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Safety Dos and Don’ts

The following list is a summary of the safety dos and don’ts of Chapter 1 and Chapter 9 from *Investigating Safely: a guide for high school teachers.*

**Chapter 9 – the great outdoors: field studies near and far**

*Order of field work trips*

* (1) First field trip choose a venue close to the school
* (2) trip to local informal science center, like a museum or nature center) to introduce students to focused exhibit viewing and expectations and etiquette of visiting out
* (3) long-distance of overnight travel

*General Safety Procedures*

* Attire –
  + Communicate dress requirements clearly to both students and parents
* Weather –
  + Know what the variations in temperature and weather that can happen at the site you choose
  + Make sure to know a shelter and evacuation plan
  + Have students dress appropriately
* Make students and their parents stakeholders in the experience and setting clear rules with firm consequences are imperative
* Think of all possible ways to have the least intervention with the observed system you are in
* Students should have the basic science skill and concepts that will allow them to observe, measure, ,and relate with some degree of reliability
  + Practice structures fieldwork with progressively longer and more complex tasks
  + Practice field skills in local settings such as the schoolyard before setting out to a more distant location
  + Start with stimulations
* Make sure tardy students know the safety instructions
* Make a clean-up signal
* Preview and prepare
  + I must preview and thoroughly examine any field site that is considered – to find potential hazards and to write final plans on safety preparations, chaperone training, permission slip modifications, clothing and gear requirements, schedules for travel/work/site cleanup
  + Plan a method for monitoring students depending on topography
  + Specifically state – no one may leave the site and his or her assigned location without explicit permission. Anyone missing must be reported immediately and all other work must stop until the missing person is located
  + Plan a conference with the staff or consultant that will be helping you prior to the field trip
* Provide a structures outline to the students, with consequences/responsibilities/specific groups/etc, in advance
* Each student should have a “buddy” that they are responsible to keep in sight of them
* Do not invite or accept any other person’s assistance in your class and with your students unless you have reviewed the entire plan, purpose, and procedure for the activity and assured yourself that your helped is fully qualified to provide responsible assistance
* Have students carry cell phone for emergency use only

*Adult-student ratio*

* Do not include yourself in the ratio because you need to be available to monitor all activity and support your helpers
* Do not count special education aides in ratio
* Make appropriate monitoring plans for students who have a record of being disruptive
  + Review IEP procedures for students
* Never take a field trip without at least one other chaperone
* Make sure you conform to any adult or students policies required by school authorities

*Transportation*

* Students should never be allowed to drive to field trips themselves
* If using public transportation – make sure you review embarking and disembarking instructions with students and chaperones
  + Provide explicit instructions for what to do if someone is left on the platform or in the vehicle
* If using a bus – provide bus driver and the transportation supervisor with written plans that include things such as: names and numbers of passengers, destination and drop-off location, field site departure time
* A chaperone or student in charge should be on each vehicle who could take a attendance
* Expected time of return should be clearly stated on the trip permission slip
  + Make sure all students are picked up or sent home according to the arrangement specified on the permission slip before you leave the school
  + Establish a telephone chain with parents in order to relay information about a change of time

*Sites to visit*

* Museums, zoos, and more
  + Advanced preparation is important
  + Students should have a specified tasks
  + Never hand over your responsibility to the behavior and well being of your students to some other person such as a guide
* Outdoor Sites
  + Make sure site does not carry restrictions for use or access
  + Ask for written permission to do your studies on the site
  + If water sampling is included in trip – check site in advance for footing, contaminations, insects, animals, depth of water in order to bring proper safety equipments, give proper safety instructions and to locate/know who is on duty in for water rescue or CPR assistance.
  + Teach students to respect habitats of animals they will be entering and establish rules such as…
    - Do not approach any animal – living or dead
    - The signs of abnormal behavior of an animal
    - Avoid nests of dens
    - Do not attempt to rescue or try to bring back an injured animal
    - Do not disturb habitats – even moving a rocks
  + Make sure to know if students have allergies to anything and their preferred way of being treated appropriately
  + Warning about vegetation –
    - Remind students in writing that nothing should be tasted or eaten
    - Students should be able to identify plants that cause serious irritation in order to avoid them
  + Never start a campfire
  + Remind students to protect themselves from the sun
    - Require hats, long-sleeve clothing or sunblock
  + Dehydration and heat – teacher needs to monitor if the work area is getting too hot (or too cold) and remember to remind everyone to drink plenty of fluids
  + Make sure students have sturdy protective footwear

*Equipment and Supplies*

* Makes sure to have items needed to complete the planned activities and items needed to promote group safety
* Make sure equipment is up to date and sturdy
* Check weight and bulk of equipment
* Make students responsible for carrying and accounting for specific items
* Make first aid kit depending on hazards of the site
* Have sufficient water or other beverages for the duration of the trip
* Be clear on what items should not be brought along the trip

*Overnights*

* Review district policies, insurance coverage and the special needs of the students who might want to attend
* Use a professional travel agent with credentials acceptable to school authorities and successful education trip-planning experience
* Establish perimeter of travel, rules of behavior, the curfews, and the consequences for substance abuse in conjunction with building administrators well in advance of formal announcement of the trip

*Permissions*

* Use standard form of the permission slip set by your district or school but add to it since science may entail more complexity than other field trips
* Make sure to include activities planned, special preparations, clothing requirements, allergies, and departure and return procedures.

*Special Needs*

* Special needs can and should always be included in planned field activities
* Make sure to check sites accessibility and talk with coordinator
* Decide wither special education instructors and physical/occupational therapists should join the field trip

**Chapter 2 – Communities of learners: promoting science for every student**

* Be aware of the sensitivity students may develop when they work in groups with students of different abilities
* Find appropriate or prepare alternative or supplemental materials and ensure everyone understands the key concepts of the course, directions for laboratory investigations, and safety precautions for all work.
* Be aware the legal obligations to educate students in a “least restrictive environment.’
* Be aware of students with IEPs and what their IEP states
  + Make sure specific consequences for unsafe behavior are embedded in the IEP
* Make safety evaluation a regular event
* Recognize students limitations, and avoid placing students in situations with which they cannot cope
* Facility/program should be accessible to all students
  + Follow ADA (Americans with disabilities act) checklist
* Know all details in advance about a student with a physical disability that is assigned to your classroom
* Examine your classroom/facility to find adaptations that need to happen to provide a classroom that doesn’t present barriers
* For students with limited English – make sure to have safety signage that uses universally understood symbols and/or is in the native languages of these students
* Health – teach basic health precautions as a part of your curriculum
* Do not provide medication – prescription or over-the-counter – to any student
* Make sure to follow space guidelines for safety, ensuring your room is not overcrowded for safe science

*During class we compiled a list of safety items that should be included in every classroom.*

**List of safety in the classroom**

Fire extinguisher   
 Safety shower  
 Eye wash  
 Fire blanket  
 Water/sinks  
 Gas shut-off   
 Fume hood  
 Chemical storage  
 Adequate ventilation  
 MSDS notebook  
 Goggle cabinet  
 Equipment/tool storage (locked)  
 Security (on computers, scales, balances, etc)  
 Apron storage  
 Spill buckets (baking soda, kitty litter, & sand)

*Below is an example of 7 possible classroom safety rules to be hung in the classroom and discussed with students.*

**Classroom safety rules –**

1. No food
2. Proper attire
3. Know were safety exits and equipment is
4. No fooling around
5. Do not touch things without permission
6. Keep aisle clear
7. Listen to directions and ask questions if confused