

Meet Director's Guide for Local Club Events

These procedures outline the basic steps to insure a good local club event and should be used as a guide, with modifications to suit circumstances.

What Makes a Good Local Orienteering Event?

1. The event is planned and organized to run smoothly.
2. The courses are fair and set to the correct difficulty level.
3. The park/landowner welcomes the club to return.
4. The event staff has fun and is not hurried or hassled.
5. The participants are impressed with the event and glad they came.

Meet Director Procedure

1. Obtain assignment from club president. The meet director will usually either volunteer or be asked to direct a club event. Once the scheduling is complete, the meet director will be notified by the club president of the exact date and location of his event and any special circumstances. It is very important that the club president makes sure the meet director understands the scope of his duties and what exactly is expected of him. It's best to put everything in writing or email to avoid misunderstandings.
2. Set your Timetable for the event. It's best to begin planning your event about 2 months prior to the event date. Leave plenty of time for things to go wrong and for you to double check yourself and follow up with your event staff.
3. Contact the park ranger or landowner. Before you begin to make decisions, you need to know any park restrictions or concerns and you must abide by them if your club will be welcome to hold future events. Ask the ranger or landowner for areas to avoid, known safety hazards, what other groups may be in the park that day, arrangements for parking, what paperwork and fees will be required, and any other considerations you or he can anticipate. A good park-club relationship is built on communication, so talk early and often.
4. Arrange with the club Secretary and/or Treasurer for whatever permits, insurance certificates and porta-potty and shelter reservations will be needed.

5. Get Help. You should either have a co-director or an assistant meet director. The phrase “two heads are better than one” applies when organizing a meet. In addition, normal club growth requires the constant training of new meet directors, so if you can get an assistant who is not already a trained meet director, but has the time and desire to learn, you are benefiting your club. Plan together who will do what, when it will be done, and how many other people you will need to help.
6. Arrange for Maps. Contact the Map manager for planning maps, the process of getting any map corrections onto the final map, and when final maps will be in your hands. Always plan for plenty of extra maps, you do not want to run out of maps on the day of the event. This is NOT the place to try to save money. Extra maps for your event can be used for planning maps next time.
7. Staff your event. Normally, you will need to staff the following positions for the average local club event:
 - a. Course setters. Usually you and your assistant MD will also function as course setter and vetter. If not, recruit at least 2 people for these jobs.
 - b. Meet Staff. Always finish recruiting your meet staff at least a week before your event. Recruit both early and late staffers for each meet job so that all can run courses. The meet director should remain available to handle problems and to fill in if a staff member needs a short break. The assistant meet director should rotate thru all jobs, making sure things are going well and learning every task.
 - Beginner briefing instructors. You should have at least 2, holding staggered sessions.
 - Registrar. It's best to have 2 during peak times.
 - Starters. Unless it's a very small event (under 50 people), you will need at least 2 people working Start, one doing the White and Yellow starts, the other doing the starts for Orange and above or otherwise divide starts evenly.
 - Finisher. Have at least one person who does nothing but write down finish times.
 - Results/Epunch Download workers separate from Finishers.
 - Designate one or two meet workers as First Aiders. Assign a SAR coordinator.
 - Control Pickup crew. The more you got, the faster you get done.
8. Arrange for Equipment and Supplies. Contact your club's Equipment manager and make arrangements for picking up what you need. Be sure to agree on who will check the equipment and replenish any consumable items or acquire replacements for lost or damaged items. Once you have the equipment, check to be sure everything is there and make sure all equipment and supplies are clean, dry and ready to use. An Equipment Checklist is later in this package.

9. Meet Director's Site Visit.
 - a. Pick a general area of the map to use for the courses and inform CS team.
 - b. Pick a meet HQ near parking and preferably with rain shelter and comfort facilities.
 - c. Make lists of what you'll need in the way of tarps, porta-potties, water and cups, extra equipment and helpers.
 - d. Check in with park ranger for special access needs, what time the park opens and closes, other arrangements.
 - e. Collect emergency phone numbers of park manager/landowner, nearest EMT unit, directions to nearest hospital, discuss safety issues with park manager or landowner.

10. Inform club president and persons in charge of obtaining permits and insurance certificates of the location of event HQ and parking. Make sure the driving directions and your contact info is correct on the club's website.

11. Coordinate Course Setting. Course Setters, veters and field helpers comprise the course setting team. This should be at least 2 people, but can be more. Offer to allow those interested in learning course setting to "get their feet wet" by tagging along with an experienced course setter or vetter. Designate a Head Course Setter who will coordinate. Meet Director should be sure:
 - a. Team members are active Orienteers and familiar with Course Setting Guidelines.
 - b. Each knows what they will handle, by when, and has plenty of time to do it.
 - c. Each team member is given training or has the experience they need.
 - d. Each knows the out-of-bounds areas and other park considerations.
 - e. Head CS has planning maps, clue sheet program or manual clue sheet instructions.
 - f. Head CS has necessary equipment, including control flags, control codes, punches, surveyor's tape, map bags, control tote bags, water and cups for water stops, master map boards.
 - g. A deadline has been set by which the head course setter will give the meet director master maps, clue sheets, and course lengths.
 - h. Check on the progress of the CS team to be sure everything will be in place and ready to go on the morning of the event.
 - i. Head CS plans control pickup routes and prepares maps for post-event pickup.
 - j. Water stops are set up. If there is a water freeze likely, arrange to put out the water on event morning or protect water against cold.

12. The Night Before the Event:
 - a. Meet Director phones event staff and confirms time and location for their duties.
 - b. MD checks email and phone messages for event questions and responds.

Meet Director's Responsibilities during the Event

Note: For events using Epunching, reference separate Epunching Procedures.

1. Morning of the Event Early:
 - a. Make sure to have onsite before the event begins all permits, insurance certificates, master maps, control description copies, clean maps, extra water and cups for the Start and Finish areas, emergency contacts.
 - b. Make sure course setting team is onsite and hanging last of the controls and putting out remaining water stops.
 - c. Put direction signs along approach roads.
 - d. Put out any needed signs for Parking instructions and walking to meet HQ.

2. Setting up:
 - a. Unload the meet Equipment from your car and sort according to use – Registration, Start, Finish, Results/Download.
 - b. Brief event staff as necessary, assist staff with setting up their areas, do not allow early arrivals to bother them until they are ready to begin.
 - c. Load starter cash, provided by club Treasurer, into Cash box.
 - d. Make sure master maps are ready to go, both those in the master map area and those that can be copied before Start.
 - e. If the Start is ready to go Early, make sure Starters can handle changing Start times and make announcement to participants.
 - f. Keep participants away from Finish area once they have finished and Downloaded.
 - g. Make sure there is a first aider and first aid kit handy to the Finish Line and the Finishers know the first aider.
 - h. Make sure Results/Download has laptop, printer(s) and other equipment needed.

3. During the Event:
 - a. Check periodically with Results/Download workers for participant out over 3 hours. Initiate SAR procedures as appropriate.
 - b. At the pre-arranged time, have 2nd shift event workers ready to take over and make sure the transition is smooth without upsetting meet procedure.
 - c. At the announced close of Registration, instruct Registrars to close Registration, and begin money computations. When they are done, take money, checks, calculation form, and membership forms in map case and return Cash box to meet equipment. Make sure Start sign-up sheets go to the Results for SAR purposes.
 - d. At the announced close of Starts, instruct Starters to disassemble the Start area, and take Start Time sheets to the Results/Download.
 - e. Shortly prior to the close of Finish, have Results give you a list of those still out on courses and organize checking for their friends, cars in parking areas, and unprocessed punch cards to determine if they are truly out or simply missed checking in.
 - f. At course closing time, notify the control pick up crew to begin.
 - g. Once all participants are finished, organize clean up of the HQ area and the repacking of equipment and supplies.
 - h. Arrange with Results crew for prompt posting of Results.

Meet Director's Responsibilities after the Event

1. Check with Results/Download crews to be sure all participants have returned. Make sure any injured competitors were sufficiently helped.
2. Assist designated SAR person in arranging searches for any lost participants.
3. Assist course setter in determining if any special post-event handling of control is needed (wet, muddy). Identify with CS any controls that need to be brought to the attention of the Equipment manager for repair or replacement.
4. Make sure the event area is clean and all meet workers have repacked and put event equipment back in your car.
5. Make sure there are no cars left that belong to participants or event staff. If there are, identify the missing persons and notify and assist SAR person with finding them.
6. Verify with course setter that all controls, water stops and vetting tape are out of the woods and that the entire control pickup team has returned safely.
7. Once everyone is back safely and all equipment is packed and in the car, thank event staff and dismiss. The CS or asst. MD should leave at the same time you do, last.
8. Return all Equipment to the Equipment manager's house.
9. Confirm that Results have been sent to club webmaster and posted on club net.
10. Make sure all expenses of the meet have been paid/reimbursed. Prepare receipts and either send to Treasurer or take out of event cash and note on reconciliation form.
11. Verify calculations on money reconciliation form prepared by Registrar. Count cash and substitute a personal check. Send checks & reconciliation to club Treasurer.
12. Send sign-up/waiver forms and membership applications to club Secretary.
13. Return unused clean maps to the Maps manager.
14. Be sure to call or email your event volunteers to thank them and make sure they get the club's volunteer recognitions.
15. Be sure to send a Thank You to the park manager or landowner for their cooperation.
16. Congratulate yourself on a job well done!

Local Event Course Design Guidelines

Adapted from the USOF Course Design Guidelines

Objective

Orienteering's slogan is that it is "the thinking sport;" doing well requires a combination of physical and mental skills. These skills are put to the test by the course setter, working in the framework of the given map and terrain. It is nearly impossible to set a course that does not offer a good physical test, providing that it is of the proper length; the challenge for the course setter is to offer mental test appropriate to the skill level of those for whom the course is intended.

Skill not Luck

You are setting the course for an orienteer, not a surveyor, so the feature you use must be distinct and control features must be correctly mapped and the area surrounding the control site must be properly mapped. Never use improperly mapped sites or areas for control locations. Also avoid large or vague control sites because you do not want to introduce too much of an element of luck into the competition. The competitor should be able to orienteer directly to the control if he is skillful, and not have to count on finding it by using a systematic search (he may end up doing that anyway, but he should not have to).

Often a contour line will have a gradual bend in it that could be called a spur (or reentrant). Although technically correct, it's not exact enough to properly test navigational skill, even if you give extra information, such as "North side." It's not a good control location. Likewise, features can be too small to use unless there is a distinct nearby larger feature to use an attack point. Some small features should never be used, such as small pits, rotted rootstocks, and boulders that are below knee level. Your features for control sites can be small, but they must be distinct and easy to spot if you are in the control circle. Never test the orienteer's luck, only their skill.

Avoid dense areas for controls. Again, it is a matter of what is fair; are you requiring skill or luck? Finding even a distinct control point in the middle of dense vegetation places too great a premium on luck.

Start-Finish Location

Good terrain for White and Yellow courses, with plenty of linear features, often dictates where the Start and Finish will be. Most competitors like to have the Finish as close to the parking as possible. The first control must not be the same for any two courses.

Avoidance of Dog-legs

Leaving a control, there should not be a logical route that doubles back through the same area from which the control was approached. Why? Because competitor A may have competitor B just behind him, so that A reveals the location of the control as he is leaving it, thereby helping B. So it is at least potentially unfair. Dog-legs may be obvious or not so obvious. For example, the best route to a control may be along the base of a hill to a reentrant and then continue along the base of the hill. You have a dog-leg, even though the straight lines you use to connect the points on the map do not show this. To avoid

dog-legs, you can put in a short leg -- 100 to 300 meters long -- to move the competitor away from the previous control to the start of another long leg. A similar problem can occur if you use the same control on more than one course, if runners on one course leave the control in the direction from which the people on the other course are arriving. Avoid this as well. Under some conditions, it may be necessary to have a dog-leg, especially on lower level courses. Only use a dog-leg when the alternative is to make the course too difficult navigationally.

Avoidance of Dangerous Areas

Avoid having controls or optimal routes near dangerous areas such as cliffs, slippery rocks, areas of poison ivy, swift water or water that is more than ankle deep, and, of course, kudzu and other extremely thick vegetation. Remember, a White or Yellow runner may go into these areas accidentally, while a Red or Blue runner may be tempted to try a dangerous short cut.

Controls on Similar Features

Have no less than 100 meters distance between any two controls on different courses if the features are similar enough to be confused at all and no less than 75 meters between any two controls on different courses regardless of the feature unless you are using the same point on both courses. When clustering controls, give each their own little acre.

Control Placement

Controls should never be hidden. It is extremely frustrating for the orienteer to navigate a leg properly only to lose time searching for a hidden control. Remember, unless the clue information clearly implies otherwise, every control should be equally visible from all directions.

For White, controls should be visible from the trail or other handrail used to navigate. For other courses, the control feature should be seen first and then the control. In no case should the control be hung low enough to touch the ground and a control should never be hung below ground level. Err on the side of visibility.

It is fair, and often desirable, to block the view of the control by a mapped feature, especially where it is the control feature, such as a cliff, boulder, etc. But, be sure the feature is appropriately visible. It is hard to improve upon a control on the far side of a large boulder, seen first as the runner comes around the side. On the other hand, nothing is worse than a control hidden behind a log, bush or other vegetation obstruction, which punishes all but the lucky few who stumble upon it. If you cannot arrange it so the orienteer sees the feature before the control flag, let them see the flag first, never "hide" it.

Water Stops

Water stops, providing clean, fresh water in closed containers and paper cups (not plastic or foam) are required for all courses in all weather. The water stop should be approx. halfway thru the course, with water stops on longer courses at least every 3km.

Be Prepared to make Change in the Field

Check the planned control locations out in the field. Many controls are unsuitable due to map problems, changes in vegetation over time, new trails or other park improvements, etc. You will find that even on a good map, up to 10% of the controls selected "on paper" will have to be rejected and alternatives selected after checking them in the field. An alternate control can usually be found only a short distance away, so that the leg can remain intact. Have someone else look at the suitability of a control location if you are unsure.

Optimum Route & Distance Determination

Determine the "optimum route" that an orienteer would take on all of your courses. Measure its length in meters. Then count how many contour lines this route crosses going uphill. Multiply this number of contour lines by the contour interval in meters. This "climb" must not be over 4% of the course distance. Take the climb in meters, multiple by 10, then add it to the course distance. Use that figure to determine whether your course is the correct length. Make seasonal adjustments for weather effecting the orienteers' health.

Course	Course Length	Winner's Time
White	2-3 km	25-30 min
Yellow	3-5 km	35-40 min
Orange	4.5-7 km	50-55 min
Brown	3-5 km	45-50 min
Green	4.5-7 km	50-55 min
Red	6-10 km	60-65 min
Blue	8-14 km	75-80 min

Designing the Individual Courses

It is important to be mindful of certain overriding considerations when designing your courses:

1. Advanced courses, namely Brown, Green, Red and Blue, should be designed to be of equal technical difficulty and as technically difficult as terrain and map permit.
2. Lower courses, White, Yellow and Orange, must be designed to each fit their own distinct range of technical difficulty.
3. The correct design of lower level courses is as important as that of the advanced, perhaps more so, as these courses are essential learning tools for those who will eventually run advanced courses.

White Course -- 2 to 3 km (length plus 10 times climb)

Winning time 25-30 min.

The White course should be designed for people who may have no orienteering experience and have had only standard beginner instruction before setting out. Never make a White course too difficult. The purpose should be to achieve a level of comfort with map to terrain identification while navigating along linear features.

A White course must be set in a section of the map which has an appropriate sequence of linear features, where the mapping is absolutely accurate and where, preferably, there is an interesting variety of topographic features. An ideal example would be a small lake, which can be circumnavigated without fear of losing one's way and with the expectation of a good trail system and interesting features. Usually the area of the map having the most trails is best for White course location. White course orienteers should not need to get their feet wet crossing water features.

1. **An Easy Start.** Make the first two or three points particularly easy. This allows the competitor to get familiar with the map and encourages those that are tentative. The first control should be as simple as possible -- in fact, it can be visible from the starting point.
2. **Linear Features.** Keep every leg along well marked trails or a similar linear feature such as a road, stone wall, field edge, stream or the like. Place controls at points where the linear feature changes.
3. **Short Legs.** Generally the legs should be kept fairly short. It is better to have six to eight short legs than three or four long ones. On the other hand, don't use twenty legs each 100 meters long.
4. **Each control point should be on 2 map features.** Trail at the top of the hill, stream junction, corner of field. Large or very distinct features are preferable as they encourage map to terrain identification. Do not use contour features as control points unless there is no alternative. Rarely will a control be suitable for both the White course and any other course.
5. **Avoidance of vague and dense areas.** As with any course, the features you choose for control sites must be distinct; even large features can be vague, as for example the top of a large flat-topped hill. Pick precise spots, and place the control well visibly.
6. **Very simple route choices.** It is not necessary to have a route choice on a White course, but it is preferable, especially toward the end of the course. The options should be rather simple, which trail to follow, along the stream or along the fence line, etc. Remember, people on the White course may take routes that you would never dream of, so don't encourage any off-handrail route choices. Do try to come up with variety, following streams is an excellent alternative to trail, trail, trail.

7. Suitable Terrain. Generally, the terrain you use for a White course should be "friendly," with lots of good handrails, no excessively rugged features, and above all safe. No walking along cliff tops or slippery rocks near the river, etc.
8. Within the constraints of safety, both navigational and physical, all effort should be made to add interest and the opportunity to identify a variety of features on the map. Use distinctive features such as large boulders, cliffs, stream junctions and the like. Locate the control at such a feature, but be sure it (the feature or even the control) can be seen from the linear feature route choice. Make sure that there are no similar features nearby to confuse the runner.
9. Be sure to check the other courses to ensure that there are no nearby controls from them to confuse the White course runners. It is better that they cannot see controls from other courses that might pull them off course or cause them to mispunch.
10. If necessary, a leg can be run through the woods guided by streamers, but note this on the control description sheet. Have a control at the beginning and end of the streamered route.
11. No Real Need for a Compass. Avoid navigational problems that require the use of a compass. A White course should encourage map to terrain identification and discourage use of the compass with the exception of using it to orient the map.
12. Almost without exception, the ideal location for the White course constrains the Start area for all courses.

Yellow Course -- 3 to 5 kilometers (length plus 10 times climb)

Winning time 35-40 min.

The Yellow course is designed for confident teen and adult beginners and for experienced youngsters. It offers experience with the application of orienteering techniques, and the course designer should make an effort to involve as many fundamental skills as possible - compass, map reading, pacing, route choice:

1. **Basic Design.** Just as with White, it is critical that the Yellow course be set in an area having well-mapped, clear features. The basic difference from White to Yellow is Yellow takes the runner from the trail into the woods. Both White and Yellow follow linear features, but while the White route remains on the linear features, the Yellow route leaves and returns to them while visiting control points. The linear features used for Yellow course handrails can have small gaps or be less obvious than needed for the White course. Yellow can also offer a faster off-trail route, as long as it's in a relatively confined area with nearby linear features.
2. **Easy Course.** Yellow should still be an easy course. Confine the technical difficulty for Yellow to a rather narrow range, offering a wide variety of features to navigate by and the need to begin to use the compass to find the control point. Attack points for a Yellow course should be a feature suitable for White. Choose control sites that encourage Yellow course orienteers to return to linear features for route choices.
3. **Route Choice.** More than one route choice from control to control is important. You want to start testing navigational skills, and begin to introduce the need for contour reading, just being able to distinguish uphill and downhill is enough. Emphasize the need for following the map, but throw in a little compass work such as shortcuts through open woods, but only if the distance is relatively short, and provided that a catching feature exists.
4. **A variety of lengths of legs.** Vary the lengths of the legs, but tend toward keeping them short. Legs should be longer than White but short enough that they don't lose concentration.
5. **Distinct features for control points.** Use rather obvious features, such as top of a small hill, North side of pond, ditch junction. Avoid using reentrants or other contour features for control points. All control features must have nearby attack points on handrails and catching features.
6. **Control placement.** Control flags should not be visible from the linear feature used for the main handrail. However, control flags should be hung higher than for more advanced courses and visible once in the immediate control point area. Do not place control punches too high for younger orienteers to easily reach. Remember, many may have their control cards pinned to their chests.

7. Catching Features. There should be an obvious catching feature shortly after the control when approached from the attack point. Controls may be located on the catching feature.
8. Avoidance of Dense Areas. Never make the best route on Yellow go thru even medium dense vegetation. Remember you want to encourage map to terrain ID, not compass use.
9. Use of Compass. A leg where use of a compass will result in a faster route is appropriate, however, that the main use for a compass on the Yellow course should be to get from attack point to control. It is preferable to always have a reasonable route choice that minimizes compass use.
10. Shared Controls. The practice of sharing a leg or control with White or Orange should be avoided, only rarely will a control appropriate for Yellow be appropriate for another course. Because each of the three lower courses have a discrete range of technical difficulty, overlaps invariably cause compromise quality.

Orange Course -- 4.5 to 7 Kilometers (length plus 10 times climb)

Winning time 50-55 min.

1. Moderate but not extremely difficult navigation. The controls and best routes should invite the intermediate orienteer away from the strong linear features that the beginners must rely on. However, the penalty for navigational errors should not be extreme. An Orange control may be placed in an area of intricate small features, but only if there is at least one good attack point near by (preferably several) to help the competitors find it, and also a linear or catching feature nearby to which they can "bail out" if they become confused. Every Orange course control must have at least one obvious attack point and one obvious catching feature. If unsure, err on the side of too easy. Yellow to Orange is a big step.
2. Lots of Route Choice. Set a course that forces the orienteer to make decisions constantly. Make sure that the competitor must continue to pay attention and think in order to execute his choice properly. Handrails should be infrequent and can be subtle, for example a long reentrant. Force as much map to terrain identification as possible, with the orienteer picking off point features as he proceeds along his chosen route. Following linear features can and should be part of the route choice, but offer a faster off-handrail route whenever possible. Simplified contour reading should be encouraged.
3. Variety. For variety, easy legs near Yellow in difficulty should be mixed with challenging legs near Red. In addition, a mix of short and longer legs is desirable. It is important that the whole course contains as much variety as feasible. This variety should also cover control features, direction, route choice and navigational problems.
4. Control Features. The control feature should be fairly prominent, larger point and contour features. Use the main reentrant, not the small side reentrant. The hill top, not the small cliff face on it's side. Emphasize getting there, not fine navigation.
5. Compass and Pace Count. Legs requiring the use of compass and pace count should be limited to positional control legs and small stretches between attack points and control features. Avoid allowing long compass marches. The best routes should be those that require navigation via picking off features along the way and navigation along large contour and land features.
6. Difficult Controls. Avoid using difficult-to-find point features as controls. While some legs can be almost upper level in navigation, always use large obvious control features more appropriate to Orange level at the end of the almost-advanced leg. Control flags should be hung waist high and easily visible when at the control feature.

Brown, Green, Red and Blue Courses

Brown -- 3-5 km (length plus 10 times climb)

Winning time 45-50 min

Green -- 4.5-7 km (length plus 10 times climb)

Winning time 50-55 min

Red -- 6-10 km (length plus 10 times climb)

Winning time 60-65 min

Blue -- 8-14 km (length plus 10 times climb)

Winning time 75-80 min

The advanced courses should be set so that the very experienced orienteer is well challenged. However, the element of luck should be avoided. You cannot make an advanced course too difficult navigationally, but you can make it too miserable. Avoid misery and challenge navigational skill, use the intricate areas of the map as much as possible. The Brown, Green, Red and Blue courses all should be of the same technical level, the shorter courses are never easier than the longer ones. Special consideration due to age and physical limitations should be made for Brown and Green.

1. Start. Choose the Start for Brown, Green, Red and Blue courses with regard to proximity to a good White/Yellow course area with lots of trails and linear features.
2. Keep your course length reasonable, adjusting for especially hilly terrain, weather and thick vegetation. Never set a course to defeat a given orienteer, set all courses by the appropriate standards and challenge their navigation, not their physical limits.
3. Control Feature Size. If you put the control on too large a feature, it is usually very easy to find; therefore, the competitor does not need to use precision techniques. Too big a feature might be the top of a large hill, the edge of a large clearing, a point along a trail or stream (if there are any confusing trails or streams, this could be okay), etc. In fact, having a control within 50-75 meters of a big feature is probably too easy as well. Use small features -- boulders, cliffs, small reentrants, spurs and knolls, small marshes, depressions, etc. Make the orienteer navigate all the way to the control feature. If he is coming from the South, for example, place the control on the North side of the knoll or boulder.
4. Controls too close to attack points or collecting features. Placing a control soon after a collecting feature, for example, 100 meters after a road, will usually make it too easy to find even if the feature is small. Furthermore, the competitor will probably be able to run to the road without thinking, making the leg too easy. Instead, place the control some 200 meters *before* the road. That way the less skilled orienteer will have to cover the extra 400 meters if he must use the road to find his bearings. Collecting features are long features lying across the competitor's directing of travel, such as roads, large trails, streams, ridges, clearings, large marshes, etc. Make the competitor travel further in order to take advantage of attack points and collecting features. Don't make the direct route the easier route.

5. Lost Kilometers. Don't design a course with legs or leg segments that requires little or no thinking, merely physical effort. If a control is on top of a large hill, the leg becomes a hill-climb event instead of an orienteering event. If the control is placed right after a big collecting feature, the competitor can turn off his mind until he reaches the feature. If the best route is along a trail for several hundred meters, again the leg becomes a racing event requiring little or no thinking. Use short legs and positional controls to move the orienteer into more technical terrain or move the control site further away from larger and linear features.
6. Handrails. Try to avoid having the routes parallel to obvious linear features such as roads, trails, streams, fences or power lines. Keep such features more nearly perpendicular to your route unless the linear feature network is complex so that a parallel route will not simplify the leg significantly.
7. Attack Points and Catching Features. Advanced courses should not have controls placed too close to attack points or catching features. Make sure any attack points the orienteer with most likely use are either a good distance away or small or subtle. Require constant concentration.
8. Climb along the optimal route should never exceed 4% of the course distance.
9. Long Legs. Longer legs that avoid obvious handrails and test navigational skill and are lot of fun for the advanced orienteer. It's preferable to include at least one of these in every advanced course.
10. Route Choice. Maximize route choices and use of navigation skills while minimizing the luck element and the lost kilometers. The navigationally most difficult route should be faster than the "easy way around." The most physical route should never be the fastest. Offering multiple route choices that are hard to decide between is ideal. Avoid choices that go thru poorly mapped areas.
11. Variety. A good course offers variety in both controls and routes. The larger the number and the greater variety of navigational skills required to complete the course, the less luck involved, the more fun and challenge there is and the happier the orienteer. **Physical stamina should be rewarded, but not required.**
12. Brown and Green Courses. Some orienteers on these courses may have some vision problems and only limited stamina and strength. Overly physical areas should be avoided on Brown and Green. Maximize their test of orienteering skills, shifting as much as you can from physical to mental effort. Younger orienteers on Brown and Green will benefit more from the mental testing of their navigational skills as well.
13. Long-O. When setting Long courses, including Rogaines and Goats, the emphasis should be on long legs with lots of good route choices. Legs of one to two kilometers are appropriate if they can avoid lost kilometers problems.

General Procedures

1. Select the parking area, with nearby comfort facilities or arrange for portable ones.
2. Select a Finish area near the parking area, then a Start area not too far away.
3. Select your general routes for the White and Yellow courses. If there are no good routes for these courses, move the meet to another part of the map and start all over with #1.
4. Select general routes for the rest of the courses, always starting with the lowest level course and working up. Select tentative points for all courses after doing this.
5. Check your control sites in the field and move your points as needed.
6. All control sites must be correctly mapped features.
7. Make a map of corrections if needed, but avoid the necessity if possible.
8. Pick water stop locations for all courses that are easily accessible but follow guidelines.

Last But Not Least...

1. Place the controls where they are shown on the map.
2. The control flag codes must be as shown on the descriptions.
3. Have your master maps and control sheets ready to go before the meet starts.
4. Be available to talk with competitors after then run.
5. Have fun and make your courses fun for everyone.
6. Remember that beginners are equally important people.

Revised 2/28/2009

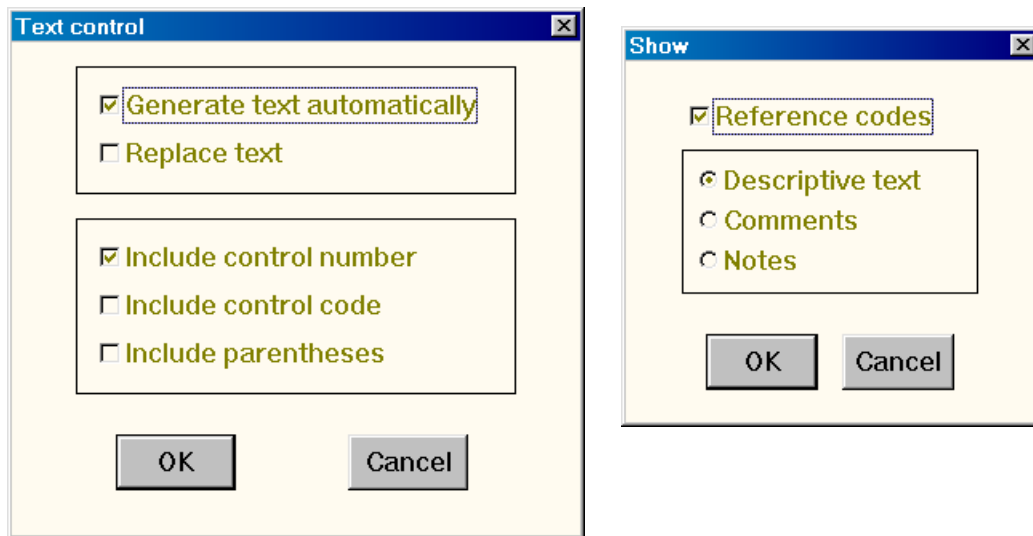
Course Set & Vet using Clue Program as an aid.

Plan your courses on paper. If you are unfamiliar with the terrain, select alternate control sites. Put master numbers on your master map for all control sites.

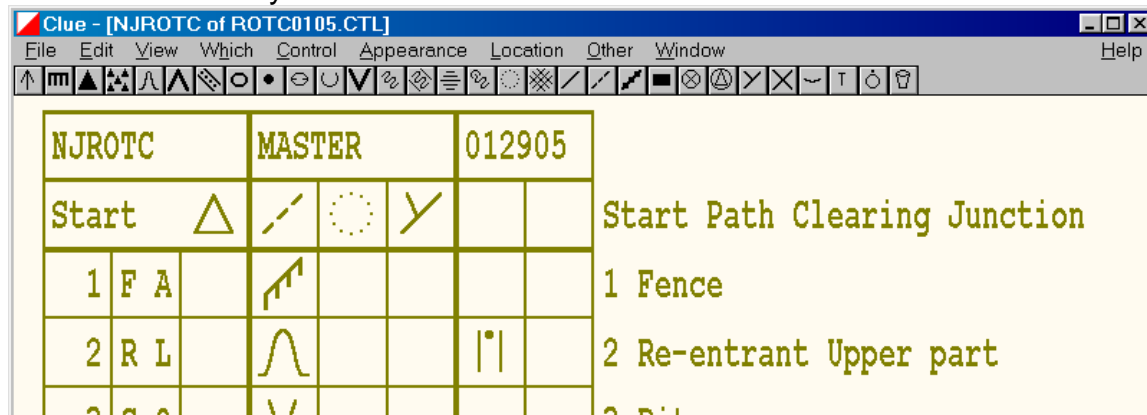
Use clue program to make a master clue sheet based upon the map. Add notes to each master control that states which courses use the site and the site from which each course, using the site, will come.

Print the master clue sheet with Detailed Descriptions and master codes. Print the master clue sheet with Notes and master codes.

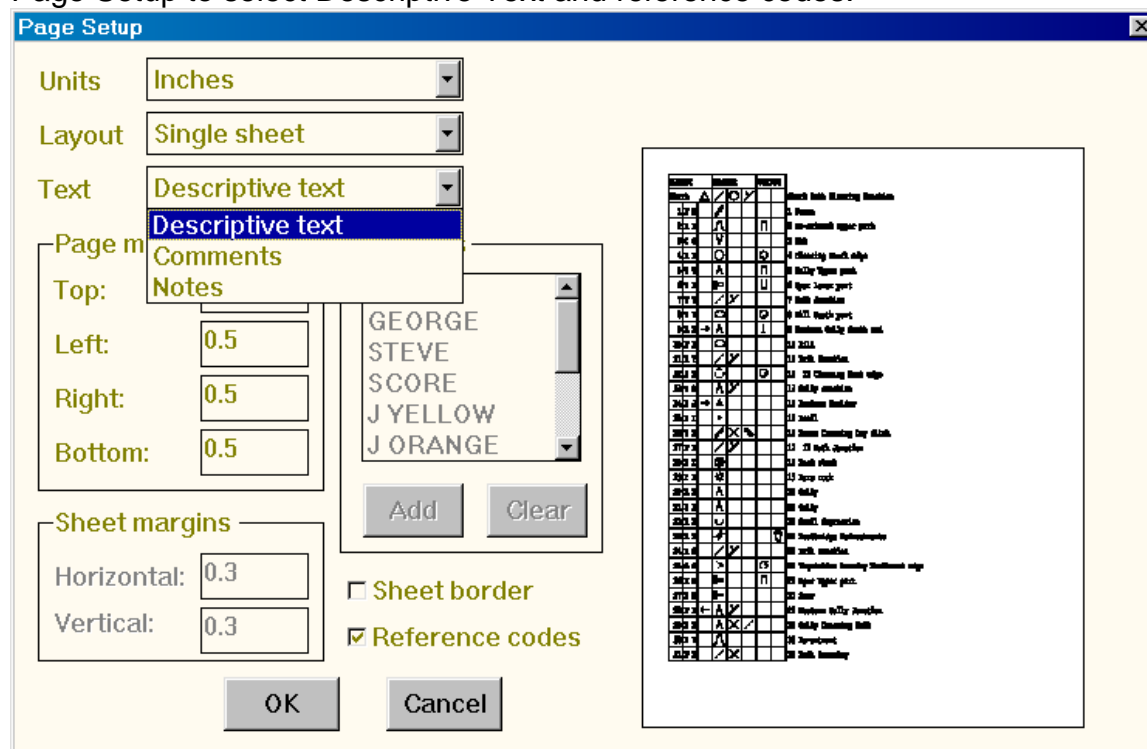
As you input your descriptions use the Edit pull down and select Descriptive Text. Choose Generate text automatically. To view the descriptive text with reference codes Use Views pull down and select Show and select Reference codes and Descriptive text



This is the screen you will see:



To print the same screen with the Descriptive text and reference codes, use File and Page Setup to select Descriptive Text and reference codes.



Use the Clue program to make master clue sheets, with descriptive text and master code. Make a second master clue sheet with Comments and master code. Use the Clue program to make clue sheets of the loops each setter will be doing during the course setting activities in the field. These could also be used for put out and pick up.

After the courses are set, print the individual course clue sheets and verify against the masters.

Registration Procedure

1. Early shift Registrars obtain their equipment and supplies from the meet director and set up registration:
 - a. Registration banner
 - b. Table & chairs
 - c. Tarps set up if needed
 - d. Sign-up/waiver forms with punch cards, nearby pens in cups
 - e. 2nd course punch cards
 - f. Clean maps & map cases
 - g. Control descriptions
 - h. Cash box with starter cash
 - i. Membership list and membership forms
 - j. Start time assignment grid
 - k. Announcements posted
 - l. Loaner/rental compasses
 - m. For sale items (t-shirts)
 - n. Masking tape, scissors, stapler & staples, calculator, trash bags
2. Registrar hands out sign-in forms and pens, indicates where to go to fill them out.
3. Registrar received completed form, check for completeness.
 - a. Name, address, phone, email
 - b. Check membership status and determine fees
 - c. Correct fees indicated on the form
 - d. Car information filled in
 - e. Course indicated, individual or group
 - f. Waiver is signed
4. Registrar takes money, hands participant map, map case, control descriptions, punch card, start time assignment off grid. Participant may be allowed to chose his/her own start time from grid.
5. Determine if the participant needs
 - a. Beginner instruction. Direct them to instructor or briefing area.
 - b. Loan/rental compass. Use collateral system (keys preferred). Instruct participants on the procedure for returning compasses.
 - c. Membership form (new or needs to renew).
6. Indicate master maps for those copying before they Start.
7. Indicate Start area and direct participants to show up 5 minutes prior to their Start time.

8. For 2nd course participants:
 - a. Give participant a 2nd course punch card and instruct them to fill it out with name and course.
 - b. Give participant a control description sheet for their 2nd course
 - c. Instruct participant to use their same map for their 2nd course but copy in a different color ink.
 - d. Remind participant they may not get their entire 3 hour time limit due to course closing time.
9. Shift change occurs smoothly supervised by meet director.
10. After Registration closes, late shift Registrars will close registration.
 - a. Pack up equipment and supplies, make a list of consumables that are low and give list to the meet director.
 - b. Return unused clean maps to the meet director.
 - c. Count money & checks in box, total fees from sign-up sheets and membership forms, sale/rental of other items. Fill in Money Reconciliation form. Place money, checks, reconciliation form, and membership forms in map case and give to the meet director.
 - d. Take sign-up sheets to the Results for SAR purposes.
 - e. Pick up trash, fold tables, chairs, tarps, return all equipment to meet director's car.

Start Line Procedure

1. Early shift Starters obtain their equipment and supplies from the meet director and set up the Start area:
 - a. Start banner, table, chairs, tarps set up
 - b. Mounted master maps placed in confined master map area
 - c. Waterproof red pens placed convenient to maps
 - d. Water and cups nearby
 - e. Start time sheets on clipboard, numbered consecutively
 - f. Black or blue pens for 2nd course copying
 - g. Post any Start announcements provided by meet director
 - h. Synchronize digital timers with Finish Line
2. As participants show up at their Start times, take their punch card and cut stub off punch card. Copy onto Start List: Number, Name, Course, and Start Time. Adjust Start time on both cards and list as needed. Return punch card.
3. Remind participants of 3-hour time limit or course closing time, as appropriate.
4. When Start time arrives, send participant into master map area. For those who have pre-copied, indicate "Go!"
5. Periodically send punch card stubs to Results. As Start List sheets fill, send them to Results.
6. For 2nd course participants:
 - e. Check to make sure 2nd course punch card has been filled out and they have the correct control descriptions for the 2nd course.
 - f. Instruct participant to use their same map for their 2nd course but copy in a different color ink. Be sure blue or black pens are available at the master map.
 - g. Remind participant they may not get their entire 3 hour time limit due to course closing time.
 - h. Otherwise handle as for first course Start.
7. Shift change occurs smoothly supervised by meet director.
8. When all participants have started, late shift Starters will clean up their area.
 - a. Pack up equipment and supplies, make a list of consumables that are low and give list to the meet director.
 - b. Take Start List sheets and punch card stubs to Results.
 - c. Collect master maps, remove from mounting, return to meet director.
 - d. Pick up supplies and equipment, pick up trash, fold tables, chairs, tarps, return all equipment to meet director's car.

Finish Line Procedure

1. Early shift Finishers obtain their equipment and supplies from the meet director and set up the Finish area:
 - a. Finish banner
 - b. Table & chairs
 - c. Tarps set up, if needed
 - d. Water and cups nearby
 - e. First aid kit, emergency contacts handy, First Aider identified
 - f. Finish Time sheets on clipboard, numbered consecutively
 - g. Black or blue pens
 - h. Synchronize digital timers with Start Line
2. As participants finish, one Finisher calls the time, including seconds, and the other writes the times, in order, on the Finish time sheet.
3. Take the punch cards, keeping them in order.
4. Direct participants to keep their map and move away from the Finish Line, point out water and cups. Direct any questions or problems to the CS or MD.
5. As time permits, write the participants number off the punch card next to his time on the Time sheet and write the finish time on the punch card. Do not calculate times.
6. Send the punch cards, with Finish times, in order, to the Results. As Time sheets are filled, send them to Results.
7. Direct any injured persons to the First Aider. Notify meet director of any serious injuries.
8. Shift change occurs smoothly supervised by meet director.
9. When meet director closes the Finish, take all remaining punch cards and partial Time sheets to Results.
10. Clean up Finish Line area.
 - a. Pack up equipment and supplies, make a list of consumables that are low and give list to the meet director.
 - b. Pick up supplies and equipment, pick up trash, fold tables, chairs, tarps, return all equipment to meet director's car.

Results Procedure

Note: For events using Epunching, reference separate Procedure document.

1. Early shift Results workers obtain their equipment and supplies from the meet director and set up the Results area:
 - a. Table & chairs, tarps set up if needed
 - b. Rope off out of bound area if desired
 - c. Prepare Results posting strings, stapler and staples ready
 - d. Laptop with Results program, power source
 - e. - or – (alternative system, manual time calculator)
 - f. Black or blue pens
2. Receive punch card stubs and Start List sheets from the Start Line.
3. Enter number, name, course, and Start time into computer off Start List sheets.
4. As time permits, put punch card stubs in number order.
5. As you receive punch cards and Time sheets from the Finish, use number to find participant's entry in the computer and enter Finish time. Verify the name from punch card.
6. If checking punches, verify correct punches.
7. Enter OK, DNF, etc. into computer and allow calculation.
8. Locate punch card stub and put elapsed time on the stub. Hang stub by course and time.
9. Periodically check for participants out over 3 hours and notify meet director.
10. Shift change occurs smoothly supervised by meet director.
11. When Finish closes, meet director may assign Results duties of Finish Line for stragglers.
12. When all participants' Results have been calculated, notify meet director.
13. Clean up Results area.
 - a. Pack up equipment and supplies, make a list of consumables that are low and give list to the meet director.
 - b. Pick up supplies and equipment, pick up trash, fold tables, chairs, tarps, return all equipment to meet director's car.

Beginner Instruction Procedure

1. Early shift Instructors obtain a copy of a clean map and consult meet director for location of Beginner instruction area.
2. Consult with course setter and master maps for any specific instruction needed for today's courses.
3. Consult with meet director for any deviations from usual meet procedures so you can instruct accordingly.
4. Make sure Registrar knows you, the location of the instruction area and directions Registrar should give participants needing beginner instruction.
5. Coordinate the start of Beginner instruction sessions with the meet director.
6. Welcome newcomers and introduce yourself. Explain there are different levels of course difficulty and the level they will be doing today. Explain any special park rules or other considerations they need to be aware of.
7. While giving beginner instruction, pay attention to the reactions you are getting, you don't want to bore anyone, but you really don't want to lose them by either going too fast or going into too great detail. You don't have to teach them everything about Orienteering, only enough to get them started. Be flexible and adapt your instruction to the group you have.
8. Explain the Orienteering Map:
 - a. Reading an Orienteering map involves map to terrain identification, using the natural aspects of the land as well as the man-made objects they will see on their course.
 - b. Point out that the Legend is the explanation of the symbols used on the map.
 - c. Point out the Scale and shows the proportion of the map and how to use the map scale for measuring distances.
 - d. Point out the Contours. Explain they are lines of elevation and several lines viewed together form hills, valleys, and re-entrants.
 - e. Point out the Contour Interval. Explain it is the difference in elevation between any two contour lines and how they can use to determine climb and steepness.
9. Have the students look at the map and identify and practice Map to Terrain Identification by looking at their surroundings and finding them on the maps.
 - a. Explain basic navigational route choice, taking trails instead of going straight line.
 - b. Explain Attack points and Catching features.
 - c. Explain holding and folding the map, keeping a thumb on present location.
 - d. Explain Relocating for when they lose track of their location on the map.

10. Explain the 3 Parts of the Compass and what they do:
 - a. Magnetic needle -- the red side always points North.
 - b. 360 degrees dial with North arrow -- the dial turns to line up North on the compass with the magnetic declination lines on the map.
 - c. Base plate with direction of travel arrow -- lines up the compass with the desired route on the map.

11. Explain How and when to use a Compass.
 - a. Using the Compass for Map Orientation.
 - b. Using the Compass for taking Headings.
 1. Lay the compass on the map with the long side edge of the base plate along the intended route on the map with the direction of travel arrow pointing toward the destination.
 2. Holding the base plate still, turn the dial until the North arrow on the dial is parallel to the magnetic North lines on the map.
 3. Your compass is now set. Pick it up and hold it with the direction of travel arrow pointing in front of you.
 4. Turn your body around until the red end of the magnetic needle is over the North arrow inside the dial on the compass; keeping the needle over the arrow, follow the direction of travel arrow to your next position.
 - c. Explain when to use the Compass for Map Orientation and when to use it for taking Headings.

12. Pacing. Explain Pacing and when to use it. Explain how to determine your pace:
 - a. Mark off a distance of 100 meters.
 - b. Count your strides for this distance, first walking, then running.
 - c. Using the ruler on your compass base plate and the bar scale on the map, you can convert this pace to any distance on the map.

13. Explain basic procedure.
 - a. Copy accurately onto your map the locations of the control point markers using numbered circles. The triangle is the Start!
 - b. For safety, always go thru the Start line and turn in their punch card stub.
 - c. If you go out in a group, stay with the group, do not split up.
 - d. Navigate to each circle on the course in numerical order, find within the circled area the control marker, check the code on the marker for identification, punch the card with the coded punch, then navigate to the next control point, etc. until you reach the Finish Line.
 - e. Check in at the Finish Line by the 3 hour time limit (or course close time if sooner) even if you have not found all the control point markers.
 - f. Have fun!

14. Locate course setter so that you can point him out to beginners with specific course questions. Try to answer general questions yourself.

15. Once you have done your first session, wish your students well, locate next group waiting and begin another session.

Course Setter Responsibilities during the Event

1. Prepare for control pickup with pickup tote bags, pickup maps, plan for retrieving all water, cups and vetting tape.
2. During the event, be prepared to discuss courses with participants and handle any course problem which arise.
3. At course closing time, check with MD to see if he needs pickup team to search for missing participants.
4. Brief control pickup team
 - a. Any missing participants to look for as they pickup controls.
 - b. Demonstration how to tie controls, punches, and codes for storage.
 - c. Give instructions for segregating controls if they are wet, muddy or in need of repair, instruct them to check punches for damage.
 - d. Pass out control pickup maps and make pickup assignments
 - e. Instruct pickup team on when to meet back at HQ, finished or not.
5. As control pickup team returns, verify each control returned against master Clue program list or other master control sheet list.
6. Confirm with pickup team that all water stops, trash, and vetting tape are out of the woods.
7. Segregate unopened water jugs and unused paper cups and return to meet director. Discard used cups and drain and discard opened water jugs.
8. Pack up clean, dry controls and return to meet director.
9. Separately bundle controls needing repair to be brought to the attention of the Equipment manager and give separately to meet director.
10. Consult with meet director on the handling for wet and muddy controls. All controls must be returned by meet director to Equipment manager clean and dry.
11. Do not leave event site until everyone has returned, site is clean and meet director is also leaving.

Search Party Planning Procedures

The first rule of being a rescuer is to be sure you do not need to be rescued. Make sure all plans you make are doubly safe for the searchers and there is a high level and frequency of communication between every searcher and the search director.

Preventing the Need for a Search Party

1. Advise all participants of the 3-hour time limit and the close closing time. The course closing time should be at least 3 hours before dusk.
2. Orienteers should only be permitted to try more difficult courses after success on lower courses. Stress before the competition starts that, if lost, a person should stay on any trail that they come across and attempt to relocate themselves.

Organizing and Conducting a Search

1. Search procedures must be organized and prepared for quick implementation prior to the meet. A search party equipment kit should be assembled and placed at the disposal of the Meet Director at the Finish area before the start of the competition. This kit should contain at least the following:
 - a. Emergency First Aid equipment
 - b. Flashlights with spare batteries for each searcher
 - c. Map showing local roads
 - d. Walkie-talkies or other communication
2. Initial suggestions to determine if a search is necessary:
 - a. Check control card stubs or Start list to see who has not checked in at the Finish.
 - b. Check with club members and friends to see if the person has completed the course, dropped out of the event.
 - c. Check vehicle information to see if the person has gone home.
3. The Meet Director should specifically designate an SAR person in charge who will be responsible for the conduct of a search. If an Orienteer is missing:
 - a. Check with the competitors on the same course to see if, when, and where the person was last seen in order to reduce the size of the area to be searched.
 - b. Only good orienteers shall be assigned as searchers.
 - c. The SAR in charge issues firm, positive orders, e.g. assigning search teams to search well-defined areas. Maps of surrounding areas should be available.
 - d. Establish searcher time limits for control and accountability of all search personnel.
 - e. Make a name list of all searchers dispatched.

Note: Experienced orienteers who become disoriented or injured can be expected to make rational decisions, e.g. rough compass to road and follow road in direction of Finish;

or, if injured, remain at a control marker. Inexperienced orienteers are more likely to keep wandering if lost and then pay little attention to the map.

4. If someone has failed to check in because he is lost or has had an accident:
 - a. Check all roads and trails the person is likely to cross or follow on that particular course.
 - b. Two good orienteers follow the course upon which the missing person started. One person follow numerical order of points, the other go in reverse order. They should agree where to meet.
 - c. Check the areas where it is possible that the person could have strayed from the course.
 - d. Check all control locations on other courses, especially near the person's assumed route.
 - e. Several searchers executed a planned sweep procedure of the area mapped.

Night Search. If a night search is required, the park authorities or landowners should be notified prior to nightfall. Follow their guidelines and provide any needed maps to any searches the park authorities bring in.

Meet Director's Resources Page

USOF Website: <http://www.us.orienteering.org>

Clue Download:

<http://www.dvoa.org/events/evdir/clue/index.php>

IOF Control Descriptions:

[http://www.orienteering.org/i3/index.php?/iof2006/content/download/830/3903/file/Control Descriptions 2004 symbols only.pdf](http://www.orienteering.org/i3/index.php?/iof2006/content/download/830/3903/file/Control%20Descriptions%202004%20symbols%20only.pdf)

OCAD Mapping Software: <http://www.ocad.com/>

Purple Pen Course Planning Software: <http://purplepen.golde.org/>

Orienteering Event Equipment Check List

REGISTRATION

table & chairs
shelter for rain protection
sign-in forms
extra punch cards
loaner compasses
money calculator
maps
money box
starter cash (from Treasurer)
membership list (from Secretary)
start time assignment grid
2 dozen waterproof blue or black pens
cups for pens
masking tape
stapler, staples
trash bags
map cases
registration banner, club banner
club membership applications
USOF membership applications
Club schedules
Announcement boards
control descriptions
items for sale
money calculation forms

COURSE SETTER

vetting tape
planning maps
control codes
control descriptions sheets
or Clue program
control markers with
punches & codes
control tote bags
water jugs
paper cups and trash bag

START LINE

table & chairs
rain protection
masking tape
scissors
start time sheets
clipboard
black or blue pens for timer
master maps on boards
2 dozen waterproof red pens
start banner
digital start timer

FINISH LINE

table & chairs
rain protection
digital finish timer
finish time sheets
clipboard
black or blue pens
master punch codes
finish banner
water, paper cups
trash bags
first aid kit

RESULTS

table & chairs
rain protection
manual time calculator
or laptop with results program
strings for posting results

Local Orienteering Event Money Reconciliation

Date _____ Location _____

Cash Box Breakdown:

Starter Cash for Change \$ _____

Received at this event:

Total Cash Received \$ _____

Total Checks Received \$ _____

Total Received \$ _____

Starter + Received \$ _____

Expense Receipts paid \$ _____

Starter Cash Removed \$ _____

Net In Box \$ _____

Cash Breakdown:

Entry Fees: \$ _____

Memberships \$ _____

T-shirt sales \$ _____

_____ \$ _____

Total Cash Received \$ _____

Check Breakdown:

Entry Fees: \$ _____

Memberships \$ _____

T-shirt sales \$ _____

_____ \$ _____

Total Checks Received \$ _____