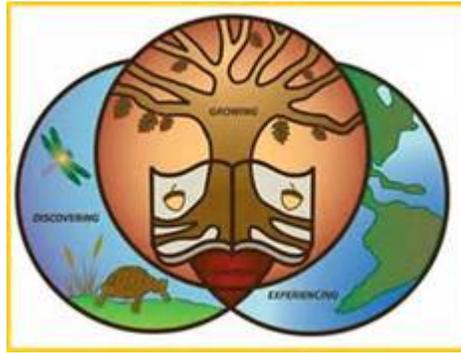


FORT ZUMWALT SCHOOL DISTRICT

OUTDOOR EDUCATION HANDBOOK CURRICULUM GUIDE



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Fort Zumwalt School District
Outdoor Education Curriculum Guide

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RATIONALE

Outdoor education is an accepted and valued part of curriculum in schools throughout the United States. This type of laboratory experience gives students the opportunity to participate in activities firsthand that previously could only be discussed in the classroom. Learning through direct experience is one of the most important phases of the total education of the child.

The Fort Zumwalt Outdoor Education Program is a curriculum designed for fifth grade students that provides opportunities to grow through cooperation with others and team challenges. This camp experience helps fifth grade students develop and appreciation of nature and the outdoor environment, a realization that success of an individual is contingent on the success of the group and that the group's success and dependent on the participation of each individual, creative decision making with the use of higher level thinking as well as life skills to function in the ever changing world. Activities designed to promote this experience have been developed and are incorporated in this curriculum.

GOALS

1. To lead students to the realization that the success of the individual is contingent upon the success of the group, and the success of the group is based upon the success of each individual.
2. To provide students with opportunities for creative decision-making that requires the use of higher level thinking skills.
3. To lead students to a more realistic awareness of their capabilities and self-worth.
4. To lead students to an awareness of how the interdependence of all living things creates a fragile natural environment.
5. To equip students with life skills that will enable them to function effectively in their ever changing world.
6. To provide a hands-on/minds-on interactive experience for students in relationship to the natural world in which they live.

OBJECTIVES

1. Students will grow in their awareness and appreciation of components of the natural environment, and of how the natural environment impacts upon their lives.
2. Students will have a clearer realization of their impact upon their environment and of their relationship to the earth.
3. The fifth grade campers will grow in their physical, social, and emotional attributes and acquire new confidence in their personal abilities.
4. A desirable and productive social climate will be fostered between the students and staff members that will be transferred to the balance of the school program.
5. High school counselors will grow in their capacity for responsibility, leadership, and skill of guiding interpersonal relationships.

6. The fifth graders will benefit from the positive role model provided by teachers and high school counselors.
7. Students will acquire a working knowledge of group problem-solving techniques and strategies using analysis, synthesis, and evaluation.
8. Students will receive reinforcement of cognitive and academic skills in specific subject areas.

TIMELINE

January	Reservation for sites due to State
March-May	Preliminary building plans. Camp chairpersons and staff selected, screen high school counselors, in-service held, high school counselors sought.
May-August	Materials/supplies ordered, food services confirmed, insurance obtained, nurses hired, buses reserved.
August-September	Staff confirmed, staff meetings, high school counselors selected and trained, soda ordered, camps visited and organized/check supplies.
September-October	Camp implemented
October-November	Supplies/materials inventoried and returned to appropriate building and/or stored, clean campsites, staff evaluations of program, curriculum guide.
November-December	Review of evaluations, preliminary plans developed.

DINING HALL PROCEDURES

1. Practice sessions should be arranged prior to the first meal. Each barracks group should meet at their table and the coordinator will go over dining hall manners and procedures, including clean-up (see dining hall posters).
2. Supervision at the table is done primarily by counselors, however the coordinator and/or administrator should actively patrol tables during each meal. Barracks teachers should take students back to their barracks after meals and counselors can supervise clean-up. Students should not go back to cabins without adults.
3. Each barracks shall line up single file outside the dining hall in an orderly manner before entering the dining hall.
4. Each cabin group has an assigned table. Tables should be labeled with cabin group names and numbers.
5. Upon entering the dining hall, each cabin group will go through the serving line for their meal/drink and proceed directly to their assigned table.
6. The counselor remains at the table during meal time. A clean-up helper can be selected for each meal on a rotational basis.
7. Cleaning of table and surrounding area is the responsibility of each cabin group.

8. The Food Service staff set the tables, serves meals, and any other necessary duties.
9. Counselors/students should refrain from using restroom facilities in kitchen area during food preparation, serving and clean-up times.
10. Teacher announcements will be made before dismissal to cabins.
11. Campers shall be dismissed, after meals, by cabin groups to teachers.
12. Evening snacks will be distributed by the camp coordinator to each barracks group for consumption at teacher's discretion.

CABIN RULES

1. Walk, don't run in the barracks
2. Ladder must be used to climb into and out of bunks
3. Horseplay is not allowed in barracks at any time
4. No standing or jumping on or off the bunks
5. For everyone's safety, do not leave the barracks without approval from your teacher
6. Students should NEVER enter the designated Staff areas (labeled)

Remember if you get separated from your group:

Be still, stop, stay where you are

Sit down

Alert your teacher by calling their name

Friends only, DO NOT accept help from strangers

Exclaim or shout your teachers name LOUDLY

CABIN EXPECTATIONS

It will be the responsibility of each barracks of students, with the high school counselors and teachers guidance to set up a schedule of clean-up. Students will have opportunity to help with cleaning porch, walk, grounds and shelves. Each student will have responsibility for their own bed and belongings. We will rely on an informal living style, yet insist on orderliness and cleanliness.

BUSES

1. One and a half classes of students as well as high school counselors and teachers and their luggage per bus. (Max 50). The loading should be done in such a way as to not block the driver's vision.

2. Loading at camp is done primarily by high school students under the supervision of specialists/coordinators. Students are under the direction of their classroom teachers.
3. Bus supervision – at least one building staff member is to be on each bus. These assignments should be made by the building administrator.
4. Unloading at school-All building staff should return to school and they should plan to assist with unloading buses at school.

ENDING PROCEDURES

1. Each week, equipment and supplies should be properly stored and secured prior to leaving camp. Inspections are important and should be done by all staff and check by district administrator and camp chairperson. (See check out lists)
2. The responsibility for final take down rests with the staffs who attend the final week. Specific procedures will be provided annually by district administrator and camp chairperson.

CAMP CHAIRPERSON RESPONSIBILITIES

Pre-Camp

I. Determine Staff Needs

- A. Assist camp coordinators with filling vacant staff positions
- B. Procure support staff, including food service, security and custodial
- C. Coordinate recruiting of camp counselors with district administrator and high schools

II. Material/supply Needs

- A. Cleaning products
 - B. Paper products
 - C. Food services
 - D. Activity supplies/equipment for set-up
 - E. Medical supplies
- Meet with appropriate department directors to secure supplies and schedule deliveries as necessary:
Food service, Maintenance, Custodial, Transportation
Call Lincoln County Hospital

III. Schedule Program with district administrator

- A. Determine number of weeks
- B. Make reservations

IV. Information Needs

- A. Maintain current Parent handbook/student forms
- B. Maintain current Curriculum Guide
- C. Recruitment forms for high school counselors
- D. Maintain current "at school" camp packet
- E. Schedule and arrange Camp In-service opportunities as needed

V. With Camp Coordinators

- A. Schedule pre and post camp meetings
- B. Determine bus needs
- C. Determine special students' needs i.e.: health, transportation, diet

At Camp

I. Monitor Program Implementation

- A. Food services
- B. Custodial Services
- C. Security Services
- D. Maintain contact with Cuivre River State Park personnel
- E. Monitor Camp Coordinator responsibilities

II. Facilitation of Program

- A. Requisition supplies for counselor treat night
- B. Distribute, collect and organize counselor forms, stipend sheets for certified and support staff, and Food Service breakfast/lunch checklists

- C. Coordinate reservations for camp transportation
- D. Loading of camp supplies
- E. Camp set-up
- F. Camp check-in and check-out
- G. Inventory of supplies and equipment pre and post camp
- H. Back-up staff at camp
- I. Daily supplies as necessary
- J. Camp laundry
- K. Communicate on a daily basis with district Administrator
- M. Refueling of camp vehicles
- N. Maintenance of communication equipment

After-Camp

- I. Financial Impact
 - A. Process stipend sheets
 - B. Schedule check-in with Cuivre River State Park
 - C. Requisition replacement supplies for Cuivre River State Park
- II. Supplies/Equipment
 - A. Arrange storage
 - B. Inventory
- III. Program Operation
 - A. Report to Board of Education – Assist district Administrator with report

BUILDING ADMINISTRATOR RESPONSIBILITIES

Pre-Camp

1. Schedule and conduct fund-raiser
2. Schedule parent meeting
3. Coordinate collection of student forms
4. Assist with recruitment and approval of camp staff
5. Verify transportation request for return bus trip
6. Approve substitutes for building
7. Attend camp meeting
8. Order supplemental staff supplies
9. Arrange supervision for non-attending students and determine needs for classroom coverage for students not attending camp.
10. Meet with parents of high needs medical concerns to develop emergency plans and notify staff as needed.
11. Verify with appropriate building personnel instruction of camp songs/dances
12. Arrange for unloading of luggage upon return of luggage bus
13. Coordinate with camp staff to develop an appropriate behavioral and academic plan for special needs students that incorporates as much of the outdoor education curriculum as possible.
14. Contact parents with siblings attending camp to discuss payment following these guidelines:
 - 2 children – full fee for first child and ½ of the fee for second child
 - 3 children – full fee for first two children and third child at no cost

At Camp

1. Implement and monitor student discipline as per Board policy
2. Provide support and direction for staff
3. Assist with “at camp” transportation
4. Maintain daily contact with Outdoor Ed Chairperson in regards to any emergency, medical or behavioral situations with either students /counselors or staff
5. Assist camp coordinator supervising program
6. Assist with needed equipment
7. Assist with campfires
8. Inspect cabins/facilities with security personnel
9. Supervise teaching staff
10. Assist kitchen personnel with serving and dishes when possible

After Camp

1. Assist with camp clean-up
2. Assist with inventorying and taking down equipment
3. Assist with delivering supplies and equipment to appropriate building
4. Assist with evaluation of the program
5. Evaluate staffing for future camps

CAMP COORDINATOR RESPONSIBILITIES

Pre-Camp

- I. With Principal
 - A. Review camp dates and deadlines
 - B. Organize parent meetings
 - C. Organize staff meetings
 - D. Gather report-number of staff, counselors, students to chairperson
 - E. Contact parents with siblings attending camp to discuss payment following these guidelines:
 - 2 children – full fee for first child and ½ of the fee for second child
 - 3 children – full fee for first two children and third child at no cost
- II. Counselors
 - A. Select counselors and approve with District Administrative Office
 - B. Contact counselors and notify chairperson and A+ Coordinator of final selections
 - C. Distribute and collect forms-electronic code of conduct, health/medication forms, statement of assurance and PPI
- III. With School Staff
 - A. Collect and organize health information with school nurse i.e.: health conditions list/distribute health conditions lists to appropriate staff
 - B. Organize barracks and homeroom lists
 - C. Verify with appropriate building personnel instruction of camp songs/dances
 - D. Assist with collecting art/PE supplies
 - E. Verify adult supervision on buses
 - F. Determine homeroom and specialist teachers
 - G. Collect and organize appropriate material for students remaining at school
- IV. Activities

- A. Schedule core activities
- B. Plan and organize evening activities i.e.: reptile study, astronomy
- C. Create master list with sounds for hog call
- D. Secure supplies (see recommended lists)
- D. Schedule counselors on activities

V. Camp Set-Up

- A. Assist with district camp set-up prior to opening camp
- B. Label cabins (no staples, nails or staple guns)
- C. Safety check of camp/report any concerns to Camp Chairperson
- D. Verify stocking of supplies in cabins
- E. Verify Clinic set-up
- F. Distribute adequate cots for barracks if needed

VI. Last Week Preparation

- A. Have box for principal to collect medicine (nurse)
- B. Have homeroom boxes for sack dinners
- C. Confirm arrival time at camp and secure keys with chairperson
- D. Arrange for supplies to get to camp
- E. Decide on contingency plans for inclement weather

At Camp

SUNDAY

I. Before Students Arrive

- A. Get keys to camp and cave (if being used)
- B. Fill water tank (Sherwood only)
- C. Unlock all buildings
- D. Place cabin identity signs (NO nails, staples, staple guns)
- E. Verify posters/rules/binders in all cabins
- F. Set up Dining Hall/ put count on each table
- G. Set up cones for dining hall/drop off
- H. Unpack and organize gear
- I. Meet kitchen staff and nurse
- J. Inspect camp/ safety check
- K. Direct drop off of counselors/luggage
- L. Prepare supplies for opening activities (Hog Call)
- M. Verify all teachers and counselors have lists for Hog Call, homerooms, cabins and health information

II. When Students Arrive

- A. Direct drop-off of students/ luggage
- B. Organize and lead Hog Call
- C. Verify areas for initiative tasks
- D. Dismiss for dinner and stow gear
- E. Gather equipment for large group game (Frisbees, earth ball)

- F. Verify building of fire
- G. Explain dining hall rules/model procedures
- H. Conduct counselor and teacher meeting
- I. Conduct cabin check with administrator/MINIMUM 1 counselor per cabin and 2 adults per village at Camp Sherwood, 1 adult and 1 counselor per cabin at Camp Derricotte, and 1 adult and 2 counselors per cabin at Camp Cuivre.

DAILY RESPONSIBILITIES

MONDAY & TUESDAY

- A. Fill water tank (Sherwood)
- B. Supply core activities with equipment
- C. Inspect cabins with administrator
- D. Assist with dining hall preparation before meals with kitchen staff (i.e.: set out drinks, etc.)
- E. Observe as many class activities as possible (focus on new staff)
- F. Prepare and facilitate for night activities
- G. Check in with chairperson
- H. Either Administrator or Coordinator is centrally located throughout the day
- I. Maintain contact with security 6 pm and 6 am
- J. Conduct counselor meeting/teacher meeting, 1-hour max each
- K. Conduct cabin check
- L. Verify closing of gates with security officer
- M. Return all activity supplies to camp at close of day

WEDNESDAY

Same as Monday and Tuesday plus:

- A. Coordinate Olympics with counselors/staff
- B. Discuss departure plans with staff

THURSDAY

- A. Supervise village clean-up
- B. Organize and supervise Camp Olympics
- C. Collect SCHOOL's supplies from Core Activities (DO NOT remove camp supplies)
- D. Verify school supplies are returned with transportation
- E. Secure all district camp supplies
- F. Collect and clean helmet (NOT in dishwasher)
- G. Verify return of student medications
- H. Return keys to chairperson or DAO administrator
- I. Final inspection of camp
- J. Lock camp
- K. See check list

DURING FOOD PREPARATION/SERVING STUDENTS AND COUNSELORS SHOULD NOT HAVE ACCESS TO RESTROOMS IN KITCHEN

TEACHER RESPONSIBILITIES

The outdoor education teacher has a multitude of responsibilities before and during the camp experience. These teachers are enthusiastic and able to creatively instruct students. The following is a list of teacher's responsibilities for teachers.

1. Maintain a positive role model for students and high school counselors.

Before Camp

1. Place students in barracks groups
2. Attend camp meetings
3. Collect health forms and give to the camp coordinator
4. Read curriculum guide and focus on activities in which you will have responsibilities.
5. Coordinate with camp staff to develop an appropriate behavioral and academic plan for special needs students that incorporates as much of the outdoor education curriculum as possible.
6. Communicate and cooperate with all camp staff
7. Follow all district policies and camp procedural and safety guidelines

At Camp

1. Maintain communication with high school counselors regarding expectations and concerns
2. Before leaving the cabin, the teachers should arrange for proper adult supervision during times when the teacher must be away from the cabin. District adult supervision of students is essential. If for any reason you must be away from your students, another adult staff member should be present to maintain supervision
3. Assist the counselor in developing leadership skills
4. Cooperate with the camp coordinator to assist in the procedures of camp
5. Conduct frequent head counts of students under your supervision throughout all activities
6. When hiking outside of camp an adult staff member or counselor should be at the front, middle, and back of the line to maintain adequate supervision

Teachers are responsible for the general welfare, supervision, and atmosphere of the camp.

BUILDING/CAMP NURSE RESPONSIBILITIES

Before Camp

Gather and organize health forms for students/counselors

Communicate special health concerns/needs with appropriate staff i.e.: coordinator, homeroom teacher/cabin teacher, kitchen staff

Organize meds for the transportation to camp

Contact parents of students with health issues which require modifications at camp

At Camp

- A. Be available to assist during drop off/collection of addition meds/last minute health concerns
- B. Be available 24 hours a day
- C. Prepare first aid kit for groups hiking
- D. Prepare meds for hiking group
- E. Set up and organize clinic
- F. Check supplies/notify camp chairperson of needs
- G. Be available to keep sick children in clinic overnight
- H. In case of emergency, contact coordinator/principal as quickly as possible (use professional judgment) and make parent contact as needed
- I. Clean and restock and organize clinic for following week
- J. Work with coordinator to ensure medication is dispersed to students or that there is a plan for distribution when returning to school
- K. Gather laundry and give to camp chairperson
- L. Nurse may leave after buses are out of camp

Closing Day

- 1. Supervise clean-up of cabin and restocking cabin supplies
- 2. Assist camp coordinator as necessary
- 3. Be prepared for bus supervision (rotational basis)

Coordinator Checklist for Last Day of Camp

1. Give checklists to teachers for packing up students and cabins	
2. Organize and clean materials used throughout the week that remain at camp for the campers to come: *pond supplies *orienteeing tub *purple art tub *fossil treasure chest *archery equipment *geocaching kit *fishing equipment *phones to Camp Chairperson *great escape helmets (clean...do NOT put in dishwasher) *survival kits *GPS units to Camp Chairperson	
3. Notify chairperson if there are any supplies that need to be replenished and/or any materials that need to be fixed	
4. Gather and pack up all supplies that were brought from <u>your</u> elementary school (make sure district materials <u>REMAIN</u> at camp!)	
5. Clean <u>all</u> buildings that were used for evening activities or academic periods *Remove all trash *Sweep/mop floors *Clean bathrooms	
6. Clean mess hall...sweep AND mop floor (staff should mop, not students or counselors)	
7. Work with nurse to ensure medication is dispersed to students or that there is a plan for distribution when returning to school	
8. If there are fireplaces used at your camp, make sure they are shoveled and swept out	
9. Collect all cell phones, chargers, and phone lists and turn them into camp chairperson	
10. When teachers return their checklist, inspect their cabin areas and bathrooms to verify that everything is complete	
11. All teachers/staff members are given their extra pay form and have signed and returned it to you	
12. Complete all counselor evaluations	
13. Turn in all forms (teacher/staff/counselor) to camp chairperson before leaving camp	
14. Pack lunches for bus drivers and distribute when they arrive	
15. After final meal is served turn off all warmers and place any leftover non-perishable food neatly in the kitchen	
16. After students are on buses, inspect/clean any bathrooms that were used	

TEACHER CLECKLIST FOR LAST DAY OF CAMP

Please make sure that all of the tasks below are completed, check them off, sign and return to your camp coordinator:

1. All student items are packed	
2. Clean bathrooms...take out all trash, wipe down sinks, sweep and mop floor	
3. Restock bathrooms with toilet paper and paper towels IF NECESSARY	
4. All cabins swept, trash taken out, windows closed (all shutters/screens hooked at Camp Sherwood) and locked	
5. Beds in cabins are moved back to original placement	
6. All trash is picked up in and around campsite	
7. Verify that any District supplied posters are still up on walls, rules are displayed, and the emergency procedures manual is visible in teacher quarters	
8. Return any school supplies provided in cabins to camp coordinator	
9. When hiking back to mess hall, take a trash bag along and pick up any trash along trails	

I _____ verify that the above tasks have been completed in my camp area.

HIGH SCHOOL COUNSELOR RESPONSIBILITIES

Pre-Camp

- A. Meet with administrator/coordinator/classroom teacher to discuss counselor's role prior to camp experience (2 one hour scheduled meetings at the elementary building)
- B. Arrange transportation to camp
- C. Use supply list to pack appropriately
- D. Make arrangement for and bring any make-up homework to camp. Opportunities to complete assignments are provided.
- E. Complete and turn in all health/medical/personal forms to camp coordinator
- F. Bring sack dinner for Sunday

Responsibilities for Setting a Good Example

- A. Conduct should be above reproach at all times.
- B. Model courtesy to all campers
- C. Report all visitors to camp personnel
- D. ALL rules on school premises apply at camp
- E. Counselors should remain at assigned locations i.e. barracks/dining table/classroom group
- F. Counselors are NOT permitted to leave the barracks for any reason after bedtime without the barracks teacher's permission
- G. The wearing of shorts and sandals is NOT permitted at camp – school dress code applies at camp
- H. No electronic devices should be in use or visible to students

Camp Responsibilities

- A. Upon arrival turn any medication into nurse
- B. Be friendly, but do not sacrifice discipline for the student's friendship
- C. Provide mature leadership for the barracks group in their cabin living experiences with particular focus on their health and safety. NO activities such as pillow fights or cabin raids will be tolerated!
- D. Help organize and maintain cabin cleanliness and supervise campers during clean-up time
- E. Check your cabin members before meal time for appropriate appearance and cleanliness
- F. Report any unusual occurrences to the Camp Coordinator/Administrator
- G. Be aware of and follow ALL guidelines related to Electronic Media/Code of Conduct
- H. Check bedding for possible overnight accidents. Be discrete. Notify appropriate staff.
- I. Take frequent head counts

Responsibilities for Classroom Sessions

- A. Be on time! Accompany your classroom group to the proper academic periods/activities and remain with them - be actively engaged with students
- B. Listen carefully to directions and help supervise students to be sure they are following directions
- C. Students will ask questions concerning their activities – please do not give them answers or details regarding their daily activities
- D. Review activities with students at the end of each day...help them process what they learned and how they achieved/met group and individual challenges
- E. Volunteer your assistance utilizing your past experiences, interest and knowledge

In the Dining Hall

- A. Be on TIME
- B. Supervise your group during meal time. Stay at the table and eat with students demonstrating appropriate table manners. Supervise table clean up after meals by delegating responsibilities on a rotational basis.
- C. Lead conversation towards coming events. Keep conversation focused on program activities. Help keep noise to a minimum.
- D. Monitor table conversation and guide it in a positive direction. Do not allow negative comments or conversations about staff members, other campers, activities, or meals to occur. Redirect students to a positive topic and report students who are unable to maintain appropriate conversation topics to the Camp Coordinator/Administrator.

Health and Safety

- A. Report ANY illness or injury to camp staff and/or nurse
- B. Encourage students to dress appropriately for the weather by example
- C. In case of emergencies in barracks/cabins, follow guidelines found on barracks/cabin posters
- D. In the event of rain, the program basically continues as normal unless there is lightning/thunder and or extreme weather. Under these circumstances, indoor activities will be necessary

Nighttime

- A. After lights out, all flashlights must be off
- B. Attempt to make ALL bathroom trips before lights out
- C. After lights out, no one will be allowed out of cabins unless it is an emergency and with staff permission. A counselor violation of this may result in dismissal from camp.

Thursday/Return Home

- A. Pack your own belongings
- B. Assist students in packing their belongings
- C. Guide students during barracks/cabin clean up
- D. During camp Olympics, help students follow good sportsmanship rules. Be actively engaged
- E. Assist Camp Coordinator with loading of luggage bus
- F. Assist staff on the bus ride home in monitoring students appropriate bus conduct
- G. If needed assist Camp Coordinator/Administrator with unloading of luggage bus at the elementary building
- H. Notify camp staff member when your ride has arrived and when you are leaving the elementary building

Fort Zumwalt School District

HIGH SCHOOL CAMP COUNSELOR

STATEMENT OF ASSURANCE



An effort must be made to:

- Set a good example
- Follow directions
- Provide mature leadership
- Be a positive influence
- Be helpful and cooperative
- Complete homework as assigned

I understand that, as a camp counselor, I am also responsible for following all Fort Zumwalt School District policies and regulations, including discipline expectations and student conduct.

In accordance with stated expectations, my signature indicates a commitment to fulfill these responsibilities in a conscientious manner. Failure to do so may result in removal from my assignment, discipline consequences in accordance with policy, and forfeiting of some or all of my community service hours.

Student's Signature

Date

HIGH SCHOOL COUNSELOR
CELL PHONE/ELECTRONIC DEVICE CODE OF CONDUCT/CONTRACT

While assuming the role and responsibility of High School Counselor for the Fort Zumwalt Outdoor Education Program, I understand that all school policies, rules, and regulations apply during the camp experience. I am aware that I must set an example, at all times, and act as a role model for campers during the week and I understand that my words and interactions with campers must be appropriate at all times. I understand that my cell phone/electronic media usage will be restricted by the Administrator and/or Camp Coordinator during the week that I am serving as a Camp Counselor to times that the camp administration feels are appropriate. I am aware that my cell phone/electronic media devices will be collected from me when I am responsible for camper supervision, and then given back to me during specific times when I am not in contact with campers. At no time will I use any electronic device to photograph campers while inside the cabins/restrooms or distribute images of campers from my stay at camp on any social networking site. It is my responsibility to follow the guidelines that have been set by the district for proper usage of electronic devices and I understand that any violations of those guidelines could result in disciplinary action up to and including the loss of my A+ hours for the week at camp.

Student's Signature

Date

Administrator/Coordinator Signature

Date



CAMP ACADEMIC BLOCKS

CAVE (If made available in the future):

Summary of Activity:

The cave in the Cuivre River State Park is a small cave with two entrances that intersect after about 25 feet back into the cave. Helmets, flashlights and old clothes should be worn. If your clothes are not grubby when you go in, they will be when you come out. Allow for clean-up time when you return from the cave. Divide the class into two groups. Have a simple activity prepared for those waiting outside, counselors will be stationed at the cave to help the teacher guide the activity. There is to be a counselor or teacher at the beginning and at the end about 100 feet back. Explore the right passage first and if time permits. Explore the left passage. Keep the students together and as quiet as possible. Too much noise destroys the atmosphere that a cave creates.

Purpose:

Each student must experience this geologic wonder in order to make value-based decisions whether to allow its destruction or maintain its preservation. This appreciation for our natural heritage can be transferred to all areas of the students' environment. In the cognitive range, the students will be exposed to the scientific concepts of dissolution, evaporation, geologic "formations", animal adaptation and geologic time. They will appreciate the varied elements of their environment as contrast to the static environment of the cave. They shall also develop a knowledge of safety rules and realize that every situation must be looked at according to these rules.

Background Information:

The estimated spans of time represented by a cave are so large as to overpower our imagination. The questions, "How long is a million years?", defy any real, concrete frame of orientation. Getting a good grip on the amount of time housed within a hundred years is tough enough, nevertheless, when looking at a cave in Missouri, one is looking at a basic material (limestone or its counterpart, dolomite) which was laid down by an ancient ocean perhaps 300 million years ago only to emerge as an etched out cave tens or hundreds of million years later. An estimate on the age of visible Missouri caves has been placed at 50 thousand years. However, there are a large number of variables to influence those times so that they become increasingly meaningless. Suffice it to say, caves represent an extremely ancient time that can only dimly be visualized. In a nutshell, evidence supports the theory that Missouri caves were formed underground through slowly moving groundwater that dissolved the limestone rather than abrading it away. As surface water continued to trickle down into these cavities, it was able to transport very fine-grained silt. It settles to the bottom where it formed the characteristic red, sticky clay deposits, some remnants remaining. Presently, "free-surface" streams coursing through the caves, and the formation of stalactites through the work of dripping water are contributing to the filling-in or destruction of them. The property in groundwater that enables it to readily dissolve limestone which is largely calcium carbonate (calcite) is the presence of carbonic acid, formed by dissolved carbon dioxide, obtained from the atmosphere and plants ($H_2O + CO_2 = H_2CO_3$ carbonic acid). When calcite and carbonic acid come in contact, a compound is formed (calcium bicarbonate) which being soluble in water is carried away in solution leaving a larger space for more water to enter and so it continues. The acidity of ground water is increased when it trickles through decaying organic matter in the soil, thus acquiring plant acids. Again, when we view a cave and see things like stalactites, stalagmites, columns, etc. we should bear in mind that these are products of the cave's "second phase" of existence and are things leading to the destruction of the cave as a cave. Stalactite (from the ceiling) and stalagmite (from the floor) formations can only occur in air since it depends upon water evaporating and leaving the calcite deposit. They did not start forming when the caves were filled with water and clay. Caves are usually part of a geologic system called Karst topography, characterized by limestone deposits, lower constant temperature-reason, laced with things like sinks or sinkholes, "disappearing" rivers, springs and of course, caves.

Teacher's Equipment

Thermometer
Candle
Matches
Flashlight
Helmets
Old clothes
First Aid Kit
Walkie-Talking or cell phone for communication with camp
Wintergreen life savers

Student Equipment

Camp Journal/pencil
Flashlight
Old Clothes

Teaching Strategies:

A. Outside cave

1. Divide group/outside/inside
2. Review procedures for exploring cave
 - a. Remind them about noise level
 - b. Caution against destroying natural formations. The cave we will be using has few structures because it is a young cave and has had many destructive visitors. (This should be pointed out to the students). What it takes nature a thousand years to make, a human can carelessly or inconsiderately destroy in seconds. Do not touch formations or walls/ceiling.
 - c. Suggest items for students to focus on while entering and exploring the cave.
 - d. Use of flashlight
 - e. Helmets on at all times
3. Set mood – In order to appreciate the cave's environment attempt to alter it as little as possible (especially noise)

B. Inside cave

1. Enter the cave. Move slowly and carefully in single file through the passageway, the teacher in the lead with the flashlight and the counselor bringing up the rear. Advise students to shine their flashlights both up and down so they can watch where they are putting both their head and their feet. Before entering, prompt the students against screaming or other outbursts that would unduly excite others or create safety or control problems. This, or any other cave, is not more dangerous than people who enter it make it. Permit no unauthorized exploring or "showboating" as it is not in the best interest of the group and can lead to problems no one needs. When you reach the first room with the column, sit and wait quietly as the rest of the group enters.
2. Get everyone settled and quiet, and for at least 30 seconds (preferable longer) "listen" to the cave.
3. At given signal, have all lights turned off for about one minute (to give eyes a chance to adjust) to get some idea of the total darkness of the cave. Again, be alert for the ones who may experience fear in this situation. It would probably help for the teacher to continue talking intermittently about the darkness, let the group know as the time is approached to turn the lights back on and then give the signal to do so.
4. Discuss steps in cave formation with each group in first room of cave
5. Discuss wildlife of cave

Many cave creatures may be very small and obscure, but noting their presence is a valuable observation. If bats are observed, treat it a matter of privilege that you have the good fortune of seeing them "hanging around" in their native habitat. If confronted with the question of what kind of bats they are, make the point that it would take an authority to identify them since there are a dozen or more varieties of bats that range Missouri. Seize the opportunity to dispel bat myths. They will not fly into your hair. If they happen to take flight, they will avoid you, if possible. Stress the idea that they are an animal filling an important role in this ecosystem and are remarkably adapted to fill that role. They are a

totally unique animal (the only one who truly flies – the flying squirrel is a glider) who eats a whole pile of insects that would otherwise pester us. Shining a light on them does not seem to disturb them and no effort should be made to disturb or dislodge them. No animal should be removed from the cave. Even the collecting of rock and clay samples should be discouraged or severely limited due to the large numbers we now have visiting this rather small cave. Give attention to stalactite/stalagmite/column formations, how they occur, and what they signify (the filling in of the cave).

6. Observe the upper walls and ceiling as well as the lower portions for fossils and signs of solution features, i.e. etching out of the rock when the cave was filled with water.
7. After the discussion, have a student lead the group down the right hand passageway. The teacher should stay near the front and should switch leaders frequently.
8. As you go through the cave, stop and focus the student's attention on the differences in the cave's environment (i.e. light, wind, temperature.)

Vocabulary

Stalactite – Icicle shaped deposits of limestone hanging from the ceiling of a cave.

Stalagmite – Mound of limestone build upward from the floor of a cave by deposits from water dripping from the ceiling. “Stalactites hang “tite” from the ceiling and stalagmites “mite” reach the ceiling and you “mite” trip on them.

Column – When stalagmites and stalactites grow together so that there is one structure like a column from the floor to the ceiling.

Limestone – Deposits of matter from a prehistoric sea

Soluble – Able to be dissolved.

Igneous & sedimentary rock

Additional Activities

Outside before entering cave

- A. Draw what the inside of the cave will look like.
- B. Discuss how different rocks are formed (sedimentary, igneous)
- C. Look for fossils in stream bed and make rubbings.

Inside cave

- A. Attempt to go a short distance without lights (make this voluntary).
- B. Bring a candle to check for drafts at different spots in the cave.
- C. Explore mud room at end of cave.
- D. Explore left-hand passage.
- E. Mints – Lights out – mints will spark when biting down with lips open

Outside cave after being in it

- A. Write Haiku poem about cave experience.
- B. Draw map of cave.
- C. Discuss and process experiences.
- D. Do a creative writing, “If I were going to stay in a cave the rest of my life these are the bodily changes I would want”.
- E. Discuss how different rocks are formed (sedimentary, igneous).
- F. Look for fossils in stream bed and make rubbings.

GREAT ESCAPE:

Summary of Activity

The Great Escape is used to create a feeling of group unity through overcoming individual apprehension about being blindfolded while creating imaginary obstacles. The sense of group is increased as each person learns to rely on the person before and behind them in line. The use of a story line with the Great Escape is very important. Any story is acceptable if it has an imaginary feeling of risk. The story should be set before the activity begins. This can be easily accomplished by stopping on the way to the Great Escape and telling the story. When everyone has successfully completed the escape, it is vital to process the feelings of the students. The group should be led in a discussion of the who's, what's, when's, and why's. The activity is not over until the processing is completed.

Purpose

- A. To make students aware that success as a group is relative to success as an individual.
- B. To provide opportunities for creative decision-making and group problem-solving
- C. To allow for success of all individuals.
- D. To provide opportunities for students to interact with the natural environment.
- E. To experience problem-solving situations.
- F. To provide opportunities for development of other means of communication besides verbal.

Teacher's Equipment

Helmets

Spray disinfectant for helmets

Student Equipment

Blindfolds

Journals (optional)

Teaching Strategies

- A. The teacher should introduce the activity by discussing creativity: Great Escape is a time for imaginative thinking. Students need to enjoy the experience and allow the fantasy (nonverbal) to enter their thoughts.
- B. The teacher should then discuss safety: Keep one hand on the rope and the other hand on the shoulder of the person directly in front of the students. Students should think of ways to inform the group with the chain is broken.
- C. The teacher must have students wear helmets and blindfolds. Students should discuss ways to communicate without talking: How to tell the group about tree branches, stumps, or other obstacles.
- D. One possible fantasized story: We are in the land of Ewoks. We need to get to the other side of the enchanted forest. We must pass through the land of enchantment to reach the mother ship. Every person in the group must reach the mother ship in order for the ship to depart. Helmets make students invisible so the monsters cannot see the group. The blindfolds protect the eyes. If the monsters are seen by the students, the students will turn into GOONS. The Ewoks will help students through the enchanted forest. The teacher shows the students the pathway to the land of enchantment.
- E. the students begin their journey by placing one hand on the rope and the other hand on the person in front of the student. Teachers and counselors spot students during the entire exercise.

Guidelines

Prior to activity, walk through course to remove any fallen debris.

- A. Safety is paramount
- B. Avoid unnecessary physical contact with students

Prior to entering Great Escape area

- A. Students should be lined up blindfolded.
- B. Students should have both hands on shoulders of person in front of them.
- C. They should be led by teacher and counselors to the course.

- D. Upon completion of the activity students should be led away from the course before removing blindfolds/helmets.
- E. Then processing should be completed.
Have students seated without helmets. Processing questions:
 - A. How did the person in front of you and behind you help you in finding your way through the land of enchantment?
 - B. Were you a good communicator? How did you communicate? What could you have done to communicate better?
 - C. What other senses were used despite the loss of sight?
 - D. How did you rely on others?
 - E. How did you communicate to the group that you lost grip on the rope?
 - F. Have students write their thoughts in journals.
 - G. Compare a blind person's lifestyle to yours.
 - H. Did you gain an appreciation for sight?

History of the Nauga

The Naugas were hunted for their fur, hence the reason we have “nauga’hide” which is artificial leather (shhhhhh-don’t tell them that). They are a fierce nocturnal animal with large eyes, a bushy tail, and a rodent like body. They sleep on the ground inside old trees, and under large brush piles. Cuivre River State Park is the LAST wildlife reserve for the naugas and since they are nocturnal we are able to walk through the reserve during the day if we promise not to disturb them. All of the counselors and teachers have had safety training and know not to look directly into the eyes of the nauga in case one awakens during our tour of their habitat. It is our goal to walk quietly through their habitat using all of our senses except eye sight. The reason we are blindfolded is because looking into the eyes of the nauga is a sign of aggression to them and we want to keep all of our camper safe.

The Nauga Saga By Tom Hale

The story of the nauga begins many years ago in the swampy areas of what is now the southeastern United States. These gentle creatures lived harmoniously with the Native American population. These gentle creatures were never hunted, for they were highly revered and considered sacred by all. However, when the Spanish explorers arrived, everything changed.....

When the conquistadores arrived in the new world, they brought with them, European culture, Catholicism, a host of new diseases, and a thirst for the natural resources the Americas had to offer. That includes animal hides and pelts. Raccoon, beaver, deer, fox, wolf, bear and even some birds were hunted to the point that their populations dripped to dangerously low numbers.

It did not take long for the Spanish to begin interacting with the natives. As they did so, they quickly discovered the sweet and gentle nauga. They found that not only were they extremely well adapted to their environment, and intelligent; but their hide was thin, tough, and resilient. The Spanish were immediately taken by the wonderful material and began hunting and trapping the nauga.

The nauga is best described as a dry land beaver. They are roughly 2 to 3 feet tall at the shoulder with cinnamon brown coats of thick bristly fur. For their homes, they build a beaver dam like structure in the trees. A large community of these is known as a hauga hive.

To ensure that they are sufficiently protected from the cold of the winter months, construction of the hive begins early in the fall. Building of the hives requires several special physical adaptations. Perhaps the most useful of the naugas’ adaptations are their fore claws. These are 6-8 inches long, razor sharp and can retract into their paws. (Much like Wolverine from the X-men). These are used to cut limbs and branches, but they can also be used to strip the flesh off of their prey. They also have a mild neurotoxin that can paralyze small prey. (It is not deadly, but it does hurt a bit.) Another unique adaptation is their teeth. These are reminiscent of those of a great white shark. They are arranged in 4 concentric semi-circular rows. Hidden within the jaws are special muscles which can oscillate the teeth to create a sawing action which can buzz through a large tree trunk or a human leg in a matter of seconds.

The nauga diet revolves primarily around the mast of deciduous nut and fruit trees such as oak, pecan, apple and honey locust. The nauga supplement their diet with meat. This makes them omnivores. That means that they eat both meat and vegetables. They do not hunt often. Nauga Domes were erected on each of these parks near major group campgrounds. This was to provide human interaction in a controlled and safe environment.

After a few failures and many successes, we of the NERD P are proud to say that we have been successfully leading school children into the Cuivre Nauga dome for over ten years with few injuries and fewer deaths. On the surface this may sound terrible, but think of the sacrifice of the hikers in '84'. Everyone knows that kids are nice, innocent and nonthreatening. Therefore, the naugas are much more at ease with kids and their trainers than random strangers. As each year passes, the nauga interact with more than 2,000 fifth graders. The NERD program has been so successful that all new born cubs are completely unafraid of humans. Only the oldest naugas remain fearful, but they are growing more accustomed to people with every passing fifth grader.

Instructions to the NERD leader:

- Don't forget the nauga anti-venom (Fruit juice poured into cups) Nurse makes this seem very authentic
- Tranquilizer Gun (Compass Box)
- Nauga dome Keys
- I like to use whistle signals in case they have chewed through the rope and used it for building material for the nauga hive. (They always do at the end!!!)
- If you say run then it is everyman for themselves, Blind folds off, helmets off and GO!!!
- Ketchup makes great fake blood in case someone gets attacked (They always do).
- We wouldn't take anyone in if we didn't feel it was safe.
- Have fun, but feel out the group. Adjust the scary level to meet the needs of the group
- Change leaders often
- Moss makes a great nauga nose when in the dome.
- Leaves and twigs falling on the helmets because they are building the hives getting ready for winter.
- Establish nonverbal communication techniques prior to entering the dome.
- Don't forget the dome keys!!!
- Don't forget to lock the gate when you leave. We don't want them to get out!

The Great Escape is an imaginary experience. It will help you use your imagination along with human skills. Many fifth graders feel imagination is for small children but I wish to differ with them. I know people who are millionaires because they used their imaginations. When is the last time you went to see an actions filled movie? I'm sure what you saw on the screen was not true reality. The more creative and unusual it was, the better the movie. Harry Potter's last film was filled with fantasy situations which are far from our normal lives. Let's take a look at video games: very little reality but tons of fun. Someone with great ideas and imagination made a lot of money creating those games. Using skill and fantastic ideas give players hours of entertainment.

Many people write books and novels, or create pieces of artwork. They are making the world more enjoyable and taking pride in a creative profession with a great salary. As you can see, don't give up on your imagination, if you refine it, it could make you a millionaire.

Today, we are going on an imaginary adventure. If you don't use your imagination, it will not be fun. It would be like going to the movies and saying, "That couldn't happen. That's not real, no one could do that!" When we see the movie, we buy into the idea and enjoy the fun, just like it is real. If you stop me to say, "Is that true?", I will simply look at you and say, "Please, remember to use your imagination."

Several years ago, park officials heard an unusual tale about a mysterious creature south of Camp Derricotte in the woods. This large creature was causing some disturbances and taking food from the camp kitchen. The creature is lonely and it has been said he tries to take children far back in the woods to keep as playmates. He cannot come into camp because he is terrified of cars and trucks.

The problem now is that the creature has taken the main set keys for the camp and wants to use them to break into the kitchen for food late at night. We need to get these keys back and you have been chosen to complete this mission. We have heard that the creature has a favorite tree and leaves the keys at the tree. Your group needs to go into the woods to retrieve the keys.

There is some difficulty in completing this mission. First, there is a green mist in the forest which will blind your eyes so you must wear a blindfold to protect them. The creature is taller than you and his head is above the green mist. You cannot talk on this mission because the creature has excellent hearing and will try to capture you if he hears voices. Adults would complete this mission but the creature has a powerful sense of smell and can smell adults but not children.

There is a rope which is your life line to reach the key tree. You must go as a group staying on the rope and connected to each other to complete the mission. You will look like a long, large snake in the green mist and the creature is afraid of snakes. Try to make plans on how you can complete this mission successfully. How will you stay together? How will you communicate without talking? How can you send signals to others about danger on the trail?

I have heard there are small elf like creatures that are friendly and will help you on your mission. The high school counselors and I cannot come with you because the creature will smell our scent. The elf creatures speak in a soft high pitched voice that the creature cannot hear. They will help you when you are in trouble.

I can help prepare you for your mission and lead you to the rope but then you are on your own. I will meet you back on the trail. Then you can tell me about your adventure.

Where the Nauga Hides

In the southern tip of Florida the nauga was a very common and popular animal. It looks much like a koala bear and the population was surviving well. Students started shooting the nauga and using its skin to make naugahyde. Naugahyde is used to make imitation leather products like sofas, jackets and bus seats. Naugas became to become endangered and today there are less than 100 pairs of naugas alive. Due to all the hunting, naugas started migrating north. They are trying to rebuild their population. Some of the naugas have settled here in Missouri. Although they are trying to adapt to their new environment and survive off of its vegetation, the naugas are missing an essential plant that only grows in Florida, the Kiwidit plant. As part of our camp project, [redacted] each group of campers is to take some of the Kiwidit plant into the woods to the lounge of naugas living here. Although they appear rather tame and cute much like the koala, they are in fact dangerous if they're scared. Because of all the hunters, they have grown timid if they hear any human voices. Therefore we cannot talk once we enter the woods. Mission: To bring some [redacted] of the elusive naugas. Due to overhunting in the early 70's by men who sold the naugas hides to be used for furniture upholstery and cheap Jefferson Airplane jackets, the nauga's are threatened and nearing extinction. We need to bring some zimber leaves to this last pair so they can live and the nauga species will survive. Nauga's are cute little animals. Kind of like a koala bear only if they make contact with your eyes – they get fierce and may attack with razor sharp teeth. They live in a cave deep in these woods so we must wear helmets to keep from getting ourselves hurt. Talking will scare the Naugas so our communication sounds must be similar to those of the woods. We don't want to scare them. Once we drop off the zimber leaves we can be hopeful our mission is accomplished and the naugas will live and keep rebuilding their population. Good luck.

NATURE HIKE:

Summary of Activity

The teacher will lead the class through the outdoor setting by taking the class on a hike or choosing a specific setting to carry out desired activities. Activities will focus on science, nature, and/or environmental activities. This activity may utilize any of the activities listed under teaching strategies. Teachers have varying degrees of interest or expertise so they may choose any activity that teachers feel most comfortable teaching their students.

Purpose

Provide opportunities for students to interact with the natural environment. Students will become aware of the various factors of the natural environment and how the natural environment and how the natural environment impacts our lives. Students will grow in their ability to act responsibly toward the environment. Students will understand that they are stewards of the environment. Decisions to affect the environment will have a positive or negative effect.

Teaching Strategies

PLEASE BECOME AWARE OF POINSON IVY AND DESCRIBE HOW TO IDENTIFY IT BEFORE HAVING STUDENTS WORK ON ACTIVITIES WITH PLANTS OR LEAVES.

A. Stone Identification

Student Materials: Blindfold

Tell each student to find a small rock. Give the student a chance to examine the shape, texture, weight, etc. of the rock. Have the students get in a circle. Then students will put on their blindfold. Collect their rocks and redistribute them so students have a different person's rock. Have all students pass the rocks to the person on their right. Examine each rock until they recognize the rock they examined with their eyes open. The student will keep the rock they recognize as their own and pass the other rocks until everyone claims a rock. Take off the blindfolds and see if the students chose their original rock. (Tactile awareness is the objective of this exercise).

B. Blindfold Hike

Student Materials: Blindfold

Tell the students that the class will take a hike through the woods blindfolded. They are not to speak and should walk slowly. Emphasize the importance of sensing sounds, odors, and the feel of the ground as they walk. Have the students get in a single file line and hold hands with the person in front and behind them. As the students are walking, you may stop them to smell or feel something. Ask the students to guess what the object was that they sensed. You may wish to retrace the route without blindfolds and without speaking to each other. At the end of the hike, have the students share their experiences and emotions.

Since students are blindfolded, teachers must insure the students' safety by spotting, by the teacher and the counselor.

C. Follow the Leader

This activity is the same as the Blindfold Hike except they do not use blindfolds. Instruct the students to try stepping in the student's footprint in front of them. Assign one of the students to be the leader. You may wish to let students take turns being the leader. The leader should do some or all of the following:

1. Touch: Leader feels different tree barks, moss fungus, soil, etc.
2. Smell: Leader smells flowers, leaves, soil, etc.
3. Sight: Leader looks at spider webs, flowers, insects, etc.
4. Hearing: Everyone listens to sounds of animals, wind, water, etc.

When all the senses have been covered, sit down in a circle and discuss the reactions of the campers.

D. 100 Inch Hike

Students Materials: A piece of string or yarn 100 inches long

In the 100-inch hike, everyone is given a piece of string 100 inches long. Each participant places it on the ground and explores carefully the area along the string. Things to look for include signs of animals, birds or insects; distinctive characteristics of any plant along the trail; textures of soil or sand; different colors, etc. Participants may wish to record their findings and share them with other members of the group.

Variation: After each member of the group has thoroughly explored his own area, he takes another player on a hands-and-knees “nature hike” along his string.

E. Scavenger Hunt

Student Materials: Scavenger Hunt Checklist

Pencil

Lists may be given out to each student or students may work in groups. It should be stated that they must not harm any living plants or animals. You may choose any of the following items to include in your list to give to the students. You may choose to add items to the checklist. The following are examples:

A rock with a fossil in it

Fungus

Lichen

Moss

Decomposing material

Animal remains

Animal home

Signs of erosion

A seed which is specially adapted to blow in the wind

A leaf from a plant which has developed broad leaves to gather more sunlight

A berry from a plant which has developed berries to entice animals to carry its seeds

The height (in inches) of a tall plant which gather sunlight by rising above surrounding plants

A “hitchhiker seed” which travels by sticking to animals and birds

A winged seed from a tall plant

A leaf from a plant which has a sweet smell to attract birds and insects

Something red

Something which has a rough texture

A piece of driftwood that looks like an animal

Something which smells sour

Something you could eat

A round shape

A smooth texture

A pretty design

3 kinds of rocks

Something blue

Something that squeaks

Something yellow

Something that makes a noise when you step on it

Something that looks like a flower but isn't

3 leaves with different shapes

At the end of the hike, have the students share their observations.

F. Alphabet Observations

Student Materials: Checklist

Pencil

this process have in the life cycle? Lightly and carefully, replace the rock or log disturbing the life community as little as possible.

L. Trees as Homes Hike

Inspect trees along your trail for animal, bird, and insect homes. If you are observant, you will be amazed at what you can find. Bird nests and woodpecker holes are among the most obvious homes in trees as are squirrel nests. But what about the insects living under the bark of the trees or the insect galls which are evident on many limbs? Don't discount rotting logs either. Close inspection will unveil a wealth of insect habitats. A lot can be learned about the balance of nature by determining how each of these inhabitants "pays their rent" to the tree.

M. Animal Homes Tour

See how many animals' homes you can find. Watch for all type of bird homes—holes in trees, nests on branches, in the grass or on rock ledges. When you find homes, observe various stages of building, egg incubating, hatching and care of babies. It also is likely that you can find a great many insect homes—webs, cocoons, galls, an any hill, wasp nests, etc. Notice construction features, "interior decoration", and functional features in the home you find. Analyze material, technique, designs, and the structure of nature's builders.

N. Freak of Nature Hike

On any hike it is fun to watch for "freaks of nature" –deformed trees, fire damage, parasites, albino insects, etc. See if you can discover any reasons why these freaks have occurred. How does nature handle freaks? How do plants and animals overcome obstacle and compensate for deformities?

O. Tree Talk

The more we appreciate and understand something the less likely we are to harm it. This is especially true in the natural world and tree talk helps emphasize an attitude which can help make intelligent decisions in regard to the environment.

P. Hug a Tree

The group encircle a tree, stump or dead log. The leader can say a few words about the central object and then ask each participant to speak about the object for 15 seconds. Comments may be descriptive or imaginative. In talking about a tree, for instance, one might consider its height, age, coloring and special markings, leaf or needle structure, root system, conformation of its branches, relationships with birds and animals, what it has "seen" during its lifetime, how it "feels" about losing its leaves, how it likes its location, how it gets along with its neighbors. What other living things are dependent on the tree? What living things is the tree dependent upon?

CLOSING ACTIVITIES

Regardless of the activity selected, after the activity the teacher must provide the opportunity for students to discuss the activity and their perceptions of their findings. This processing activity should provide closure for the activity and help the students understand and internalize their observations.

Homeroom Teacher Notes for: Owl Pellets and Nature Hike

Owl Pellets: (45 -60 min.)

Get the box from the dining hall. Spread the table covers over several tables. (You could be inside the dining hall or out at picnic tables depending on your preference.)

Have paper towels, small bowls with water, worksheets, and tools for each group. Have the students sit in small groups of 3-5.

Start lesson by reviewing information from the Birds of Prey presentation. You can also read aloud from one of the library books in the box.

Talk about information on the worksheets.

Give each group one owl pellet from the marked class bag. Have them follow the directions on the sheets.

As they find bones, they should try to identify them using the laminated charts.

Discuss the groups' findings at the end.

Clean up by wiping off tools, table covers, etc. before putting materials back into box.

ROPES COURSE

Summary of Activity

Given an imaginary problem in story form and an apparatus that is creating an obstacle in an outdoor setting, the students will work as a group discussing both during the activity and immediately afterward and implementing different problem-solving techniques and strategies to overcome the obstacle. Any acceptable solution is considered valuable with the framework of safety.

Purpose

- A. Ropes Course Objectives
 - 1. Processing group communication skills and problem solving
 - 2. Activity procedures
 - 3. Safety and spotting
- B. Processing
 - 1. The key to processing is allow students to create their own strategies and solutions for each problem.
 - 2. While students are working on the problem, teachers may direct, clarify, praise, and veto unsafe actions.
 - 3. Stop the group and process when students are not productive or argue too much.
 - 4. After activity is over, Process with the group. This is a good time to constructively criticize the group. Praise good ideas and actions. Point out actions which hindered the group.
 - 5. Try to get students to evaluate their own actions and what they can do to improve next time.

Homeroom Teacher Notes for Ropes Course:

The Ropes Course is a series of group challenges which stress cooperation, communication, problem-solving, and group process skills.

At the Beginning:

Divide the class into 2 equal groups. (It's helpful to consider personalities, skills, and size to create a "mixed" group.) One group will go with the specialist and one will go with the homeroom teacher. Start in different places—don't work on the same challenges at the same time.

Begin a "story line" with students. (I encourage them to use their imagination—it's much more fun to "go along with" the story.) Discuss cooperation and team effort. There are no "superstars" on the ropes course, only teammates.

On the Course:

With each new challenge, explain the story to the group and tell them what they need to accomplish. DON'T tell them HOW to do it. Try and remain a spotter, observer, and motivator as much as possible, letting the group discuss and accomplish the task. Step in whenever safety is a concern.

Everyone in the group has to work to help everyone succeed in the challenges before moving on. Sometimes, you (as the guide) may have to allow special "magic" to accommodate certain students' abilities. "magic" can also be helpful as a deterrent for some situations too.

It is okay to let the group struggle a bit sometime during the course, as long as safety and respect are maintained. Overcoming some frustration can be a valuable experience and motivator for the group.

Discipline and spotting are EXTREMELY IMPORTANT on the challenges. Stress that all students must help with spotting. There needs to be spotters every time a student's feet are off the ground. Students should be spotting a person's head and back rather than feet.

After each challenge, lead a process discussion with the group. Talk about what went well and what the group is still struggling with. Discuss ideas to help on the next challenge. Encourage group skills and communication.

After each successful challenge, the group earns a “letter” card. At the end their letter will spell a word (either TEAMWORK or TOGETHER).

One possible story line:

We are a top medical and environmental rescue team. We have been called in to this area to provide disaster relief for the inhabitants. Unfortunately, the residents have not taken good care of their environment and there is a lot of contamination from chemical misuse. We have to bring in emergency supplies and help rescue people in several different areas. Of course, we have to keep ourselves safe at all times from danger too. The more we work together, the more help we can provide.

Specific Challenges:

- Serum Crossing (located near the rec hall): the challenge for the group is to get everyone in the group as well as the serum safely across using the hanging rope.

Story presentation: We have to cross this river to get to the people in need. However, the river is very deep and there is no bridge. Runoff from the chemical contamination has polluted the river so it is not safe to swim or use a boat. We can use this rope, but we can't touch the water. If that happens, we will have to treat our teammates. That will require that we start the whole challenge over again. In addition to getting everyone in the team safely across, we also have to get this bucket of serum or medicine across without spilling it.

Notes: Students can't walk between the sticks that mark the river. They have to figure out: how to reach the rope, what order to go in, how to get the serum over without spilling, how to help kids who struggle with the physical strength and balance needed to swing over on the rope, and how to spot. Have students help spot the person as he/she swings over so not one falls backward. Make sure bucket has water for the next group and leave the bucket by the tree when done.

- Kitten Crawl (located in Village 3 – the one by the water tower): This challenge is for each person to individually cross between the trees on the 2 ropes.

Story: We have a steep canyon to cross this time. There is a bridge of 2 ropes. We each have to safely cross the bridge one at a time holding onto the ropes. There are several ways to safely hold and cross. However, not one may cross the bridge without spotters. Spotters will have special “hover power” when a teammate is crossing the bridge.

Notes: Students should not touch the trees or pull on the ropes unless it is their turn. Teach spotting techniques: protect head, neck, and back, and cluster around the person on all sides. You can't spot if you are too far away from the person! There are several safe ways to travel: sitting on the ropes and scooting along either facing forward or sideways, hanging underneath the feet up and pulling along, etc. Students do not all have to use the same method, but adjust spotting as needed.

- Zig Zag (located on the road behind Village 3): This challenge involves the whole group walking on the wood pieces simultaneously. Half of the group starts on one end and the others at the opposite end. Everyone must travel to the opposite side with everyone on the wood at the same time (they cross each other).

Story: The ground in this area has been covered with toxic waste and it is not safe to step on. We need to cross so we are going to use this zig zag walkway. But the walkway has to be balanced so we are going to split up and cross from opposite sides. The wood is the only safe place for your

foot to touch. If any time member steps on the ground, we will have to treat them and start over from the beginning.

Notes: Students can step on the wood beams or the wood supports at the corners. They have to figure out how to cross by each other and plan where best to stand. Everyone has to have passed by the other group before they can walk off the ends. Students may have to help each other with balance and holding to help spot.

- Skis (located between the road and the water tower): This challenge involves the team using the wood skis to cross a 20-40 ft. distance without stepping off.

Story: The chemical waste in this area is so bad that it is turning into a swamp. We need to cross without touching the ground. Fortunately, we have these skis that we can use. The ropes are safe to hold and your feet need to stay on the wood. If a team member touches the ground, we will have to help them and start over again.

Notes: Skis should be placed side by side. All students must be on at the same time. Check at the beginning that the ropes are not caught under the beams. You can set a reasonable distance based on your group and available time. This requires LOTS of communication and teamwork. They will need to figure out timing and a clear plan (1, 2, 3, go, etc.) Groups sometimes have trouble with leadership and communication in a long line. If they are seriously stuck, it helps to pull them off to stand in a circle to discuss before trying again. Several methods are possible; lift right, move slightly, lift left, move slightly—all step on one ski, move slightly, all step on other beam, move slightly – etc.

- Web of Life (other side of road from the skis – head toward fence near farm—it is in the woods to the right): This challenge involves getting every team member through a hoop without touching any part of the web. Each hoop can only be used once.

Story: The toxic waste and contamination in the area has had a terrible side effect. It has created giant poisonous spiders! Fortunately the spider is not here right now. But we need to cross through the web. The spider coats its web with poison so we can't touch any part of the web or the trees that the web touches (hoop, ropes, trees, etc.) the only safe thing is to go through the centers of the circles without touching anything. However, the circles only work once! Once a teammate has crossed through it, it is no longer safe—no one else can use it. If the web is touched or bumped, we run the risk of alerting the spider. We also will have to treat our teammate and start the whole challenge over again.

Notes: Please monitor students so they don't touch or pull on the web. Planning is essential on this challenge. Students need to consider how to get the first and last person over, who should go through which hoop based on skill and size, and how to safely lift. Spotting is also important. You will need to keep track of which hoops have been used. If the groups start over, then the hoop usage begins again too.

- Electric Fence (located to the side of the road between Village 3 and Village 4—same side as the Web): This challenge involves getting the entire group out of the “electric fence” without going under or touching the ropes.

Story: Let's get inside the power plant to help the people inside. (Have all students go under the rope and stand inside the triangle.) Oh, no! there has been a power accident! The way out is blocked and the fence is now electrified from the rope down to the ground. We can't go under—

we will have to go over instead. The rope is touching the trees too, so it is not safe to touch the trees or the rope or you might be electrocuted.

Notes: Planning and spotting are again important. Students must consider how to get first and last person out and how to safely lift and spot. Do NOT let students try to run and jump the rope! Stress safety. Do NOT allow students to use a stick to push down on the ropes. This weakens and loosens the rope for later groups on the course.

- Eye of the Dragon (located to the side of the road between Village 3 and Village 4—on opposite side from the Electric Fence, same side as water tower): This challenge involves getting each team member through suspended tire without touching.

Story: We have just been notified that some miners are trapped in this mine shaft. We have to get through the tunnel to rescue them. Once again, the area is highly contaminated so we need to be careful. We can't touch the trees, ropes, or tire—the only safe place is through the opening.

Notes: Students should not touch any part of the structure. Start over if they do. Spotting is important—stress spotting on both sides. Students again need to plan for first and last person.

- Slack Wire (located in Village 4 to the right behind the teacher cabin): This challenge involves each student individually standing on the wire/cable and walking between the trees by holding the rope.

Story: We have entered the city. There are some people trapped in a high rise building and we need to rescue them. The base of the building is not safe so we will need to cross over the wire one at a time from a nearby building. It is safe to hold the rope, but the wire should not be touched with your hands. We need to keep every teammate safe so we will be spotting and will have “hover poser” to do that.

Notes: This is a difficult and very physical challenge. Spotting is ESSENTIAL and ALL times and training/setting expectations is needed. A student should not leave the ground without all teammates' ready and paying attention. Walker should call “Spotters ready” before beginning. Spotters must cluster around the walker within touching distance to be of any use. Spotters need to have their hands up close to the walker, but not touching or pulling on them. Their hands are there if the walker leans in their direction. Spotters are not done until the walker is back on the ground. Encourage the walker to hold the rope tightly to them for best balance. Lots of encouraging comments help on this, because some will be very nervous. Spotters may need a quick rest break after a few walkers. Teacher and counselors must help with the spotting. Student might also need some help getting on or off the wire.

- Extra Ropes Period:
Students should be in same groups from original Ropes Course. Use these activities:
 1. Cooperation Tarp or Iceberg (large plain tarp)
Unfold the tarp completely and have the group stand on it. Tell them that they are floating on an iceberg. However, as they are floating, the water around them warms and the iceberg starts to melt. While standing on the tarp, the group needs to fold the tarp in half. No one may step off while folding it. After achieving that, have the group fold it in half again and again until it is very small. Amazingly, the smallest iceberg floats into cold water again and begins to grow. Have them unfold the tarp step by step to full size again without ever stepping off. You can adjust the difficulty of this as needed for the group and your available time.

2. Crossing the Bog (need 3-4 hula hoops):
The group needs to cross a swampy bog using special round rafts or magic circles, the hoops must be placed flat on the ground and have to be picked up to move (no scooting or moving while inside of them). Everyone must stand inside a hoop and no one may touch the ground outside or the group starts over. After a few minutes, one of the hoops loses its power so the teacher takes it away. Students must continue working with fewer hoops. You can take away another if the group can handle it. Adjust the distance and difficulty to suit the group and available time.
3. The Maze (need the tarp that is marked with grid lines)
See attached directions
4. If you did not complete a challenge on the original ropes course, the group could do that.
5. You could play an additional active group game if there is extra time.

DEBRIEFING A CHALLENGING EXPERIENCE

“Debriefing” is a focused time following a group initiative in which the group reflects on what they just went through. Debriefing can incorporate questions posed to the group and/or activities that focus in on specific dynamics at work in the group (i.e.: issues with listening, individualism, new/old camper relations) followed by discussion and comparisons to what happened in the initiative.

Debriefing is an extremely important, integral part to the challenge course/adventure education experience. Because learning requires not only “doing,” a group initiative is incomplete without debriefing. Real learning takes place when a camper can analyze his or her participation and subsequently apply these insights to other aspects of life. If learners are given time to reflect on their behavior, attitudes, aspirations, and feelings before, during and/or after the activity, they can improve skills in problem solving, cooperation, communication, trust building, and self-esteem.

Setting Up Good Debriefing

To lead debriefing, you will usually have everyone sit in a circle or square (so that they face each other and each person is an equal part of the whole), with no participants outside the circle or off getting water or using the bathroom. Participants should know how to respect one another by listening and giving one another “the floor” when someone is talking. Completing activities that focus on listening prior to attempting initiatives and initiative debriefing is always a good idea.

The facilitator should prime discussion with questions, but avoid leading the entire discussion or becoming an instructor (you want to be a “guide on the side” not a “sage on the stage”). The facilitator’s questions should be open-ended (questions that open up discussion rather than ask for “yes” or “no” answers). Questions should guide the group to reflect on, share, generalize what happened.

As the facilitator leads debriefing, he/she should be careful not to go too deep, too fast. A generally successful approach to debriefing begins with the low-emotional-risk task of identifying the **facts** of the experience (what did we do first, second, third; who did what; who helped). Debriefing then continues with increased emotional risk questions that analyze the facts with “feeling” questions: “How did you feel when...” Finally, debriefing should move to generalization and **transfer** of learning questions like “How was this initiative like... working together in the classroom, challenges you’ve had in school, etc.?” “How can you take this new learning with you as student? Why does it matter? What kinds of changes do you think you might make in how you interact with others?” Final questions should call the group to vision for the future, based on what they have learned.

Throughout the initiative and debriefing, the facilitator should, at all times, seek to be critically conscious of group dynamics. Guiding the groups to success does not end when the task of the event itself is accomplished. Groups can become overly complimentary or overly critical of themselves in debriefing. You as a facilitator should watch this and seek to balance discussion. If they are tending towards the negative, focus questions toward some positives. If they are tending to avoid conflict and over inflate their achievement, present questions that stir things up a bit and get them to see where they have room for growth.

The facilitator should also, at all times, seek to be empathetic to feelings and provide feeling-focused responses that recognize feelings without interpreting them, dismissing them as “common” or seeking to identify with them by self-references (“like how I felt when...”). Such an answer suppresses feelings and/or shuts a person down rather than validating their feeling (whatever that

feeling is). Reflect feelings you observe back to the speaker to validate their feeling and give them space to share more if they so choose. Here are two examples:

- 1) “It sounds like being lifted through the spider’s web was pretty scary for you...”
- 2) “So you were pretty excited when you got that last person across the ravine...”

Since feelings have a significant impact on how people work together in groups, feeling-focused responses are an important facilitative tool that can really lead a group to go deeper into meaningful and honest reflection. As this happens, encourage it with good listening!

Beware that listening is becoming a lost art that you as a facilitator will need to be proactive in reclaiming if group-building is to truly occur. Individuals may tend toward answering your questions without interacting or responding to one another (as if there are many one-on-one conversations taking place with you but no true group conversation). Address this occasionally by restating and clarifying what others say, summarizing different answers, pointing out different opinions and asking questions that require individuals to respond to what others have said. You can also gently ask the group to give eye focus to one another rather than to you.

Also be aware that individualism will run as rampant in debriefing as it did in the group’s completion of the initiative. Gently guide the group to refocus.

Some creative debriefing starts

- Beginning with pair or small group discussion
- Line-ups (feelings/reflections spectrum)
- Finger rating scale (all at same time to prevent peer pressure)
- Creating human sculptures (individually or in small groups) that reflect feelings about how the group did with the initiative
- Assigned characteristics – before an initiative, have each person draw a card with a characteristic that healthy groups do well (communication, leadership, positive feedback, decision making, taking turns, listening, organizing information, etc.) Their job is to look for the way the group engages in that skill and characteristic and report on it at the end of the initiative.
- Pipe cleaners – give each person a pipe cleaner and ask them to make a shape that they feel describes their experience. Then have each person share their shape and what it means to the group (if a group gets into pipe cleaner shaping, you could create a progression of pipe cleaner sculptures that document the group’s progress as a group and combine them into a collage of some sort at the end of the day or week).
- Drawings – Ask each person to draw their experience/how they are feeling now and how they felt before the experience. Then have them share this with the group.
- Balloon heads – Have each participant blow up a balloon and draw a face on the balloon that reflects how they are feeling at this point in the experience.
- Parts of a car – Have each group member compare the role that they played in the activity to a part of a car. Ask them to describe why they felt that way, if they liked it, and if they want to change their role in the future.
- Highs and lows – Have each participant summarize their experience by sharing their highest and lowest point of the experience.
- Thumbs up/thumbs down – Participants indicate how they are feeling about the experience by placing their thumb somewhere between the full thumbs up position and the full thumbs down position (this is a good check when you are considering not debriefing in-between two activities as well).

- Weather Forecast Check-in – The facilitator asks, “if the way you are feeling could be described as any kind of weather, what kind of weather condition are you in?”
- Body parts debriefing – Using toy body parts or picture cards of body parts (to limit what parts can be chosen), offer group members a chance to select one that represents their experience and share about why they chose it (for instance, someone might choose a heart because he/she was sensitive to others’ feelings). You could either have group members actually pick the pieces/cards up, or – to prevent arguments and/or playing during discussion – you could have them only pick up the piece/card when it is their turn to share.
- Question Cube/Questions beach ball – Debriefing questions on the sides of a cube or the section of a beach ball. Participants answer the question facing them.
- Animal cards – Participants select an animal that reflects their experience or feelings and share why they selected the card.
- Faces/feelings cards – Participants select a face or feeling word that reflects their experience and hares why they selected the card.
- Tool Kit – Participants select a tool that reflects their role and shares why they selected the tool.
-

A General Flow for Debriefing (a processing sequence)

- Structure regular periods of time throughout the initiative activities for processing and reflections.
- Vary and style and method used.
- During discussion, provide sufficient **wait time** for people to think. Don’t be afraid of silence.
- Ask open-ended questions (not “yes, no” questions).
- Ask one question at a time.
- Own the questions you ask – make it your questions, not generic like “I was wondering…”
- Give individuals specific, **constructive** feedback.
- Guard against small talk.
- Use a “talking stick” where only the individual holding the stick may speak. The stick can be passed from person to person based on who wants to speak or around the circle with everyone either sharing a reflection or identifying with something another person has said (also works well during the planning phase of an event).
- Be aware of patterns of conversation. An activity you can use to highlight and analyze these patterns is to **roll string**. Like the talking stick, a ball of yarn is passed from person to person as they speak, and only the person holding the yarn may speak. Each person who speaks holds onto the string as they pass the ball of yarn on, thus constructing a spider’s web. In this way, a visual example is created of how conversation happens in the group (who talks a lot, who doesn’t talk, who always responds to whom, who controls, who lets a specific person control, where do side conversations occur, etc.)
- If people are not in the mood for debriefing, re-direct them, incorporate movement somehow, us an activity to aid debriefing, or if necessary, cut the session short.

Possible Topics for Discussion During Debriefing

- | | | |
|--------------------|---------------------|-------------------|
| - leadership | - personal feelings | - trust |
| - fellowship | - self-disclosure | - trustworthiness |
| - participation | - compassion | - group support |
| - commitment | - caring | - risk taking |
| - community | - respect | - vulnerability |
| - initiative | - teamwork | - honesty |
| - motivation | - efficiency | - honesty |
| - positive valuing | - group effort | - competency |
| - attitude | - safety | - mastery |

- self-talk
- scape-goating
- cooperation
- competition
- decision making
- patience
- learning styles
- application
- patterns
- friendship
- diversity
- experimentation
- mistakes/failure
- fear
- doubt
- affirmation
- winning
- success
- implementing
- resources/resourcefulness
- metaphors
- racism
- personal space
- goal setting
- planning
- perception
- critical thinking
- creative thinking
- problem solving
- responsibility
- group dynamics
- sexism (gender bias)
- differences

Sample Debriefing Questions

MAKING GROUP DECISIONS

- Was it like to work together to do this task?
- How did you need one another to get the job done?
- How do we need others in our lives?
- What keeps us from asking others for help?
- How were decisions arrived at in completing this activity?
- Did everyone in the group express an opinion when choices were available?
- Why? Why not?
- What did you like about how the group made decisions?
- What didn't you like about how the group made decisions?
- Was this the best way to make group decisions?
- What will make us a good group this week?

COOPERATING

- Can you think of some specific examples of when the group cooperated in completing the activity?
- What made cooperation easy/difficult?
- How can you cooperate in other areas of your life?

TRUSTING THE GROUP

- Can you give examples of when you trusted someone in the group?
- On a scale of 0-5, rate how much trust you have in the groups as a whole?
- How do you explain your rating?
- How does the amount of fear you feel affect your trust of others?
- Is it easier to trust some people and not others?

EFFECTIVE COMMUNICATION

- Can anyone give an example of when you thought you communicated effectively/ineffectively with someone else in the group? Why was it effective/ineffective?
- What could be done differently next time to give a clearer message?
- What did you learn about communication that will be helpful later?

EXPRESSING FEELINGS APPROPRIATELY

- Can you name a feeling you had at any point in completing the activity?
- How do you imagine others felt toward you at various times during the activity? Were these feelings expressed?

LISTENING

- Who made suggestions for completing the activity?
- What interfered with our ability to listen to others?
- Did you listen in the same way that you usually do? If not, what was different about today?

LEADING OTHERS

- Who assumed leadership roles during the activity?
- What were the behaviors that showed leadership?
- Did the leadership role shift to other people during the activity?
- Can all be leaders? What happens?

FOLLOWING OTHERS

- Who assumed a follower role during the activity (allow individuals to raise hands – not as threatening)
- How did it feel?
- Do you consider yourself a good follower?
- How does refusal to follow affect the leadership role?

RESPECTING DIFFERENCES

- How are you different from some of the others in the group?
- How do these differences strengthen the group as a whole?
- When do differences in people in a group prevent reaching certain objectives?
- In what instances did being different help or hinder the group members from reaching their objectives?

RESPECTING COMMONALITIES

- How are you the same as other members of the group?
- How did the setting help you discover how you are similar to others?

CLOSURE QUESTIONS

- What did you learn about yourself?
- What did you do today that you are particularly proud of?
- How do you feel about yourself and others?
- What skill are you working to improve?
- Was your behavior today typical of the way you usually act in a group?
- How can you use what you learned in other situations?

The preceding work in progress is a compilation of work by Rev. Leah Atkinson, Rev. Mike Roth, “Stream” procedures and “Facilitating and Processing Learning Experiences” by Claire-Marie Hannon, TLC Training Resources.

SPOTTING

Spotting is the most important safety method for initiative activities and low-ropes course elements. The main role of the spotter lies in protecting the climber's head, neck and upper body should a fall occur. Spotters should understand that although they should always be in a position to support a falling climber, it is usually very difficult to literally "catch" a falling body, even from a small height.

TEACHING SPOTTING TECHNIQUE

Teaching spotting to participants is one of the most challenging aspects of the ropes course. The technique itself is not complicated: the difficulty lies in the fact that would-be spotters do not understand their importance until they actually have to spot a falling person. Following is a list of some of the important aspects to remember when teaching spotting:

- Spotters should mimic the movements of the climber, positioning himself or herself to anticipate any falling action.
- Spotters should always be focused on the climber.
- Spotters should anticipate a fall at any time.
- Spotters should be aware of the special dynamics of each element (i.e. swinging from a rope).
- Spotters must understand how important their role is to both the physical and emotional safety of the climbers. Joking around and horseplay are not acceptable.
- A thorough knowledge of the four-part verbal contract.

FOUR-PART VERBAL CONTRACT

Whenever someone is about to fall, either in practice, or during an activity, (e.g. "Willow in the Wind"), a certain set of communication **MUST** occur between the spotter(s) and the Faller. This creates another avenue to insure safety during the activity.

PERSON	CALL	DESCRIPTION
FALLER	"Spotter(s) Ready?"	With this question, the Faller is saying he/she is ready to fall and in the correct position.
SPOTTER(s)	"Ready"	When the Spotter is in the correct position and 100% focused on the Faller this is said in a clear, firm voice to ensure that the Faller knows they are ready.
FALLER	"Falling!"	The Faller is committed and waiting for the Final go ahead from the Spotter(s).
SPOTTER(S)	"Fall on"	Means – 'go ahead and I/we will support you And keep you safe.'

GEOCACHING:

Summary of Activity

Geocaching is an entertaining adventure game for GPS (global positioning satellite) users.

Purpose

The students will find caches on the camp grounds. Using GPS and Geocaching has become a powerful tool in enhancing student understanding of geography, scientific inquiry, math concepts, physical education, problem solving, and language arts.

Teacher's Equipment

7 GPS units with at least a 5 waypoint capability
5-7 geocache boxes
5-7 different colored beads OR trinkets for geocache boxes
Yarn for necklaces or bracelets
Scissors
5-7 notebooks and pencils to put in geocache boxes (optional)
Explorer projects from a previous lesson (optional)

Teaching Strategies

- A. Assign groups evenly into 5-7 groups of students (please make sure there is an adult with EACH group of students.)
- B. Distribute 1 GPS device to each group. Students will have to work together and share the GPS device. The student operating the GPS device is required to wear the lanyard around their neck to prevent dropping the GPS device.
- C. Students will learn to identify the buttons on the GPS device and navigate through screens pertinent to the activity.
- D. Have student locate "Home Base" using GPS device Inform them that if they are ever lost from the other groups to use the GPS device to find "HOME" and it will take them back to the pre-set location each group will start from.
- E. Assign each group a way point to start from. Way points are to be found in numerical order.
- F. Remind each group to return to "HOME" before they enter in the next way point. This will allow specialist to keep track of groups as they progress through the course.

INSERT PICTURE PAGE 1

INSERT PICTURE PAGE 2

Marking Your Own Waypoints:

To mark your own waypoint, from the menu select "Mark Waypoint". The exact coordinates of your current location are stored and waypoint number is assigned. The name can be changed by using the joystick to toggle up the top of the screen. Select "done" when finished. Your waypoint has been saved.

Notes for Camp:

There will be 7 GPS units per camp. Please make sure you check the batteries at the end of your week for the school that follows you. It may be a good idea to check them when you arrive as well.

Only have as many groups as you have adults to supervise. DO NOT just send groups into the woods looking for waypoints.

MAKE SUE you replace the cache (a supply box) at the exact location you found it. It will get very hard to locate them if they are moved.

There will be beads, a pen, and notebook in each cache. Students are to write their names in the booklets as they find them. They are to take ONE bead each for their bracelet or necklace. The beads must be purchased by the school if they choose to participate in this activity. I suggest making the necklace or beads after all waypoints have been found. This speeds up the process, instead of putting beads on at each location.

Assign groups to different waypoints, so the entire class is not going to the same location. Some caches may be harder to find than others, so groups may end up pairing up as they catch up to them.

ARCHERY

Summary

As a result of this unit, the history, physical, emotional and social benefits will be learned. In addition, safety strategies, skills and archery techniques necessary to participate in and enjoy archery as a lifetime activity will be fully addressed.

Learning concepts

Review of procedures for safety, equipment, vocabulary, and skills, are addressed in the unit.

1. Site Preparation
2. Equipment
3. Safety
4. Vocabulary
5. Establishing Eye Dominance
6. 11 Steps to shooting
 - a. Stance
 - b. Nock
 - c. Set draw hand
 - d. Set bow hand
 - e. Pre-draw
 - f. Draw
 - g. Anchor
 - h. Aim
 - i. Shot set-up
 - j. Release
 - k. Follow through and reflect
7. Scoring Targets
8. Retrieving Arrows
9. Games and Activities
10. Printables

SITE PREPARATION

Range should be located in an open area where all who might approach can see that archery is taking place. In such an open setting the teacher (range operator) will have ample time to signal the emergency whistle signal if someone is coming towards the target area.

An arrow curtain should be used to catch stray arrows. With or without a curtain, there should be a barrier or enough distance (50+ yards or meters) behind the curtain to prevent a pass through or errant arrow from endangering a bystander, structure or equipment. Be sure to count arrows before shooting outdoors to ensure all arrows are removed from the grass to prevent a hazard for others who share use of the area. (Diagram included)

- Targets should be approximately 1 arrow length away from arrow curtain.
- The target line should be 2 yards/meters from the targets.
- The shooting line should be 5-7 yards/meters from the targets.
- Waiting line should be 4 yards/meters from shooting line.
- The bow rack will be between the waiting line and the shooting line.
- Quivers should be placed on shooting line.
- For scoring purposes color coordinate fletchings and nocks so that all the same color are in the quiver so students know which arrows are whose.

Materials & Equipment:

Genesis Bows	Arrow Curtain
Arrows	Bow Rack
Quivers	Whistle
Marking point or rope for safety lines	Arm guards (optional)
Targets and stands	String Bows (optional)

Safety:

All students not shooting will wait behind the “waiting line” and will not approach the shooting line until instructed to do so. Bows will remain on the racks until the range operator instructs the students to “get bow” (signaled by 2 whistle blows.) After each student shoots a set number of arrows they will return bow to rack and wait behind “waiting line” until instructed to “go get arrows” (signaled by 3 whistle blows). If two students are shooting at the same target, 1 student will wait behind the “target line” until it is his or her turn to retrieve his or her arrows. **2 students cannot be retrieving arrows at the same target at the same time.**

Range operator will discuss shooting direction and dry fire with the students. Dry fire is shooting a bow without an arrow. This can harm the student, range operator, bystander, or the bow. The bow should only be shot with an arrow properly nocked and pointed in a safe direction down range towards the target.

VOCABULARY:

Aim: Any method used to point the arrow in the directions you want it to go.

Anchor: Consistent placement of the drawing hand to a position on the face, mouth or jaw.

Arrow Rest: The horizontal projection on the bow upon which the arrow lies.

Back: The side of the bow away from the bowstring.

Bow: A device made of a piece of flexible material with a string connecting the two ends, used to propel and arrow.

Draw: To pull the bow string back. Also the distance the bowstring is pulled back.

Draw weight: The weight, measured in pounds, used to bring the bow to full draw. Also the weight on a bow, using 28 inches to front of bow as the standard draw length.

Fletching/Fletch: The feathers, plastic vanes or other devices attached to the arrow shaft, which stabilize the flight of an arrow.

Follow-through; Maintaining the motion of the upper body muscles after releasing the string.

Full-draw: the position of the archer when the bowstring has been drawn to the anchor point.

Group: To shoot arrows in a pattern, or the pattern of the arrows in the target.

Let down: Returning from full draw to the undrawn position with control and not releasing the string.

Limb: Upper or lower part of the bow that bends when the string is drawn back. The part of the bow where the energy is stored.

Nock: To place the arrow on the string. Also the attachment to the rear end of an arrow, which is place on the bowstring and holds the arrow on the string.

Nock locator: The mark or device that indicates where the arrow is to be placed on the string.

Vane: Any fletching made of a material other than feathers, usually plastic.

ESTABLISHING EYE DOMINANCE

(Note to range operator: Establishing eye dominance is crucial to ensure that you have children’s dominant eye matched to their drawing hand.) It is not absolutely necessary that an archer shoot with both eyes open. Early in the archer lesson it is beneficial to help a new archer determine if his dominant eye and string hand are on the same side.

Pointing at the Instructor:

Some students will have trouble or will resist these procedures and force the eye they want to be dominant to pass the “point and wink” test. In these cases it can be helpful to have the student stand 10-20 feet from

the instructor and with both eyes open, have the student point the index finger of either hand toward the instructor's face. The instructor should be able to see the pointing finger naturally line up under the student's dominant eye.

Aperture Method:

To use this method, the students stand squarely facing and 2-4 yard/meters from the instructor. The student turns flat palms toward instructor with fingers pointed up, as if using both hands to motion "stop". Make a small (eye size) window by overlapping fingers and thumbs of the two hands. With both eyes open the student would look through the window towards the instructor. The instructor will be able to see the student's dominant eye through the window.

11 STEPS TO SHOOTING

A. Stance: Each student should straddle the shooting line with one foot on either side. If the archer is right-handed, the left foot should be over the shooting line toward the target line. To establish correct foot placement, begin with both feet together and toes even or "closed". Then move the foot closest to the target (front foot) back so these toes are even with the mid-point of the back foot. Then, while maintaining this mid-point toe placement, move the front foot toward the target so the feet are shoulder width apart. Then turn (open) the front foot toward the target.

Imagine the shooter is facing a 12 o'clock position. The toes of the back foot should be pointed to 12 o'clock, parallel to the shooting line. The toes of the front foot should be pointing toward 10 o'clock for a right-handed shooter and 2 o'clock for a left-handed shooter. Stand vertical with your head up and knees firm with slight pressure on the inside of both knees and feet.

B. Nock Arrow: With your bow in your bow hand, withdraw an arrow from the floor quiver by grasping the arrow below the fletching. Keeping your bow as vertical as possible, carry the arrow up and over the top of the bow. With the different colored "index fletching" pointed toward you, snap the arrow's nock under or between the nock locator(s). The arrow shaft should be placed on the arrow rest.

C. Drawing Hand Set: With your bow at arm's length and pointed down, grasp the string immediately under the nock at least to the first joint of the 1st and 3rd finger and slightly inside the joint of the middle finger forming a hook. Keep the back of the hand flat and the thumb down and relaxed.

D. Bow Hand Set: Place your hand in the bow grip with the meaty part of your thumb inside the grip to your palm. At the same time your bow hand is set, rotate your elbow down to the left (for right-handed archer). This hand and elbow position allows for improved string clearance of the bow arm.

E. Pre-Draw: Starting with your bow arm hanging relaxed at your side, lift your arm allowing it to hinge at your shoulder so your shoulder will remain level. Your drawing hand will remain hooked around the bow string with the bow un-drawn. The drawing arm will be slightly higher than the bow arm. The drawing hand, arm and elbow should be parallel to the floor or ground. This is done exactly the same for the String Bow and the real bow.

F. Draw: Pull or draw the string toward the right side of your face (right-handed archer) by rotating your hips and your shoulder around until your elbow is slightly in front of the arrow line. You want the feeling of getting in behind the bow. You should feel your upper back muscles being activated.

G. Anchor: Anchor by touching your index finger to the corner of your mouth. Keep muscles active while maintaining full draw.

H. Aiming: Your master eye is your rear sight and needs to be consistent in location as it relates to the anchor. Think of sighting as an alignment between your eye, the string and your front sight. In bare bow archery (without sights) your front sight would be either your arrow or some part of your bow riser or both. Allow your bow to move naturally – a perfectly still bow is unnatural. Be aware of the target and the sight. Keep your muscles active during the sighting process.

I. Shot Set-Up: After you have reached your anchor and begun your sight alignment, you need to create a slight movement from your drawing shoulder and/or arm to the rear. You can initiate the release anytime during this rearward movement.

J. Release: The release is a combination of relaxing your fingers and the back of your hand all at once. All your arm and back muscles remain active during this process.

K. Follow-Through/Reflection: Upon release, your drawing hand will move rearward with your fingers relaxed and end up with your thumb touching or near your drawing shoulder. The shoulder should hinge so your elbow can move down. The bow arm moves a bit forward then slightly both left (right for left-handed shooter) and down. After follow-through, reflect upon the position of your drawing and bow hand to see that they are in the proper ending positions as a result of having kept your muscles active throughout the shot sequence.

SCORING TARGETS:

Scoring is from 1 (outside right) to 10 points for the inner yellow ring. Anytime the arrow cuts the line of the next higher score – the higher score is awarded.

PICTURE

RETRIEVING ARROWS

While students are retrieving arrows, specialist should be supervising students at the targets. The specialist should be first and last to arrive and leave the target area. This will allow specialist to pick up any dropped arrows before students enter the area and check behind targets and curtain to make sure all students are behind waiting line after arrows have been retrieved. Only 1 student is allowed to retrieve his/her arrows from the target at a time. The other students will be waiting behind the “target line” until his/her turn to retrieve his/her arrows.

To retrieve an arrow, the student will stand to the side of the target using hip to hold target in place. One hand will be flat against the target with the arrow in crook of pointer finger and thumb. With the other hand on the arrow where it has entered the target the student will check behind him/her and pull the arrow straight out. Student will work from closest to furthest away from their body and top to bottom only retrieving arrows he/she shot. When all of the student’s arrows have been removed from the target, the student will hold the arrows with one hand covering the tips of the arrow and the other hand in the middle of the shaft while he/she walks to place them in the quiver and return to the waiting line.

GAMES AND ACTIVITIES

TIC-TAC-TOE

Cover the target with tic-tac-toe target about three feet square. Shoot three arrows trying to get three in a row. Score three points for each. You can also play this head to head with another archer.

BINGO

Make target face to represent a Bingo card on a brown paper bag or wrapping paper. A scorecard can be made by having the students fill in number on the squares before the shooting begins. Shoot six arrows: and as they are removed from the target, the corresponding number is crossed off the scorecard. Winner is the first to get any combination of numbers crossed.

SHOOT THE INSTRUCTOR'S HAT

Hang your hat on the target for the archers to shoot at.

BALLOON ELIMINATION SHOOT

After a scoring round, rank the archers from lowest to highest. Hang a balloon in the center of the target. Starting with the lowest scoring archer, each archer shoots one arrow at the balloon. If the archer pops the balloon, they move to the winners' circle until all archers turn have shot three arrows. Prizes are awarded to the balloon breakers.

BATTLE SHIP

Use index cards sized accordingly to the ability of the archers. Draw different ships on the cards and assign points from one to five. You can also include blank cards. Each individual or team will pin the cards up with the blank side showing on the target of their competitor. Archer shoots three to six arrows each or 12 – 15 as a team. Points are scored by the value of the ship they hit.

HANGING PRIZES

Use strips of paper and tape one piece of candy at the end of each strip of paper. Pin the other end of paper to the target. The goal is for the students to shoot at the paper. After enough holes are made the candy will fall and the person who was last to shoot gets the piece of candy. You may need to give the paper some tears to start with.

INSERT PICTURE

ARCHERY RANGE RULES

1. SAFETY IS ALWAYS FIRST PRIORITY!
2. Know and obey all range commands and instructors.
3. Always keep your arrows in your quivers until told to shoot with the “one whistle” command.
4. Only use the arrows your instructor gave you. Remember what they look like.
5. Always keep your arrows pointed down to the floor or at the target.
6. Only aim and shoot at your target downrange.
7. If you drop an arrow, leave it on the ground until you are told to retrieve all your arrows.
8. Always walk on the archery range.
9. Always be courteous to the shooter next to you.
10. Stand behind the waiting line when you are finished or not shooting.
11. Only one archer may retrieve their arrows from the target at a time.
12. Be sure no one is behind you when removing your arrows.
13. Walk back to the waiting line and return your arrows to your quivers after retrieving them.

ARCHERY SAFETY PROCEDURES

- Always listen to the archery range instructor.
- Only approach the shooting line after hearing two whistle blasts and hearing the command to “Get bow”.
- Keep your arrows in your quiver until a whistle is blown one time to load your bows and begin shooting.
- Your arrows should always be pointed downrange while loading the bow.
- Shoot only at the target directly in front of you.
- Always look downrange and beyond your target to be sure that there are no obstructions and the range is clear beyond the targets.
- Shoot with one foot on each side of the shooting line.
- Stop shooting immediately and set your bow down if there are five or more whistle blasts.
- Only approach the target after hearing three whistle blasts and hearing the command to “Go get arrows”.
- Always carry arrows with one hand on the points and the other hand placed around the shafts just below the fletching.

WHISTLE COMMANDS

Two Blasts – “Archers may walk to the shooting line.”

One Blast – Archers may load their bows and begin shooting.”

Three Blasts – “Archers may walk to the target line to retrieve arrows.”

Five or More Blasts – “STOP SHOOTING and put your arrow back in your quiver.”

ART

I. Summary of Activity

Student will receive exposure and experience with:

Charcoal landscape drawing

Watercolor landscape

Nature sculpture

II. Purpose

The camp are activities should be designed to allow students to focus their observations skills on our natural surroundings. Building on previously learned skills and using this inspirational environment, they will artistically record their experience.

OBJECTIVES

The Student will be able to:

- produce a landscape with foreground, middle ground, and background
- experiment with different natural line quality
- reproduce patterns and textures found in nature
- incorporate color or value as observed from nature in their artwork
- create a sculpture using objects found in nature

III. Example of Teaching Strategies Lesson 1

A. Landscape:

1. Objectives – The student will be able to:
 - a. go on location and draw a landscape
 - b. Create a landscape drawing using background, middle ground and foreground to show depth
 - c. Experiment with techniques associated with stick charcoal

B. Preparation:

1. Scout an area for a view where you can see background, middle ground and foreground. If possible, a large number of trees in the background, and open field in the middle ground, and a few large trees in the foreground.
2. Material needed:
 - a. 18 X 24 Drawing Paper (80 lb.) one per student
 - b. Drawing Boards one per students
 - c. Stick Charcoal one per students
3. Learning Activity Motivational:
 - a. Discuss how artists are able to record an moment in time. Camp is a special time and you will draw what you see and how you feel. Later, when viewing the drawing, you can reflect on the enjoy these moments and experiences.
 - b. The art work you make will not have to be perfect in technique of be masterpiece for you to stir the memories of the time you were creating the drawing.
 - c. At camp, we talk about our environment. The supplies we use in this activity directly reflect on this environment:
 - Where do we get charcoal? (Trees. Wood which has been burned in a fire with little oxygen)
 - Where do we get the paper? (Trees. Wood pulp.) We will draw nature using nature.
4. Step-by-Step Procedures/Landscape Drawing:
 - a. Supply students with paper, charcoal, and drawing boards.
 - b. Seat students in an area where they can view background, middle ground, and foreground. (Trees in far background, if possible, trees or open field in middle ground and a few trees in the foreground.)

- c. What is the farthest away from view? (background)
What is the closest? (foreground)
What is in the middle? (middle ground)
- d. Students will be using the charcoal entirely on its side. Teacher will demonstrate use of charcoal to draw a landscape example.
 - Shade in background trees in mass (medium dark) top 1/3 of paper
 - Shade in middle ground lightly (very light)
 - Shade in foreground land (medium dark)
 - Shade in foreground trees – vertical trees will go off the top of the paper: shade in (very dark) add details of leaves and grass and sign name
- e. Charcoal techniques for sharp edges – must push down on one side of charcoal as you slide it along.
- f. Charcoal techniques for rough edges – twist and turn charcoal while moving it on its side (for leaves or rough land).
- g. Charcoal techniques for thin lines – use corner edge of charcoal (blades of grass).
- h. Have students begin. Give encouragement and direction. Remind them that they are not supposed to be experts.

IV. Example of Teaching Strategies Lesson 2

A. Watercolor/silhouette Lesson Plan

Objectives – The student will be able to:

- a. Review background, middle ground, and foreground.
- b. Experiment with “wet-on-wet” watercolor technique.
- c. Create a contour drawing of a tree trunk and branches.

B. Preparation:

1. Inside – Set up area with tables, water, paints, brushes and paper.
Outside – Find a single tree or small group of trees which have twisted or curving trunks and braches.
2. Materials needed:
 - a. 12 x 18 white watercolor paper – one per students
 - b. 12 x 18 black construction paper – one per students
 - c. water color sets (15)
 - d. #10 watercolor brushes and 2” brushes – one per students
 - e. water containers (10)
 - f. glue (10)
 - g. scissors – one per student
 - h. white chalk – one per student
 - i. pencils – one per student
3. Learning Activity Motivational:
 - a. Discuss the colors of the sky and fall trees. Encourage students to name the fall leaf colors using two color names (red orange, yellow green, golden brown, etc.)
4. Step by Step Procedure: Watercolor/Silhouette
 - a. Teacher will demonstrate the watercolor technique.
 - b. Completely dampen one side of white paper which is attached to a drawing board. Use a large 2” brush.
 - c. On top 1/3 of paper, use the small brush to dab blue and small amount of purple paint on the wet paper. Tilt the paper to the side and the paint will flow to create sky and clouds. Lay board flat to stop colors from running too much. This is called a “watercolor wash”. Add more water and paint if necessary. Some white of the paper should be left for cloud areas.

- d. On bottom of the page make irregular tree shapes to indicate tree forms dabbing two autumn colors together forming a new blended color. Remember to dab not brush. Red and orange will make red-orange.
- e. After completing the painting, put to the side to dry.
- f. Take black paper, chalk, and drawing boards and sit down near a small group of trees.
- g. Use chalk to draw a contour line drawing of an interesting tree shape. A contour line drawing is a single line which outlines a shape very precisely.
- h. The drawing should run off the paper at the tops, sides, and bottom; spotlighting the most interesting arrangement of branches. Shapes may be overlapped to create an interesting design.
- i. cut out air space around and between the branches which will leave a silhouette of the tree.
- k. Retrieve the watercolor background and place the silhouette on top of the water color. Put glue on the chalk lined side of the tree silhouette and carefully turn it over and glue to the watercolor background.
- l. Remind students that they have created a background.

V. Example of Teaching Strategies Lesson 3

A. Nature Sculpture Activity

1. Objectives - the student will be able to:

- a. Observe nature and appreciate the shape, color texture in all objects in nature.
- b. Use planning and creativity to make an interesting new design from nature.
- c. Create a sculpture from elements found in nature.

B. Preparation:

1. Scout an area where students can find many items from nature.
2. Materials: Items from nature:
 - a. Stones
 - b. Sticks
 - c. Leaves
3. Learning Activity Motivational
 - a. Discuss how artists work with many different media (paper, paint, clay, fiber, glass).
 - b. Discuss nature artist Andrew Goldsworth (see Goldsworth's homepage for ideas)
 - c. Look at examples of his art work from pictures of his creations.
 - d. Demonstrate finding nature items and building them into an interesting new arrangement.
4. Step by Step Procedure: Nature Sculpture
 - a. show students area in which they must stay to complete the project.
 - b. Give rules on using nature without destroying it. (Use only items which are found on the ground. Do not destroy any living plants, or break off parts of living plants.)
 - c. Divide the class into groups to work together.
 - d. Set a time limit on how long students have to build their sculpture.
 - e. Have students present and describe the sculpture they have created to the group.

VI. Vocabulary

- | | | | |
|---------------|----------------------------|--------------------------|--------------|
| A. background | B. middle ground | C. foreground | D. landscape |
| E. technique | F. watercolor wash | G. wet on wet watercolor | |
| H. sculpture | I. contour line silhouette | | |

AQUATIC LIFE STUDY

The pond study is a field research activity in which students investigate a Missouri pond ecosystem by collecting a variety of data from the pond and its surrounding environment. Students use a variety of equipment to explore both biotic and abiotic factors which affect the life cycle of the pond. Students then blend this new information with previous classroom studies of food webs and chains to determine the importance of the pond in nature.

PURPOSE

To better understand the life cycle of the pond and its role in the surrounding ecosystem.

MATERIALS FOR POND ACTIVITIES

Teacher materials

Pond appendix/handbook
3 clipboards with pencils attached
Pond Life Poster (MO Conservation)
Food Web Game Cards
String or lightweight twine – 100 ft.
Pencils (15)
Nature journals or plain paper
Data recording sheets (3 each per class)
Chart paper or whiteboard & markers
Chart stand
PH kit (pool water kit)
Dissolved oxygen kit
Clock/watch/timer

Student materials

Bottom Dredge
Dip nets
Weed Grapple
Wire mesh sifters
Aluminum 9X13 pans
Tweezers
Eyedroppers
Glass slides
Magnifiers (variety)
Microscopes
Discovery scope
Plastic ruler
Petri dishes
Plastic containers (observing collections)
Organism I.D. charts (plant/animal)
100 ft. non-metal tape measure
4 aquatic thermometers strung on poles
2 outdoor thermometers strung on poles
Sec chi disk w/cord marked measurement
Plaster of Paris
Bucket

SAFETY

Snake bite kit
Insect bite kit
General first aid kit

OVERVIEW

Each classroom incorporates nature walk activities in route to the pond. Upon arrival, the specialist conducts an introduction to the pond including its origin and an explanation of the role of abiotics and biotics in the life of the pond. Safety measures are discussed. Students are then split into three groups to conduct (1) pond life investigations both in and around the pond, (2) data collection of abiotic measurements of the pond, and (3) nature journaling, a food web game, or other related activity. Groups rotate approximately every 30 minutes. Finally, the specialist conducts a debriefing session to summarize findings and relate them to the pond life cycle and ecosystem.

BEFORE ARRIVING AT THE POND EACH CLASS SHOULD:

1. Have students divided into 3 groups with careful separation based on individual behavior, etc.
2. Review the Human Food Web Game. Nature Journaling, and the sample collection strategies below.

Choose which you prefer to do with your 1/3 of the class and which you prefer your high school counselors to conduct.

3. Instruct your high school counselors how you want them to conduct their 1/3 of your class. Be sure they can take responsibility for the success of their activity at the pond.
4. Have students bring pencils for Journaling or extra word find activity.

NOTE: SPECIALISTS MUST GIVE COPIES OF GAME, JOURNALING, AND COLLECTION STRATEGIES TO CLASSROOM TEACHERS AND THEIR COUNSELORS ON MONDAY AND FOLLOW UP ON THEIR PREPARATION TO CONDUCT THEIR PART OF THE POND SESSION.

A. Introduction to the pond

Specialists conducts 20-30 min. introduction, allowing some rest time after nature hike and providing sufficient time to orient students to the activity.)

1. Rules of safety and respect for the habitat
 - a. Stay out of water
 - b. Handle all equipment according to directions
 - c. Stay with your group – on task
 - d. Keep voices at a minimum – wildlife need this habitat

2. Origin of pond – pond succession

Question: Where did the pond/lake come from?
Discussion should lead students to surmise the life of a pond is cyclical.
Demonstrate by observation that the stages of this pond include

 - a. the collection of water in an area which increases in size due to factors such as lack of vegetation, landform shifts, local land usage, volume of rainfall, etc.
 - b. growth of new vegetation adapted to a water habitat
 - c. habitation of animal life drawn to or brought to the pond
 - d. decrease in pond volume due to build-up of decaying plants and animals, sediment
 - e. failure of the pond to provide sufficiently for needs of plant and animal life
 - f. drying up of the pond and it return to a dry land habitat

3. Role of ABIOTICS in the life of a pond
(define: a – opposite of: biotics – pertaining to life/living)

Question: What non-living factors affect the life of the plants and animals here? (What do living things need to stay alive? Air, water, light, nutrients. And where does each organism at the pond receive each of those?)

Factors affecting pond life:

1. Precipitation – Quantity, frequency
 2. Volume of Pond – larger ponds support more life
 3. Temperature – some plants/animals live best in certain water/air temps
 4. Presence of pollutants (Run-off tainted by man's use? Acid Rain? Plants and animals need certain levels of acid/bases and quantities of dissolved oxygen in the water. Water animals stir up bottom sediment blocking sunlight (turbidity/clarity)?
 5. Amount of sunlight/shade
4. Role of BIOTICS in the pond
(living organisms are interdependent with other living organisms.)
 1. Food chains/Webs – Which organisms can live in the habitat based on other available organisms?

2. If we know what plants and animals are present in this pond we can predict which other animals/plants may frequent this pond.

5. An ECOSYSTEM survives only in a balance between the ABIOTICS and BIOTICS available which support life in a habitat.

B. Pond Investigations

(3 twenty-five to thirty minute stations conducted by (a) Classroom Teacher, (b) Specialist, (c) High School Counselors)

Objective: Students, having been divided into 3 activity groups, will study the life of the pond and thereby determine in which stage of its life cycle this pond is.

1. Biotic Group – Teacher conducted

a. Before beginning exploration, the whole class is instructed briefly in the proper safe handling of the

1. Bottom dredge (can on end of pole)

Take mud/silt sample from bottom of pond by using a “leaf raking” motion with dredge and allowing water to slowly escape from bottom of can. Then pour sample onto the wire mesh sifter placed over aluminum pans. Separate carefully large specimens from small ones. Use tweezers, eyedroppers, glass slides, and hand-held microscopes to examine samples to discover tiny forms of life. Observe body structures and movements. Check plant and animal sketches to identify each organism if possible. Draw distinguishable samples on the Pond Journal page on the clipboard. Teachers must insist on efforts to identify organisms to keep this activity focused on its objective.

2. Dip nets- top water sampling

Use the smallest mesh nets to scan undisturbed water surfaces to collect top-water life both away from the edge and close to the edge, and amongst reeds and plant life. Examine with hand held microscopes or just by looking. Use charts/sketches to identify and record as before.

Use larger mesh nets to sample water life below the surface but ABOVE the muddy bottom of the pond.

3. Weed grapple (4 prong claw book)

To bring up samples of submerged vegetation, swing by its rope then toss the grapple out onto the pond’s bottom. Drag slowly over a FEW INCHES to bring up any plants growing underwater. Often small animals are hiding here also. Each group should collect only ONE sample in order to preserve as much habitat as possible. Use charts/sketches to identify and record as before.

4. Land animal/amphibian evidence

Examine edges of the pond to search for evidences of other animal life (i.e. turtles, frogs, mammals coming to drink at the water’s edge, etc.) If tracks are discovered, use charts to identify. Notify your Pond Specialist so that a plaster mold can be made and taken back to camp! Record signs of all animal life identified on clipboard charts.

Teacher’s Notes:

a. Subdivide the BIOTIC group into the four stations, direct FOOD WEB group to their station

- b. rotate the BIOTIC substations every 5 to 7 minutes to be sure everyone gets to handle all equipment.
- c. teachers should allow students to conduct the explorations but direct their attentions to accumulating an adequate list of plants and animals capable of living at this pond.
- d. Your role, mainly, is to use the clipboard to supervise the students' recording of results, and monitor behavior and safety.

CLASSROOM TEACHER WILL CONDUCT ONE OR BOTH OF THESE ACTIVITIES NEARBY THE POND, SPECIALIST SHOULD HAVE YOUR MATERIALS READY

2. Human Food Web Game – Nature Journaling

Teacher may choose to do one or both activities

a. Game objective: To link all possible predators and their prey/food into a food web when given a set group of producers, consumers, and decomposers. To demonstrate the effects of natural and man-initiated events on a pond ecosystem.

1. Each child chooses one of the Organism cards and hangs it around their neck. (Cards are made of file folder halves and yarn. Each is marked with a first, second, or third level consumer, its prey, and its predators.)
2. Each player holds one end of a short rope (approximately 2') with each end tied in a loop.
3. Discuss (or read through) handout entitled "Why are Feeding Relationships Important?" to reinforce concepts of producers, consumers, decomposers, photosynthesis, food chains, and food webs.
4. Ask students to name various producers found at the pond. Assume that they are all consumers. Circle the producers in the center as though standing around the edge of a pond.
5. One by one, ask each consumer if there is any organism at the pond they can eat. If so, allow them to walk up and take the other end of that organism's rope, thus linking the chain/web.
6. Let students discover that some consumers will have more choices than others and will therefore need additional lengths of rope to link them to their prey or predator. (These lengths of rope may need to be long enough to stretch from one end of the group to the other. At least 10-15 feet)
7. When all possible links between organisms are discovered, begin reading events asking students to demonstrate their effect on this ecosystem.
 - a. A hunter comes to the pond, camps for the night, and sprays a strong insecticide all over the camping area, his clothes, boots, and tent area. It rains that night, washing all the insecticide into the pond. All top water insects, larvae, and microscopic animals die.
 - b. Winter brings a hard freeze to the shallow pond. There is a complete fish and frog kill.
 - c. Farmers in nearby fields use an herbicide in the spring to clear their fields of weeds before tilling. Rainstorms that week wash all the herbicide into the pond. All producers between the field and pond's edge are destroyed. What do more rainstorms bring to that piece of land without vegetation?
 - d. Too much hunting during hunting season: remove rabbits, quail, fox
 - e. Farmer clears surrounding land of all trees. Remove large predatory birds.

As each event is read, guide students to drop the ropes only of those organisms directly affected at first. Then demonstrate the domino effect, one organism at a time. Work slowly to help students determine the changing environment of the pond.

NATURE JOURNALING

This can be used anytime throughout camp. Direct students to an undisturbed area (woods, field, etc.) to seek out and collect one unique or unusual specimen. (seed pods, leaf, rock, cocoon, insect

gall, weed, flower etc.) They should sit comfortably with the object and memorize every detail of it on your command. Time this examination period for 60 seconds. Then instruct students to use one or more of the methods below to draw their specimen in the Nature Journal. In between each drawing, allow an additional 30 seconds for restudying. When finished, allow students to exchange specimens or search for a new one.

Objective: Students will gain lasting memory of the structure and composition of various natural specimens.

1. Gesture Drawing – 30 seconds Hold pencil at eraser end with ends of fingers. Draw only a single focused section.
2. Gesture Drawing – 15 seconds – same as #1
3. Gesture Drawing – 10 seconds – same as #1
4. Blind Contour Drawing – 30 seconds – Draw the object while looking only at the specimen, never at the drawing page.
5. Memory Drawing/Concentrated Scene – Draw the entire object from memory.
6. Write a detailed description of its appearance including its texture and coloring. Be sure to describe it systematically (i.e. top to bottom, left to right, etc.)

Students may rotate, trade, or collect additional objects to journal at time allows.

ABIOTIC GROUP IS CONDUCTED BY THE POND SPECIALIST, SOME MEASUREMENT TOOLS CAN BE IN PLACE BEFORE, GROUP ARRIVES (THERMOMETERS) IN ORDER TO ENSURE COMPLETION

ABIOTIC GROUP

- a. For the 2-hour session you should have time to conduct all measurements and record data with each of the three groups. For shorter sessions, you may subdivide each group into 5 stations below or as many as necessary to use the time allowed. Give station directions to each group before they begin, then stand back and record results, troubleshooting as many measurement errors as possible.
- b. Station 1: LENGTH? WIDTH?
2 students use tape measure (or marked rope provided). One student is stationary and holds one end of the tape while the other walks around the water's edge until they are diametrically opposite the first. Students trade places and measure the width. Both measurements are taken at the longest and widest points. Calculate approximate surface area of the water.
- c. Station 2: CIRCUMFERENCE
2 students mark a beginning spot (i.e. tree) and walk the circumference of the pond in opposite directions using average paces. Model paces after Orientation Activity. Average the two measurements and record results. Repeat the procedure using "feet" if time allows. Again, average and record results.
- d. Station 3: AIR TEMPERATURE
Students use thermometers hung on short strings to determine the temperature of the air in both the shade and the sun. thermometers can be hung in appropriate places throughout the day so that only a reading has to be taken.
- e. Station 4: TOP/BOTTOM WATER TEMPERATURE
Using thermometers (preferably an aquatic thermometer) hung on poles, hold the bulb of the thermometer just one to two inches below the surface of the water for 5-8 minutes both in the shade then in the sun. Determine the temperature of the water just above the bottom in the same way, both in the sun and shade.

f. Station 5: TURBIDITY

Students use sec chi disk on a rope and pole to determine the depth at which the white portion of the disk can no longer be distinguished from its black portions. Mark rope with flags, visible from the water's edge, numbering every foot. Toss disk into deepest part of pond and raise just until the white color can be detected to determine depth of clarity.

g. FINAL WATER SAMPLING – WHOLE GROUP

Call all groups to report, record results on a chart, then choose students to conduct the pH test using the pool water sampling kit, and the dissolved oxygen test.

POND SPECIALIST BRINGS ALL STATIONS TOGETHER AFTER 5 MINUTE WARNING ANNOUNCEMENT. THE DEBRIEFING SESSION SHOULD BRING CLOSURE TO THE ACTIVITY AND CHECK FOR UNDERSTANDING, ALLOW 10-20 MINUTES FOR THIS

c. DEBRIEFING SESSION

1. Regroup entire classroom for a final debriefing. Compare each group's achievement by reviewing their recording charts, anecdotal comments from counselors and teachers, biotic discovery charts, etc.
2. To summarize findings, use pH charts and temperature charts in appendix o determine the life forms which could survive under current conditions. Discuss briefly that volume of water (size of pond/depth, etc.) determines quantity of available dissolved oxygen (the kind underwater animals breathe) to support that life. Be sure they understand that even if other conditions are right to support certain life forms, they still must have sufficient oxygen to survive. Thus as the size of the pond decreases, life forms also decrease. There are other sources that use and take up dissolved oxygen as well. Organic matter uses oxygen as it decays. Are there large quantities of decaying matter at the bottom? Bacteria and other decomposers use oxygen to breathe. Did you find many forms of aquatic life under the microscopes/ Too much organic matter present results in less oxygen for other aquatic animals to use.
3. Determine if the findings of the biotic stations support the data collected by the abiotic stations.
4. Students should be able to predict the next stage or future for this pond, recommend what could be done to bring it more to life and sustain its life cycle for the enjoyment of future fifth graders.

FISHING

I. Summary of Activity

This is ideally a 1 1/2 to 2-hour activity with four basic teaching parts: Introduction; Knot tying, Casting and Fishing: The children will learn the basic skills of fishing while gaining a respect for this sport and the nature and environment related to it. Proper catch and release practices are followed as are safe fishing techniques. Extra supervision should be considered since students are near the water.

II. Materials and supplies:

Rod and reels: 1 per 2 students, minimum

Rod and reels set up for practice casting (1 per 2 students)

Eye screws attached to a 2" x 4" boards (1 eye screw per 4 students)

Three foot pieces of cord or rope for tying (1 per eye screw)

"Kids Fishing" books by Missouri Conservation Department provided by building request by coordinator from xxxxxx

Hula Hoops preferred for casting practice

Throwable floatation for water safety

Tackle box including:

Hooks

Sinkers

Bobbers

Casting weights

Needle nose pliers

Clippers

Knife

Bait – worms, cheese. Other

IV. Teaching Strategies

A. Pre-Camp

1. Optional: Kids Fishing
2. Optional: Activities related to fish identification
3. Optional: Activities related to lake management

B. At Camp

1. Introduction (10 minutes) provide "Kids Fishing" if not given earlier
 - a. Students will
 1. Learn to tie cinch knot
 2. Learn to cast
 3. Fish
 - b. Give parameters where students may fish (an area easily supervised)
 - c. Tell what baits are available and how to use (page 8 in Kids Fishing)

C. Knot tying (half of class, 20 minutes)

1. Work in pairs
2. Demonstrate knot tying (page 7 in Kids Fishing) using boards, eyelets, and rope
3. Independent practice
4. Observe knot tying checking for comprehension
5. Partner takes turn

D. Fish

1. Discuss proper release techniques for catch and release
2. Remind students of baits
3. Remind students of parameters

HINT; Bluegill are not far from shore and are often caught easier without a bobber when bait is "disappearing". Fish are also caught more often on worms.

MISSOURI FISH

WATER AND AQUATIC LIFE POSTER LESSON PLAN

Objectives:

After completing the activities, the students should be able to:

1. Define habitat
2. Describe the general characteristics of a fish
3. Identify three of the fishes on the poster by name
4. Describe similarities and differences within a group of fishes.

Materials: Missouri Fish Poster

Teacher Resource Words:

1. habitat – the place where an organism lives. The habitat provides all the things an organism needs to survive.
2. vertebrate: An animal that has an internal skeletal system.
3. coldblooded: Having a body temperature that fluctuates approximately that of the surrounding air, land or water.

Procedure:

1. Tell the students that in order for an organism to survive, it needs a place that will provide food, water, cover (shelter), and space. This place is its habitat. All of the animals on the poster are fish. Water provides habitat for all of these organisms.
2. Ask the students to think of ways that they can tell that an animal is a fish. What do all fishes have in common? Talk about the characteristics of fishes and list them on the blackboard. Be certain to include the following:
 - Fish are vertebrates
 - Fish live in water
 - Fish breathe by means of gills
 - Fish have fins
 - Most fish have bodies covered with scales (point out the catfish and paddlefish on the poster as exceptions)
 - Fish are coldblooded
 - Fish are good swimmers
 - Fish eat plants, insects, and some eat smaller fish
3. Review the poster with the students. Tell them that the poster shows only a few of the fish found in Missouri (Missouri is home to about 200 kinds of fish). Point out and name each of the fish using the key at the end of this lesson plan. How are these fish alike? How are they different?
4. Have the students identify those fishes they have seen before. Allow them to tell about their own fishing trips and the kinds of fish they caught or about kinds of fish they have eaten.

Action Activities:

1. Write a story, poem, or play depicting a real or imaginary fishing trip.
2. Make a poster promoting fishing as a fun sport.
3. Plan a field trip to a fish hatchery.

POND ACTIVITY

1. Water Statistics
2. MO Pond Life Poster (MO Conservation Dept.)
3. Life in a Pone Poster (MO Conservation Dept.)
4. What Is A Pond?
5. A Pond: An Event In Time
6. How Do Pond Ecosystems Change?
7. Why Are Feeding Relationships Important?
8. Diagram of Producers and Consumers
9. Temperature Ranges Required for Groups of Certain Organisms
10. PH Ranges That Support Aquatic Life
11. Dissolved Oxygen Requirements for native Fish and Other Aquatic Life
12. Biotic Data Sheet
13. Abiotic Data Sheet
14. Aquatic Plant Identification pages
15. Aquatic Animal Identification pages
16. Animal Autographs (Creating plaster of paris molds of animal tracks)
17. MO Mammal Tracks
18. Common Ferns of Missouri
19. Find the Critter Word Find Activity Sheet
20. Discoveryscope Ordering Information
21. Making Aquatic Study Equipment (4 pages)
22. Human Food Web Creature Cards List

WATER STATISTICS:

- Water covers 71% of the Earth's surface.
- Water makes up 50-97% of the weight of all plant & animal life.
- Water makes up 70% of your body.
- You need to take in about 2 quarts of fresh water a day.
- The world's water supply is found in vapor, liquid & ice forms.
- 99.99% of the world's water supply is not available! Most is in the ocean and ice caps.

Water use:

Cooking (per day) =	8 gallons
Shower (per minute) =	5 gallons
Washing Clothes =	60 gallons
Toilet Flush (1 flush) =	6 gallons
1 Loaf of bread =	150 gallons
Total use per day per person =	90 gallons

OUTDOOR EDUCATION PROGRAM SONGBOOK

Paradise
Mary Had A William Goat
Michael, Row The Boat Ashore
He's Got The Whole World In His Hands
When The Saints Go Marching In
Blowin' In The Wind
500 Miles
Kum Ba Ya
The Ice Cream Man
This Land Is Your Land
Springtime In Old Mexico
When The Ants Come Marching In
The Ants Go marching
Father Abraham
Billboard Song
On Top Of Spaghetti
Bar Of Soap
Army song
She'll Be Comin' Round The Mountain
Vista
Worm Song
Susanna
O Chester
Junk Food Song
A Ram Sam
I Love The Mountains
Bear Song
My Aunt Came Back
Do Your Ears Hang Low
Grandma's Feather Bed
The Corner Grocery Store
The Bear Went Over The Mountain
All Living Things
The Eagle
This Pretty Planet
I'd Like To Teach The World To Sing
Rocky Top
Earth Day Rap
Music Brings Us Together
Peace Round
Evergreen, Everblue
My Cousin Ha A Basketball
Singing Skies & Dancing Waters