advice comes from John Falk (formerly Associate Director of Education at the Smithsonian Institution’s Chesapeake Bay Center for Environmental Studies), who taught thousands of students who came to the Center for school field trips. He and his staff conducted a systematic study of the children’s behavior, and the following are some excerpts from an article written about those observations:

Suppose you have taught your dog some new tricks. You take him over to your friend’s house (where he has never been) and . . . your dog performs poorly. In fact, all he does is sniff around the corners of the room. Frustrated, you give up and let him sniff.

Interestingly enough, the next day you and your dog happen to be over at your friend’s house again . . . This time, your dog performs perfectly.

What happened? On the first day you expected your dog to perform tricks in a novel environment. Dogs and every other vertebrate, including humans, have evolved a need to feel at least minimally secure in new surroundings. Biologically speaking, there is survival value in having the instincts to “check out” an environment before settling down to do a task in it. Primates, in particular, are the curiosity champions of the animal world. Nonetheless, we frequently expect children to “perform tricks” —learn concepts—in novel environments, while “instinctively” they want to “sniff around the corners.”

One logical and successful approach to the problem of novelty effects on learning is to design field trip activities that allow structured exploration. Most children want to explore a novel environment, but lack efficient strategies for doing so. They may run around in circles. Consequently, an activity that gives them a reason for exploring, gathering data, for example, along with a basic itinerary can be helpful. A nature scavenger hunt is an excellent introductory activity—assuming that the clues children are asked to respond to are appropriate for their age and interests.

The activities provided in this guide are designed to ensure the necessary structure and framework for productive field trips. Both pre- and post-field trip lesson suggestions are included to give students a sense of mission and to reinforce learning that takes place at the Park. Science process skills are emphasized, with ample opportunities for students to conduct activities in which they are challenged to think and explore and investigate some of Virginia’s most interesting Bay country.

“Take Only Memories, Leave Only Footprints”

. . . is a good motto for park visitors. State Park regulations prohibit the collection or destruction of any park resource. It is recognized, however, that sometimes minor sacrifices of renewable resources are necessary for effective education. For example, a menhaden that is passed among 50 inquisitive hands is unlikely to survive, but its loss may benefit the rest of the species; and no harm can come from dissecting a dandelion that is destined to be mowed tomorrow.

Nonetheless, groups may damage fragile resources by inadvertently disturbing an ecologically sensitive area. Therefore, if any collecting or off-trail work is planned, please check with the park staff. The staff can assist with minimum-impact planning and will advise on locations.

Discusses environmentally responsible planning and behavior with students, both before the trip and at the park. Many students seldom interact with natural environments and are simply unaware of the consequences of their actions. A visit to the park offers a rare opportunity to teach “hands-on” environmental ethics.

To the Teacher

Field Trip Tips

**Before the Trip**

- Visit the Park ahead of time to become familiar with the site. Use the park map in this guide to find the essentials—parking area for the buses, restrooms, picnic tables, shelter area, visitor center or office, and emergency telephone. Check in with the staff about:
  - date and time of trip
  - activity plans
  - site selections
  - facilities for students with special needs
  - equipment availability
  - safety considerations

- Write out a detailed list of materials and equipment needed. Double check for everything you might possibly need or want.

- Have a set of alternate lesson plans in case of uncooperative weather or environmental conditions (such as high tide vs. low tide, strong winds, rain, very hot or very cold temperatures, sun vs. clouds, etc.).

- Check on procedures required by your school and school system. Schedule the bus and make plans for substitutes and for any students who are not going on the trip. Decide on departure and return times.

- Send home permission slips for the students along with a description of the field trip plans for the parents and give a copy to the principal. Include the departure and return times if they are not within the regular school day.

- Consider public relations. The local newspaper might be interested.

- Give the students a list of items they will need:
  - bag lunch and drink with the student’s name on the bag
  - change of shoes and clothes to leave on the bus
  - soft-soled shoes that can get wet and muddy (NO bare feet)
  - jacket, gloves and hat (it is often cooler near water than at school or home), handkerchief, rain gear, brimmed hat, sunglasses, chapstick, sunscreen, insect repellant (as necessary)
  - notepad or clipboard, with pencil attached with string (NO loose papers)

- Select your chaperones. For most outdoor field trips, assign one adult to five students in grades K-4, and one adult to eight students in grades 5-7. Older students need at least two chaperones per class. All students should follow the “buddy” system of watching out for each other. Name tags for primary age children with their name, school, and teacher’s name can be very helpful in case someone gets loose!

- Assign jobs to students and/or chaperones. Various people can be in charge of lunches, field equipment, maps, first aid kit, etc. If small group work is involved, assign roles within the groups.

- Establish emergency procedures and discuss with chaperones and students.

- Provide students with advance orientation to the site (maps, slides, videos). Practice any new skills, techniques and procedures which students will need. Introduce any unfamiliar vocabulary or concepts. Share the objectives of the trip and the planned itinerary with students.

- Plan activities for students to do on the bus. A visual scavenger hunt relevant to the field trip is easy and effective. For example, finding possible sources of non-point pollution would work well with watershed studies.

- Take first aid kit. Be sure to find out if any students have special needs, such as bee sting or allergy medications and asthma or diabetic information.

- Take life jackets (or find out if the Park has some to loan) if any activity will be in or near water that is higher than the students’ waists.

- Take a camera. Pictures of specimens and activities will be useful for follow-up; pictures of the group will be enjoyed by all.

**At the Park**

- On arrival, check in with the park staff.

- Explain to students all safety and logistical considerations, such as boundaries they are to respect for individual activities or the trip as a whole. Review chaperone or “buddy” system assignments and the procedure for emergencies. Remind them about respectful care of the environment.

- Take a bathroom break before beginning your activities (and before getting too far away from the rest areas).

- Acclimate the students to the setting with an activity such as a scavenger hunt or exploratory game. Use the site map to preview the park.

- Describe the day’s itinerary for the students so they will know what to expect.

Dive in and enjoy the day!
A Little Help from Our Friends: Small Group Dynamics

Scientists usually conduct field research by working together in organized teams. This approach can also be used successfully with student groups, with each group sharing a task as well as the equipment necessary to complete it.

However, it is not uncommon during group field activities for one or two diligent students to do all the work while the rest of the group stands by without becoming involved. To avoid this scenario, the teacher should organize the group assignments so that each student has a specific job. The active involvement of each student then becomes essential to the successful completion of the activity.

The role assignments described below are for groups of four students each, and can be adapted for many types of field or classroom activities.

☐ Materials Manager. This person is responsible for obtaining all equipment and supplies needed by the group. The materials manager should learn to use all equipment correctly and demonstrate its use to the other group members. This person supervises the use of equipment during the activity, collects it when the work is complete, and inventories items before they are returned. If any equipment is lost or needs repair, the materials manager notifies the teacher before the items are put away.

☐ Reader. The reader is responsible for making sure all group members understand the assignment and complete it in the time allotted. This student reads aloud all written instructions and is the only group member who should go to the teacher with questions while the field work is being done. The reader also keeps the group on task so that they are able to finish their work on time.

☐ Starter. The starter is the first person to conduct the specific activity necessary for data collection. For example, this student fills the water sample bottles, tests pH, reads the thermometer, etc. If the activity includes repeated sample collections, the other group members should take turns performing these tasks after the starter has begun the work.

☐ Recorder. The recorder keeps notes on all important data and group observations. This student is responsible for recording the group’s hypotheses and predictions for later comparison with the data actually collected. If the teacher does not provide data charts, the recorder should design them. The recorder also summarizes the group’s findings and reports them to the rest of the class after the field work is complete.

Role assignments may be made by the group members themselves or by the teacher. To randomly make role assignments, students in each group can be numbered 1 through 4. The teacher can begin each activity by appointing that, for example, all “ones” will be readers, all “twos” will be recorders, etc. If several different activities are scheduled, roles should be changed so students can have different responsibilities. It may be helpful in the beginning to write out each role description on a card so that the students can refer to them while conducting the field activity.

Role descriptions adapted from "Collaborative Groups," Full Option Science System, Laurence Hall of Science, University of California, Berkeley, CA, 1989; provided by Vicki Clark, Richmond Mathematics and Science Center.

Biological Considerations: Some Simple Precautions

Snakes - The copperhead is the only poisonous snake found in all seven Bay area State Parks. Seashore and possibly Chippokes have the venomous cottonmouth. Both are elusive. To be safe, however, all snakes are best left alone, and everyone should pay close attention to where they place their feet and hands, especially in dense vegetation.

Mammals - A class may catch a glimpse of secretive mammals such as a raccoon, skunk or fox. Park mammals are never intentionally fed or kept as “pets,” but if a mammal does not flee when approached, is otherwise acting strange, it may be sick, possibly with rabies. Steer the class away and report it to a ranger.

“Bugs” - All parks have their share of gnats, mosquitoes, deerflies, chiggers and ticks. Thick undergrowth often harbors both ticks and chiggers. Commercial insect repellents are usually adequate to keep park “bugs” at bay. Ticks occasionally transmit serious disease. Since ticks can be active during any mild weather, students should get a careful tick check from a parent after returning home. Ticks often attach in the scalp and on tender skin such as around the groin.

Poison Ivy is abundant in all seven Bay area Parks. It may appear as a low shrub or as a woody vine. The main stem on mature plants may be covered with brown “hair.” The leaves are smooth and shiny above, and are divided into three distinct leaflets. The fruits are clusters of small berries, which turn white when ripe. Anyone coming into contact with poison ivy should wash the area with soap immediately.
Special Situations: Handicapped Students

Working with handicapped students in the outdoors can be a rewarding experience for both the student and the teacher. Too often, handicapped students are excluded from these types of learning experiences, when, with proper preparation, these students can be included with ease.

For Physically Handicapped Students

☐ Visit the park to determine the suitability of the field study site.

☐ Are suitable facilities available for the handicapped (e.g., restroom, ramps, tapes, visual materials, boardwalk trails)?

☐ Is access to the specific field study site(s) in the park possible? Are there any especially hazardous areas (e.g., steep grades on trails inappropriate for wheelchairs, sandy or marshy areas)?

☐ Are any programs or exhibits specifically designed for handicapped individuals available (e.g., braille labels, tactile exhibits, taped tour guides, special trails)?

☐ How many adult chaperones will be needed by the group?

☐ Adapt the activity. Most field activities are designed for visually able, ambulatory students. Activities can be enhanced for handicapped students in several ways, such as stressing multisensory observations or changing the pace at which the activity is conducted. For example, visually handicapped students can study birds by listening to their songs or learn to identify trees by feeling the shape of the leaves. It may be necessary to “relocate” natural finds to sites where they can be observed safely and studied by handicapped students. You may also need to modify the directions by tape recording, reproducing in large print or braille, or making a signer available. Make every effort to allow handicapped students to work independently on and fully participate in the activities.

☐ Assign appropriate roles within the group. Examine the various group roles for those appropriate for handicapped students. For example, in “Habitat Hunt,” a student in a wheelchair would not be able to go into a river or stream to collect water samples but could collect and study soil samples or record the data as it is collected.

☐ Avoid the temptation to water-down the content rather than modifying the method of presenting the content. A teacher’s expectations should not be any lower for physically handicapped students.

For Mentally or Emotionally Handicapped Students

☐ Be attuned to the abilities of the students, presenting the information and expecting the students to conduct the activity at an appropriate level. Pacing of the activity is important for these groups, and the instructor should be flexible enough to adapt the activity if one aspect is of particular interest to the students.

☐ Avoid stressful situations in the field by practicing skills and necessary decision-making before the trip.

Special situations call for special perspectives, offering the entire group new ways to perceive and learn about the environment. By adapting methods and materials for the handicapped, new and effective teaching approaches appropriate for all students are discovered.
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**KEY:**
- § - Science
- # - Math
- # - Other
- * - Language Arts
- * - (See description of activity)
- * - Social Studies

**SUBJECTS:**
- CA - Caledon
- CP - Chippokes
- LE - Leesylvania
- MN - Mason Neck

**PARKS:**
- SS - Seashore
- WE - Westmoreland
- YR - York River