

Idea Bank

I HATE FIELD TRIPS

Field trip! These words bring joy into the hearts of students and dread into the hearts of many of my colleagues. Field trips can be valuable teaching tools, yet I have often found planning a field trip to be as frustrating as learning to run a new program on my computer. To help myself overcome field-trip anxiety and go from hating field trips to loving them, I developed a guide and checklist to make planning field trips less stressful and to virtually eliminate “system errors.”

Using this guide, I am better able to introduce and reinforce previously learned concepts, explore new ideas, motivate otherwise totally bored students, provide situations in which ordinarily awkward students can shine, provide lessons involving hands-on learning, and demonstrate thematic approaches to science. Most importantly, I have figured out how to make field trips learning oriented—not play days.

The following is the guide and checklist used to plan a field trip to a

wildlife refuge. I found this strategy to be instrumental in winning administrative approval for the trip; and when I plan to repeat the trip or share my ideas with a colleague, the guide becomes a useful collection of notes and handouts that make the next visit a breeze.

Decide on concepts. (Why am I doing this?) One of the first and most important steps in planning a field trip is to decide what concepts can be applied, reinforced, or explored during the trip in a way that that will help students remember them and be able to apply them in other settings. I try to plan a field trip to happen between units or chapters so that the trip will apply or reinforce concepts from previously learned lessons and provide an opportunity for students to explore new areas for the next unit.

This approach is appropriate for thematic science, in which various disciplines of science are studied together. For example, when studying the weather, students may study the chemistry of acid rain, the physics involved in measuring barometric pressure, the effect of geology on weather patterns, and the effects of climate on dominant species. With careful selection and planning, I can meet objectives in several areas at the same time and link them in a logical way.

Using this plan, students were able to apply, reinforce, and explore concepts on the trip to the wildlife refuge. Students applied their knowledge of tree species by correctly identifying trees in the park. They reinforced what they were learning about topographic maps by mapping their path through the park, describing the terrain along the way, and constructing life-sized contour lines; and they explored the concept of domi-

nant species of trees by noting the environmental conditions in which each species thrived. The concepts we had discussed in class were made real to them as they stood on moist soil, noted the dominant tree species, and looked at their topographic maps to confirm that the elevation of the area was lower than the surrounding area, allowing water to collect.

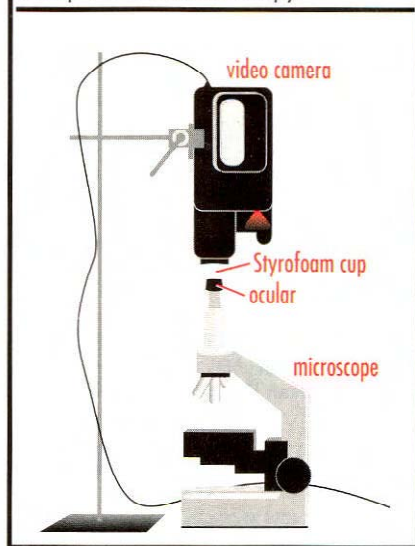
Decide where to go. (Can I really go there?) Keeping my objectives in mind, I explore places that meet my needs. If funds are limited, a great science classroom is readily available outside the doors of almost every school—the local park. There are also plenty of other places: hospitals, museums, dentists' offices, opticians' offices, manufacturing centers, power plants, and so on. I have found that some business owners are willing to help if I explain what students will be learning and involve the owners in the planning.

Make the arrangements. (Try to remember not to forget . . .) I have found the following checklist indispensable. It gives me peace of mind to know that the details are completed and that everything will fall into place on the day of the trip (often planned months ahead). These are the details I check off:

- Obtain trip approval. After deciding where to go, get the trip approved through the principal. Most school districts are fairly specific in regard to the channels to go through for approval.
- Arrange the trip with the facility to be visited. Even when going to an open field or park, I have found it wise to make arrangements ahead of time. Owners of the facilities may have special events planned or may be closed for some unusual reason. There are other benefits to calling

FIGURE 1.

Setup for videomicroscopy.



ahead, such as acquiring printed information or scheduling a tour with a guide.

- Schedule and reconfirm the transportation. Paperwork can be misplaced, and mistakes can be made. I once waited an hour for a bus to arrive only to find that I had made a typo that cost us an hour.

- Arrange for chaperones, depending on class size and age. Chaperones must know the school rules and be prepared to enforce them. Parents are often willing to help and enjoy the trip most when given a specific task or when stationed at a particular place to lead an activity. If the class is very large, I consider dividing students into small groups and going on different days or times.

- Distribute permission slips. Most schools require specific forms with legal releases and parent information that includes emergency phone numbers. I never allow students to go on the trip if I think they have forged their parent's signature or have not turned in a permission slip. It is important to take the emergency numbers on the trip.

- Plan activities and estimate the time needed to complete them. It is best to have too much to do. The brightest group of students in the classroom may take twice as long as expected to complete their activities, or they may finish more quickly than expected. Having a back-up activity prevents students from having too much time with nothing to do.

- It is important to go to the facility or park ahead of time to scout it out. Things may have changed since the last visit. If it is impossible to get there ahead of time, ask the facility for the name of a group that has been there recently and contact its members for tips.

Prepare students. (No, you cannot bring your Frisbee!) Often students have a different idea of the purpose of a field trip than the teacher has—students may expect a fun day of goofing off. Make sure that students understand that this is an alternative classroom, that learning can take place anywhere, and that learning can be fun. If the trip is intended

to reinforce or apply concepts learned in the classroom, make sure students have an adequate knowledge base. I have discovered that if students know ahead of time that certain skills will be required, they can be motivated to study more in the classroom. It is important to give students a clear idea about what they will be doing and how they will be evaluated. I do this both verbally and in writing. Individual work can be assigned in addition to group work to prevent one person from doing everything.

Let students know what to wear. I have found that even high school students and adult chaperones often need to be reminded about proper attire for hiking or other out-of-school activities. Rain gear is a must in many climates for outdoor activities, regardless of the forecast.

Decide what equipment to take. I find it best to assign pieces of equipment to specific (and responsible) individuals. I recommend that students carry backpacks for sweaters, notebooks, pencils, lunches, and so on. Expectations for student behavior should be clear. Review safety guidelines, remembering that a new environment offers different challenges than the classroom.

Go on the trip. (It's a great day for a field trip!) Carry out the plan. At least one thing will go wrong, but roll with the punches and enjoy the fruits of good planning. I have often found it helpful to train the chaperones or older students to help others so I do not have to try to be everywhere. Watch for "teachable moments" that are not on the agenda but are interesting and educational and take some time to discuss them. Also watch for the "ah-ha's." It is rewarding to know that students finally understand a difficult concept.

Student evaluation. (Is this for a grade?) Following up with evaluation is critical. I usually do some sort of informal evaluation immediately after the trip, noting each student's participation level and behavior. I follow up later with a more formal rubric that evaluates group, class, and individual assignments. Because students know ahead of time the goals that are important to accomplish,

they are more likely to focus during the trip. This eliminates some of the "goofing off"—not all of which needs to be discouraged. Students need time for discovery and exploration as well as the more focused "on task" time.

Teacher follow-up. (The next time I will . . .) After returning to the classroom, review what has been learned. Students should be bubbling with enthusiasm and ready to discuss all the details of the trip. Students should discuss what they liked, how much they felt they learned, and how to improve the trip for the next time. I always write myself an evaluation of the trip with a description of some of the details to use as a reference for the next time I go.

Extend the learning into the classroom. If the activities during the field trip enabled students to explore the next unit, bring up these concepts. If permitted, bring some sort of memento from the trip. (Never remove anything from a state or national park without permission . . . not even rocks!) I always take photos because students love to see themselves on bulletin boards and in the yearbook, and photos help them remember what they did and saw.

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TELLING STORIES

One way to add depth to science lessons is to consider the stories behind the people and circumstances that built the knowledge base called "science." Why should teachers add these stories to science class?

- Stories are a hook. We use laboratory activities and demonstrations to capture students' attention and bring theoretical concepts to life; stories can also capture students' imagina-