

Teaching Orienteering Technique

Beginners Levels



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Swedish title: Orienteringsteknik – att lära ut på grön till gul nivå and Orientera i skolan.

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Special Edition for O-Ringen Academy

Part 1

Orienteering Technique

Beginners Levels

Based on the swedish book *Orienteringsteknik, Att lära ut på grön till gul nivå*
by
Peter Junevik & Lotta Yttergren

Part 2

Orienteering Exercises

Based on the swedish book *Orientera i skolan*
by
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Layout by Hollowhead, Branding & Marketing

Green Standard

The green standard is orienteering for beginners with the simplest form of map reading. The courses primarily follow paths and tracks or other obvious line features. The controls on a green standard course are always placed on line features.

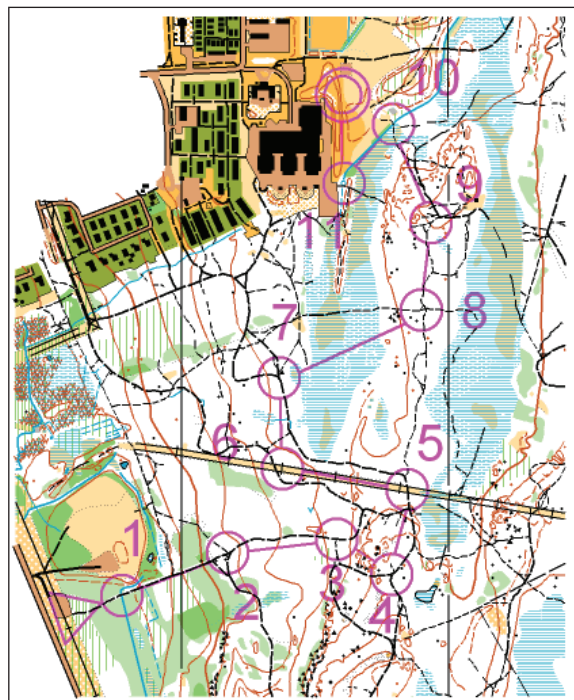
The aim of the green standard is about the importance of understanding the map and learning the different colours and symbols and what they represent. We can also introduce how a map is handled, for example by folding the map and using your thumb and how you use the compass as a map aid.

Green standards key points and practical tips:

- Understanding the map is about understanding the language of the map, through colours and symbols, and realising that it is a generalised, representation of reality.
- Managing the map by having it correctly orientated in relation to reality.
- Using a line feature as a clear and safe “guide” in the terrain that is easy to follow, for example a road, a path or the edge of a field.
- Line feature orienteering is about following line features in the terrain.
- Folding the map. To make the map more manageable it is appropriate to fold the map to a more convenient format and only have a few legs visible to you.
- The thump grip means that you hold your thumb where you are on the map so it is easy to see where you are.
- Make sure that the start point is placed so that the runners have a safe start without ambiguity. The start point should be placed so that it makes managing the map easier.

The aim for the green standard

The runners should be able to complete a course with a difficulty grade according to the map picture below and they should have understanding of the concepts related to this standard. The runner should be able to easily complete green standard courses even in new unknown terrain.



A green course with three different difficulty grades. When the runner comes to the first control there are “no” other alternatives than to continue along the given direction to the next control. This is the easiest difficulty grade. The next grade is when the runner comes to control 3. Then he/she needs to know that they are required to change paths at the control. The green standards most challenging element is to successfully complete a path change between two controls, see leg 3-4. A leg can be made more difficult by having a few path changes throughout the leg, see leg 6-7. A green standard course follows clear line features all of the time. This course follows paths, power lines and streams.

Understanding the map

If the runner does not understand the “language of the map” then they have no chance of orienteering with help from the map. The road to understanding the map goes from simple outlines of small areas via the use of map symbols and larger areas and finally takes us to the use of an orienteering map.

The map is a representation of reality written by a map drawer. If two different map drawers draw a map of the same area the maps will not be identical. You can not always say which of the maps is more correct as this lies in every readers understanding of how the terrain should be represented.

To know the maps colours and symbols is an important piece of the puzzle when understanding a map.

To realise that the map with a scale of 1:10 000 has been reduced 10 000 times and is “drawn from above”, meaning that it is

seen from a birds perspective, is an important step towards understanding the map.

There are various different methods for training someone to understand the map. As an introduction you can take a picture from a high location and together with your runners draw a diagrammatic map of what the photo shows. This method shows that a map is a representation of reality and shows how the terrain section looks from above, from a bird’s perspective.

It is good to show different grades of reduction of the same area so that you can see different varieties of maps. The more the map is reduced, the more the map is simplified, showing fewer details.

Now the children have hopefully understood how a map works and it has become possible to make the next step over to a normal orienteering map in a scale of 1:5 000 or 1:10 000.



The map is a reduced version of reality seen from above.

Activities for understanding the map

Models

Make a model of a landscape, for example with Lego, including houses, roads, paths, lakes and much more. Then try to draw a map of this landscape, either alone or with others to help.

Build a landscape

Build a mini landscape out in the terrain and draw a map at the same time. Mark out a small area, about 1m x 2 m. The leader starts with a blank piece of A4 paper and gradually draws in houses, roads, paths, boulders, streams etc. For each new object on “the map” the group look for something appropriate that can be placed out in the marked landscape. Keep building and drawing until the map feels finished. So that as many in the group as possible are active in the exercise the group should not consist of more than 5 people. Mark out a few different areas.

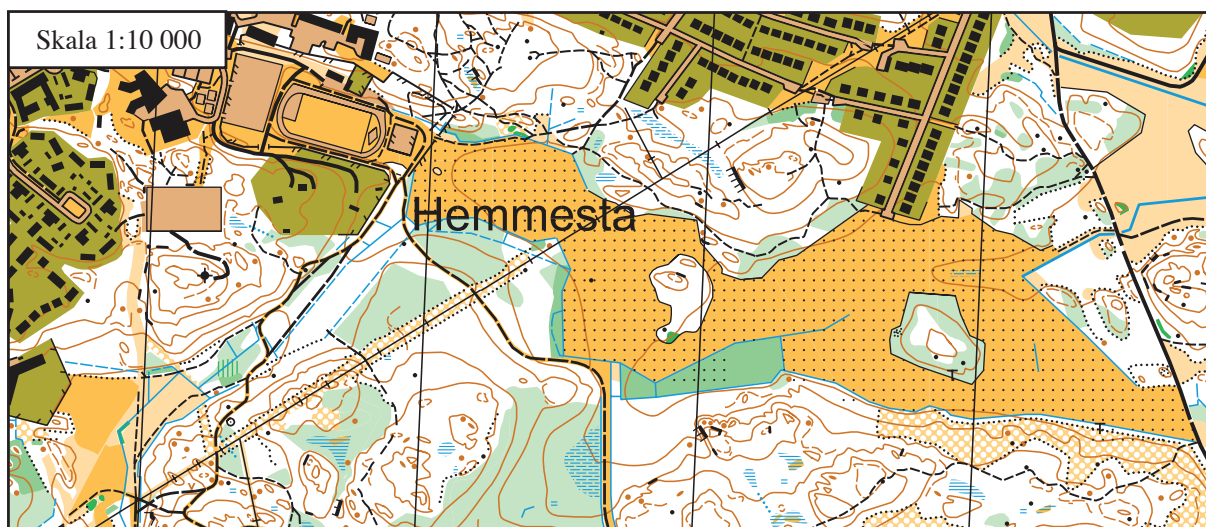
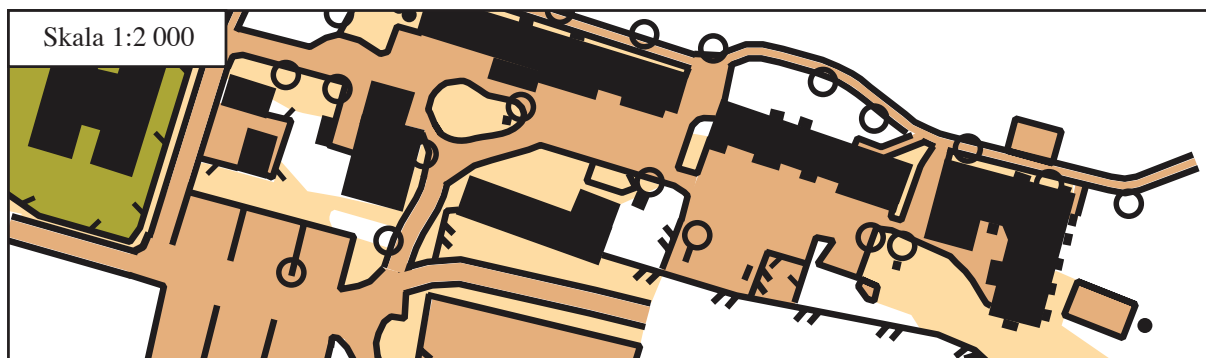
As a variant to this exercise the children, in smaller groups, can build their own mini landscape and draw their own map of this. They should build the landscape and then draw the map.

Draw your own map

The next stage for improving their understanding of the map is to let the participants draw their own sketches and maps of a room, a sports hall or a designated outdoor area, for example a garden or the area around the club house.

Pairs-Treasure hunt

The children should set out “treasure” for one another, for example toy money or toys. They should set these toys out in the area around the club house. On a simple map of the area they mark where they have placed the toys. Then they pass the map to their partner who then needs to find the “treasure”. If someone does not find the “treasure” they should go together and see if it has been set out in the wrong place or if the friend has been looking in the wrong place.



The orienteering map and its content

In order to understand and read a map you need to know what the different colours and symbols mean.

The maps colours

The colours used on an orienteering map are blue, yellow, black, white, brown and green.

These colours are shown as symbols and in different shades and forms and with this build the picture of an orienteering map.

The map symbols

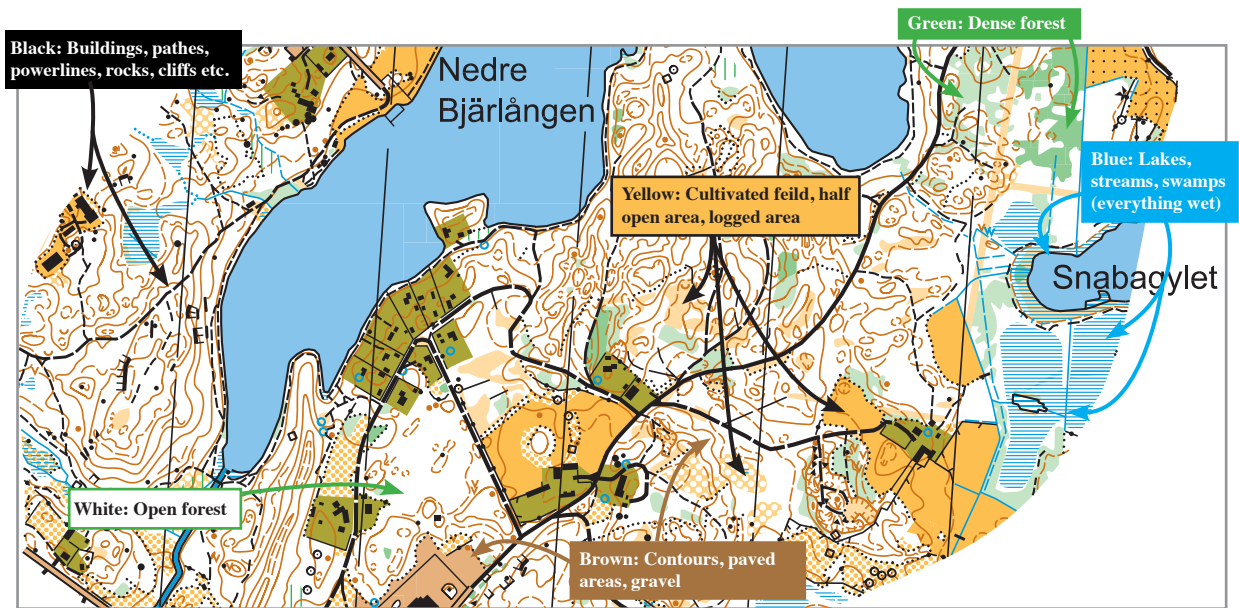
When you talk about the colours on an orienteering map, the obvious progression is to talk about the different map symbols.

Look at which symbols are most commonly seen on your local maps. Start by teaching the runners the symbols they will come into contact with. Then progress with

You can help teaching the colors of the map by using colored pens and paper while explaining. Drawing and writing about the colors will help the children learn.

all the other common symbols..

In order to be clear and use different senses when learning map symbols you can let your runners be nature detectives. As nature detectives they will feel and experience the different map symbols in reality. For example this can involve climbing up onto a boulder, examining a stream, following a path, walking out into a marsh etc. You can even visit small boulders and unclear paths that are not shown on the map and explain what the difference is between them and the



White = Open forrest



Blue = Water related features



Brown = Most often has to do with levels. It can be hills, pits etc. Also used to mark gravel and asfalt areas.



Yellow = Used for open areas like cultivated feilds, logged areas, feilds etc.



Green = Dense forrest. The difficulty of running is shown by the darkness of the green. A dark green area is hard running while a light green area slows you down.



Black = These details are often man-made like roads, trails, powerlines, stonewalls, houses etc. Also rocks and cliffs are black on the map.

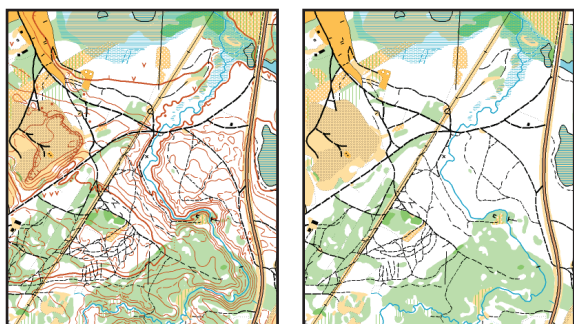


Green/Yellow = This stands for private grounds like yards.

other larger, more obvious, features that are shown on the map.

Through a map walk, when you visit the different terrain features together, you can learn about the area that you will be working in and gain a sense of safety in the area.

A map that is too detailed can lead to problems with the runners reading the map. As children of a green standard do not use the contour lines to orienteer by it can be helpful to take these off the map at the beginning. For someone who can use a map drawing program this is a simple task. You can even make a map easier to read by enlarging it.

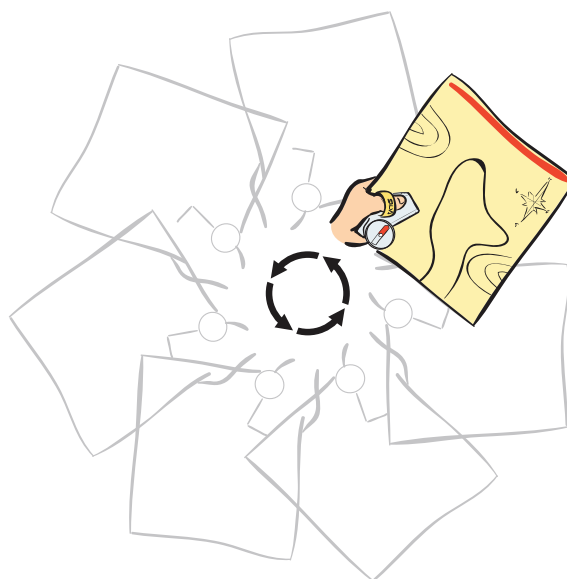


After the introduction of map symbols the runners have the appropriate tool they need in order to read the map. Reinforce this learning with different activities, for example symbol memory and a map symbol relay. For these activities you can make your own material or you can buy the material from SOFT or SISU Sports books (Idrottsböcker).

Remember to laminate the material so that it withstands wet weather and therefore is more durable.

Orientate the map to reality

Regardless of an orienteer's skills standard they all orientate the map so that they can read it. If the map is not orientated then the map's picture will not match reality.



To orient the map is one of the most basic features in Orienteering.

The concept of this includes “holding the map correctly orientated in relation to reality”. This means that something that is in front of the runner in the terrain is also in front of them on the map.

To orientate the map is also one of orienteering's most fundamental concepts. Every time a runner changes direction in the forest the map also needs to be re-orientated and this happens many times during an orienteering course. If beginners do not learn the importance of this element from the start they will experience problems as they learn to orienteer.

Start simple

Before you begin to orientate an orienteering map with reality it is good to start with a simpler map or sketch. It is easiest with a sheet of A4 paper that represents a rectangular room. If you introduce an orienteering map too soon, when their ability to think abstractly is not appropriately developed, it could lead to problems.

Those who have learnt how to orientate the map are now ready for an orienteering leg on their own.

Activities for understanding map symbols

Map walk

All runners have their own map. It is appropriate to mark the route you plan to take onto the map with a broken line. This makes it easier for the runners who find it hard to keep up with the map and terrain. Compare the maps colours and map symbols with reality as you pass different features. This is made easier if you have a few leaders so that you have time to explain what you see, on both the map and in the terrain.

Map symbols along the route

Follow a marked course or another unambiguous route. Go individually or in pairs. Place signs along the route with facts about the feature that is being passed. The next session you can replace these signs with questions instead of facts on the signs which require the runners to describe the features.

An example factual sign:

Now you are standing next to a crag. This is marked on the map as . In order for it to be on the map it needs to be larger than 1.5m (sometimes the height of a crag can vary depending on where you are in Sweden)

An example question sign:

Draw the symbol for this depression. Do you know any more symbols for a depression? Draw these as well.

Map symbol relay

Split the runners into two teams, each with their own set of map symbols. Have the team stand around the symbols and in turn find the different symbols. The first runner will be told which symbol they need to find, for example a boulder. When the runner has found the right map symbol for a boulder they run one lap around the team and return to their place. They then turn the card over again and the next runner can start looking for the next symbol. The relay goes on until the team come back to the first symbol again.

The snake

Use the same cards as used in the relay. The cards are dealt out among the participants. The person who begins looks at their card and says: - I have a boulder. They then turn the card over to find another feature, for example a power line. They then ask: - Who has a power line?

It is then important that all other participants concentrate and look at their cards. The person with a power line then takes over and answers, before turning their card over and asking after the next map symbol. This activity goes on until all cards have been used. As with the relay it is obviously an advantage if all participants can see all of the cards and therefore they can help and teach each other.

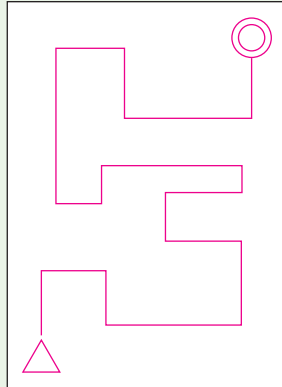
Map symbol memory

The participants sit around a table or outside and play memory. The cards have pictures of map symbols on. When someone finds a pair they must be able to correctly identify which symbol it is in order to win the pair. The game continues until the final pair is found.

Activities for map orientation

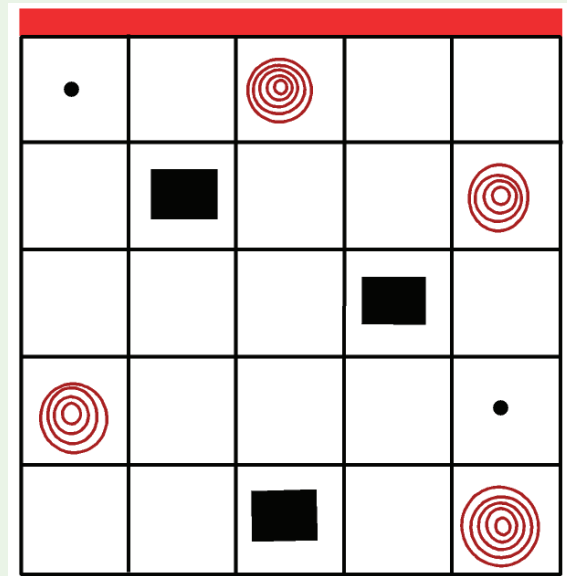
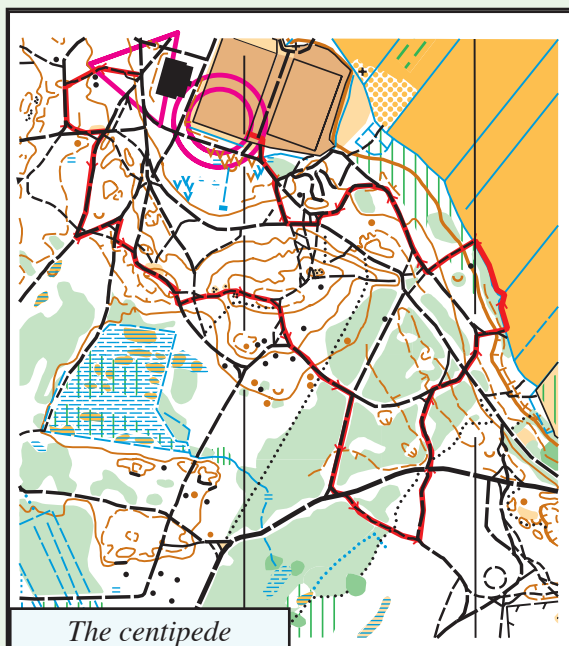
Labyrinth

Draw a sketch of a labyrinth on paper and give this to the participants. See the example below. Mark out a labyrinth in reality to match the map. Then one of the participants follows the labyrinth. When the labyrinth turns the participant must re-orientate the map so that it matches reality. Make sure that there is an appropriate gap between the participants so that they have the opportunity to complete the exercise themselves.



The centipede

Carry out a map walk where you walk in a line and follow different line features that fork off. At the beginning the leader talks about what is on the left and what is coming up and reminds the runners about turning the map with direction changes. After a while the leader starts asking the runners' questions and checks that the runners have their maps correctly orientated.

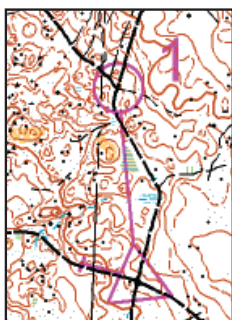


Follow the line in a grid

Draw a grid on A4 paper. Mark out the same grid in terrain, with tape for example. Set out some features in some of the squares and mark these onto the map. Draw a line that follows the squares and let the children follow this line from the start to the finish. With every turn in the grid it is important that they change the orientation of the map so that it fits the grid in the terrain. In order to avoid a queue along the line you can mark out a few different lines in different colours with different start and finish points.

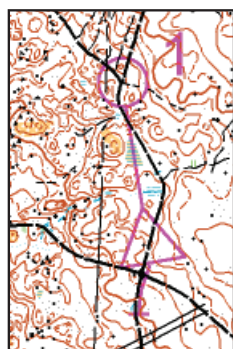
The flower hunt

Use the same idea and grid format but set out flowers along the line. The runners need to keep their map orientated and count the number of flowers along their line.



The choice of the start point is important. If the runners come in from the west to the start point there is a high risk that they will continue straight on to the east despite orientating the map with north.

If the start point is therefore placed a little further along the path to the north, or if the starting place is moved to the south of the start point the runners will find it easier to orientate themselves correctly.



Start, control and finish

In competitions, and most training, courses are marked with a start, controls and a finish and always in the same way. The start is marked with a triangle. Think about placing the start point in an obvious place so that the runners can get into their orienteering easily. The controls are marked with a circle where the kite and control point are always in the centre of the circle. The finish is marked with 2 circles.

If the controls are numbered, which they always are in competitions, the controls must be taken in their correct number order.

Sometimes other exercises can be carried out, for example score orienteering, when you are free to choose which order to take the controls in.

With some exercises there is not space for both the start and finish, for example star orienteering or three leaf clover orienteering where the start and finish are in the same place, and therefore the finish can be left off the map and only the start drawn on.

Fold the map

The maps used for green standard courses are rarely larger than A4 size. But even if the

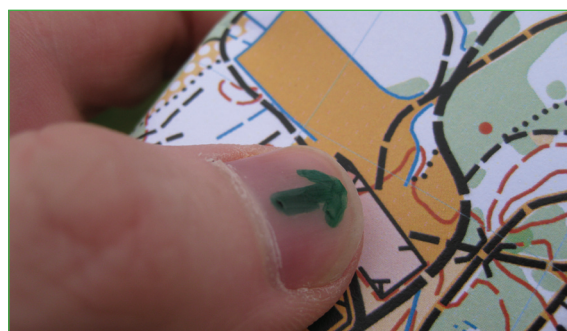
map is relatively small there are advantages of folding the map to an even more manageable size. There will be less information visible and the runner will find it easier to focus on the correct leg or legs to come. A folded map doesn't get caught as easily in bushes and branches when you run either. It will also be easier to hold and as it will be thicker it is harder to drop. To fold the map can take some time if the runner is not used to it, therefore it is necessary to practise this before it can be done at speed.

We recommend that the map for younger runners should be about A5 size and should be placed in a map bag/plastic wallet.

Thumb grip

When one or more legs are visible and the map is appropriately folded you can focus on where you are on the map, mostly by the runner holding their thumb in the correct place. When the runner has a longer leg with one or more line feature changes, they need to move their thumb after passing the different points on route to the control. In order to reinforce the importance of the thumb grip you can draw an arrow, which clearly points to where you are, on the thumb nail.

The thumb grip and a folded map also make it easier to manage the map. In your role as a leader it is important that you reinforce these with your runners early. To start training map folding and thumb grip later, once the runners have already developed their own preferences, can feel uncomfortable and wrong to the runner when they start to learn again. When the orienteering itself is easier it is easier to teach, and learn, these skills.



Activity for learning map folding and the thump grip

Map folding relay

The relay can be used as an enjoyable way to learn to fold the map quickly. Draw a course with many controls onto a map. Runner 1 has to fold the map for the first leg, hold their thumb on the leg and run a short distance and show the leg to a leader. Then the map is exchanged to the next runner in the team. Runner 2 has to fold the map to show the next leg before running to the leader. When the final leg is visible the whole team sprints to the finish. Carry out this exercise in smaller groups so that each person is required to fold the map and run a few times.

Following clear line features

Orienteering at the green standard is often called line feature orienteering. The runner should be able to orienteer using line features in the terrain.

Clear line feature

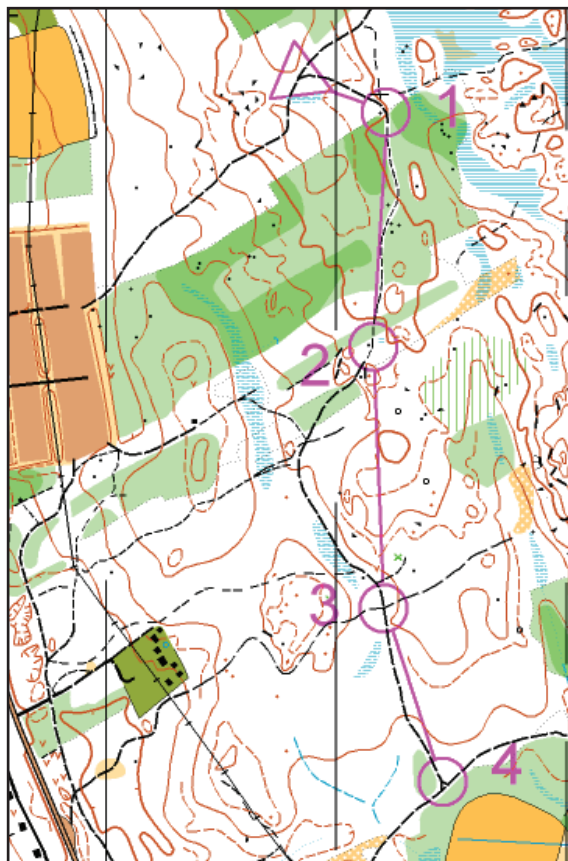
A clear line feature is the term used for a path or a road i.e. something that is easy to follow in the terrain. Other map symbols that can be used as line features include the edge of a field, streams, fences and power lines, to name just a few that exist at this standard of orienteering. The most important thing with the green standard is that the line features are obvious. Think about how certain line features can be unclear not only to children. It can be an unclear path or a power line that passes through thick forest. As leaders it can be useful if you check the line features you plan to use before the training to ensure that they really are obvious.

The easiest level of line feature orienteering is, for example, following a path in a given direction. When the runner comes to a control they are required to continue in the same direction. This is usually completed well.

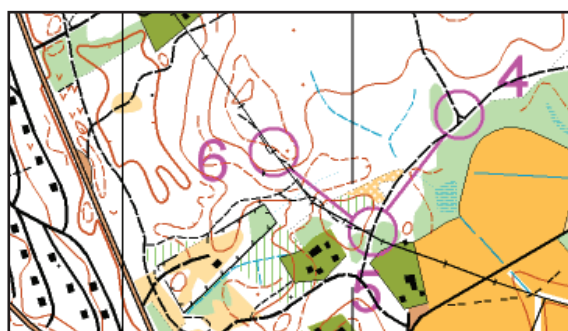
The next grade of difficulty is sometimes difficult for those who move faster and

haven't the time to think about where they need to go next when they come to the control. This is problematic when the runner is required to change line feature in order to get to the next control.

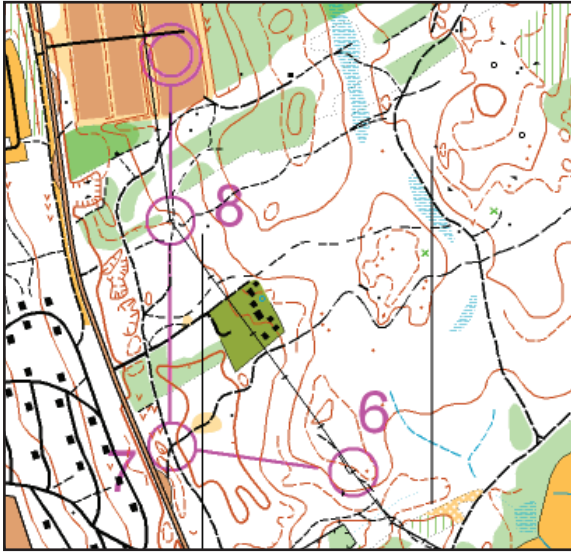
The most difficult they are required to complete on a green standard course is to complete a leg that has one or more line feature changes between two controls.



Controls 1 – 4 show the simplest stage of the green standard where the runner just follows the path forwards.



The next stage is to have a line feature change at the control, for example at number 5 where the runner needs to change line feature, from the path he/she has come along to following a power line from the control.



The last stage is the line feature change between controls, see legs 6 – 8. Between 6 and 7 the power line leads to the path but as there is no control at the crossing the runner needs to complete both a change of line feature and direction.

Advance planning

To make a line feature change during a leg assumes that the runner has looked at what is going to happen in the terrain. Advance planning is often talked about in orienteering. When you, as a leader, introduce the concept of changing line features between controls to your runners they should be aware of what they need to do before running from the control and starting the leg.

As a leader you can talk through the leg with them or let them tell you how the leg should be carried out before it is run. This is the first step towards a route plan. The runners should also conduct an “inner conversation” with themselves about the best way to carry out the leg and about the solution to the legs challenge before they begin to run it. This allows the orienteering to flow.

Learning from your mistakes

The feeling of being wrong is never nice. It is good to plan training that can minimise the runners making mistakes. A good method is to place someone out on the course that can help the runners correct themselves and talk about what went wrong in places where there is a high risk for mistake. An alternative is to set out happy and sad faces in the same way as on an “inskolningsbana” (acclimatisation, beginner’s course) at competitions. However, the setting out of these faces for the whole course takes a lot of time. A variant of this is to have the faces set out in places along the course where the risk of a mistake is high. Remember to set the faces out in a place that is not visible from the decision point. The runners decision needs to be based on their orienteering ability and not because they have seen happy or sad faces.

It is not appropriate to think that someone will never make a mistake when orienteering. At some point the runners will make mistakes. Naturally the training is about orienteering correctly; however, as it is so easy to miss, the leader should also talk about what the best thing to do is when a runner is unsure of where they are.

Activities for training line feature orienteering

Map walk – the same way back

The leader takes the group for a map walk and passes a number of control points. When passing the kites talk about where they are placed and let the runners point them out on the blank maps they have. When you have come to the furthest point let the runners have the course with the same control points for the way home. This can seem simple, but as the controls will be taken in the opposite direction it is a good level for the green standard orienteer.

Star orienteering

Choose a place that will be the start for all of the legs. Make sure this is a clear start point. Then set out a number of controls around this point. When all of the controls are written onto the map link them together like a

star on the map. Vary the difficulty grade of the different controls; so that all the difficulty grades of line feature orienteering exist. The advantage of this Star orienteering is that you will be able to split up your time between more runners as they return to the start point a number of times, partly as they will be spread out from each other in terms of time. When you talk to your runners at the start point telling them what they have to do is not the most important thing. It is important to listen to their discussion on how they find the control, whether it is before or after they have found the control.

If a runner who has made a mistake can immediately read where they are and start again from there the problem can be quickly solved. If this doesn't work it is important that the runner does not become scared and wander further off track. The runner should work out where they last were and then take them self back there. From there they can try to find the control or the right track again.

If a runner can manage a mistake without it being a catastrophe it is a good time to test them with new challenges again.

Compass or no compass?

Runners of the green standard don't need a compass very often. It is often an unnecessary tool that can hinder rather than help. But if one or more of the runners would like to have a compass you should naturally help them to learn to use it. If they are interested to learn how to use a compass you should explain the use of a compass at this level and not ignore this interest. If you do introduce the compass at this level it is enough to teach

how the compass can be used to orientate the maps north with the help of the north needle on the compass. You can hold off from explaining how the compass is used to take bearings. In order to be extra clear where the map's north is you can mark the northern edge of the map with a thick red line. Then all the runner needs to do is turn the map so that the red edge is pointing in the same direction as the compasses north needle. The map is then orientated.

Remember that children are children

Check that the map is correct and up to date for the terrain you are using so that the children have a positive experience of orienteering. If there is something on the map or in the terrain that could cause concern try to find a way to make this easier. For example children aren't that tall and this can mean that they cannot see over certain obstructions. They don't all have the same visibility as an adult. It is best to stand on your knees in order to see things from a child's perspec-

tive. In places where there is low visibility try to improve this so they can see what is important. For example put white tapes along unclear paths and stamp down high grass and undergrowth around the controls so that the control is actually visible.

In places where there is low visibility try to improve this so they can see what is important. For example put white tapes along unclear paths and stamp down high grass and undergrowth around the controls so that the control is actually visible.

In summary

In the green standard we have covered a number of foundation concepts about what a leader should consider when teaching orienteering to beginners.

Above all we have identified the importance of reading the map; practising understanding the map and learning the colours and symbols on the map.

In addition we have covered one of orienteering's foundation concepts, map orientation, by offering explanation and a number of exercises for training this skill. The runner can manage the map better if they learn to fold the map appropriately and can keep track of where they are on the map easily by using the thumb grip.

How the start, controls and finish are drawn onto the map is also included at this level.

The focus of this green standard is that the runner should be able to follow, and successfully change, line features. Line feature orienteering can seem easy but for the runner to make several line feature changes in a leg requires concentration and that the runner has made an advanced plan. As a leader you should be alert to what your runners have to say and not spend the whole time explaining and telling them what to do. Orienteering is primarily about the runners learning to lead themselves and find the

route that leads to the controls and the finish. Orienteering it is not the same as many other sports as the competitor cannot get advice from a leader or coach whilst they are orienteering.

In regards to the necessity of the compass we have given advice and suggested waiting before introducing it. But if they would like to us a compass teach them how to use it to orientate the map.

The step up to the white standard should not happen over night. As a leader you should sneak in exercises that include white standard elements to runners of the green standard so that the progression is gradual and smooth.





White standard

For this standard you should use the same type of terrain area as for the green standard. This is to say that the terrain should have many line features including paths, roads, power lines and streams.

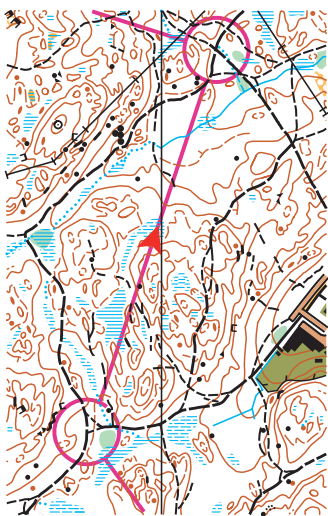
The white standard orienteering courses can follow less obvious line features; for example vegetation boundaries and stone walls.

The controls can now be placed to the side of the line features, but should be visible from the line feature. This means that the type of control sites will be more varied and the runners will become more confident

with more map symbols.

To plan in advance is even more important when the controls are no longer on the line feature. Therefore it is important at this level to develop the runners' skills, through various exercises, to plan the leg in advance before they start to run. There should also be exercises which allow the runners to start cutting across open areas.

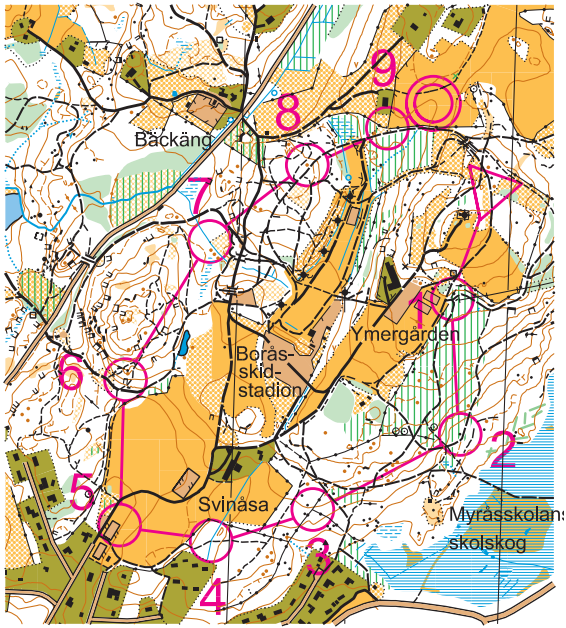
A new element at this level is that there could be a route choice for the leg. They will be faced with a simple route choice problem; which of these routes, which lead to the control, is the shortest?



Routechoise

The white standard key concept:

- Route choice. A choice between routes with a small difference between the options.
- Short cuts. To find the shortest route to the control could involve going over an open area, for example a field, gravel/asphalt area and grass areas. It could be possible to run diagonally over the area.
- New line features, less obvious, for example stone walls or vegetation boundaries.



On a white course the runner should be able to make changes between less obvious line features, for example leg 3-4. The runner should also be able to see features that are beside the line features as at controls 2, 6 and 8. There can also be a question of deciding which of 2 possible routes is the shortest to the control as with leg 1-2. As a final challenge you can even allow the runners to try and take a short cut across a field, for example leg 4-5, in order to shorten the route to the control.

The aim for the white standard

The runner should be able to complete a course with a difficulty grade which corresponds to the unaccustomed map and master the concepts that belong to this standard. If the runner can achieve this then other white courses should prove to be no problem.

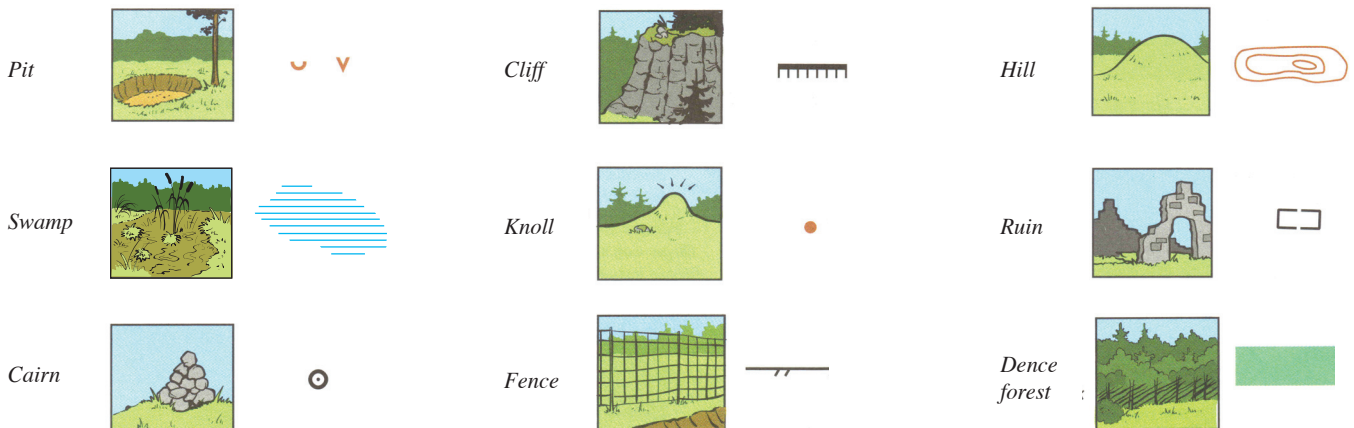
More map symbols

When the difficulty grade increases a little it is necessary to learn more map symbols. As the controls are now placed next to the line features there are a lot more map symbols

of importance. Think about how valuable it could be to show the runners a number of different varieties and sizes of features, for example boulders in the terrain, so that the runners picture of the different features is relatively broad.

Remember that the map symbols that are most appropriate to bring up will vary depending on where in Sweden you are, for example Gotland, Halland or Ångermanland or Närke. The maps and the terrain in your locality which you and your runners will come into contact with will indicate what you need to teach the runners and work with.

Map symbols



Also consider that the runners could understand the features in different ways. For example it could be difficult to decide if a boulder should be on the map or not depending on where it can be seen from, for example on a slope.

Line features are still the features that the runners will orienteer most with. Therefore all new line features that you come into contact with, for example stone walls and vegetation boundaries should be visited through a map walk or map run.

Route choice, shorter or a little longer route

Another element that comes up in the white standard is the ability to choose the best route. In the white standard the runner needs to learn that two route choices could exist for one leg. They then need to learn to identify which of the options is shortest. The route choices should be as clear as each other, easy to see on the map and even relatively similar in length.

When the runners try a leg that has route choice it can be appropriate to let the runners work in pairs. Encourage them to contemplate which of the two route choices will be fastest before they run the leg.

They can then deal out the route choices and take different routes from each other. Naturally it's good to go through the route choices independently, but in order to gain feedback on the route choice they have chosen to be shorter or better the runner should have a discussion with the leader on their route choice.

Orientate the map with a compass

When the runners have learnt the foundations of orienteering and find themselves at the white standard it is appropriate to let

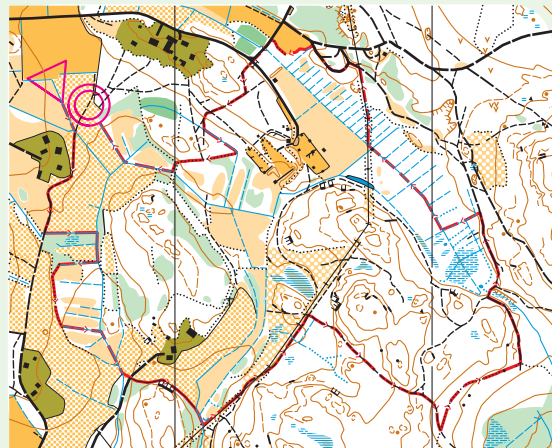
Exercises with new map symbols

Boulder hunt

Let the runners visit different boulders (or another feature) so that they can see different varieties and sizes. Discuss why certain features appear on the map and others don't. Also discuss why the same sorts of features in the terrain can sometimes be shown on the map with different symbols.

Line orienteering

Draw a line along new line features on the map and have the runners follow the line and try to remember where the controls are placed that they see along the line.



Obviously it is also possible to build on the activities used at the green standard by increasing the difficulty grade a bit.

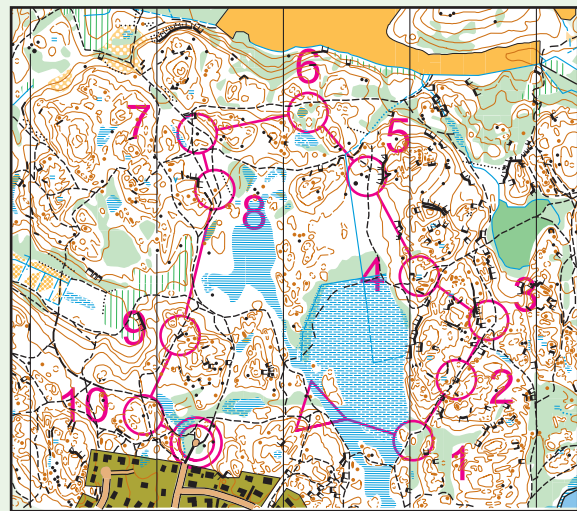
Search to the side

This exercise allows the runners to be investigators. Encourage them to be Indians, detectives etc. Their instructions are to follow along a path and look for things on either side of this path, e.g. cans, flags or something else conspicuous. When everyone has come back, check if they have seen different objects out in the terrain. If they haven't then you can discuss why this could be. A variant of this exercise is to have a pair run along the path in different directions and then check with each other what they have seen beside the path.

them try using a compass as aid if they have not already done so at the green standard. In certain situations it can be good to have a compass to orientate the map even if it is possible at this level without one.

At this stage it is enough to know how to teach them how to orientate the maps north to the north needle on the compass which has already been described at the green standard.

There are a number of different types of compass and before the runner has chosen which they will have they should try the different options. It is therefore appropriate for the club to have a number of different compass models that the runners can try out before making a decision on which one they want to buy.



Beside the line feature

The next challenge for the runners is to send them out on a course that only has controls beside line features.

Exercises to learn how to take the right route choice

Round the mountain

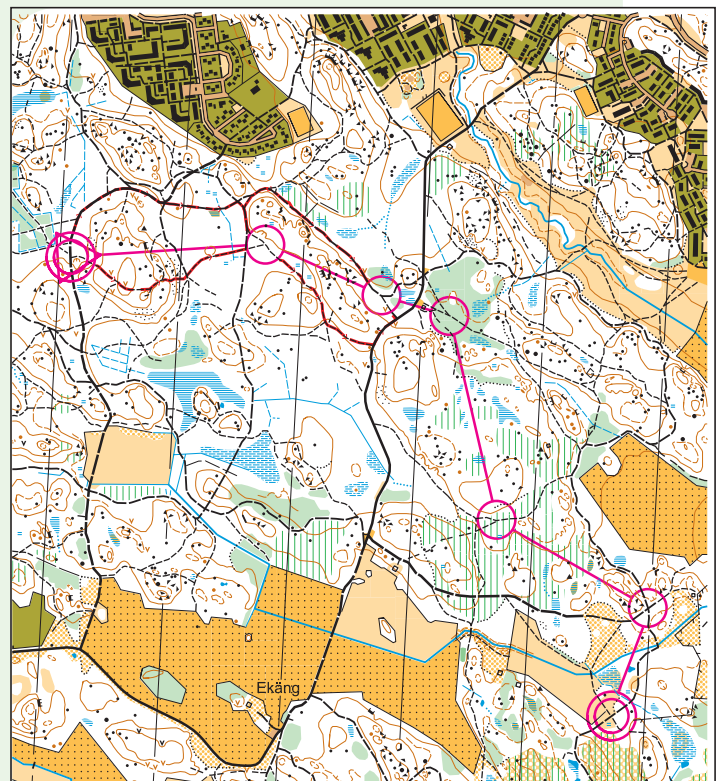
This exercise requires the runners to run in pairs and take different route choices to every control and wait for each other there. For reliable feedback on which route is fastest it is crucial that the runners are of similar running ability and orienteering ability.

Round the mountain with electronic timing

Set a shorter course. Have the runners run the course twice, taking one route choice first and the other route choices the second time. By having split times the runner will have a direct answer to which routes are faster.

Route choice with a turning point

Set a course to a turning point. The runners run out to the turning point, taking one route choice and then they test the other route choices on the route back. This exercise also works well in a pair.



More advance planning

When the runners practise advance planning in orienteering it can be good to introduce shadowing. To shadow one another is very valuable in the learning process. The runner who runs first might feel a little pressure and will need to overcome this challenge as well as the orienteering.

It also requires a little more from the shadower as both runners need to keep their own focus. It is important to switch rolls after every second control.

Cut across without problem

At the white standard it is necessary to make the step up from always following a line feature to daring to leave the line feature and cut across an open area to a safe point. When you, as a leader, plan a course with this element in it is important that you ensure there is a clear, safe catching feature afterwards. In the beginning the runners don't need to cut across longer than 100m and in principle they should be able to see across the whole area they need to cross. Talk about how it is not possible cut across growing crops, build-

ing sites and over dangerous areas such as busy roads and railways.

In summary

We have brought up a number of new map symbols which are required to find the controls beside line features. We have also shown that more unclear line features are possible to follow, without problem, through the forest. The orienteering has really taken a step forwards from being "terrain running" to a small forest adventure. At this level it has also been more important to use advance planning in their orienteering.

The introduction of two different routes to a control also makes this level harder than the green standard. This is called route choice and is made up of two elements. Firstly to learn to see that there are alternatives and then to be able to work out which of these two routes is the shortest.

Apart from this the runners will want to get to the controls faster and therefore have learnt how they can cut across open areas in order to shorten the running leg.

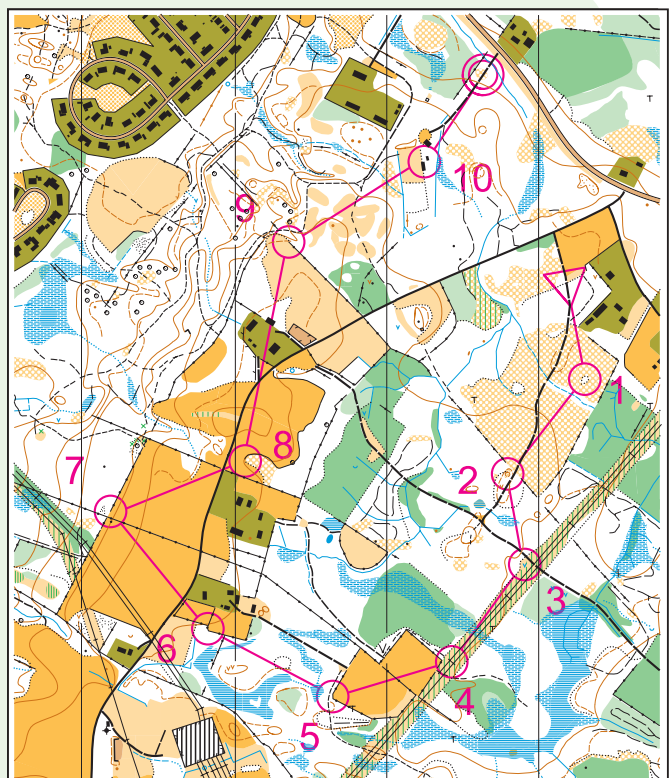
Exercises for cutting across

Follow the leader

You, as the leader, walk a course or a few legs of a course and talk through how you are thinking and why you choose to cut across at certain points and not at others. The runners will get good examples of how they can think when orienteering. This is a good exercise for when you are introducing the element of cutting corners.

Shadowing

As the leader you set out a little behind a runner when they take them self to a control on a course with many possibilities to cut across areas. In this way you get an opportunity to see how they think in different situations. Does the runner choose to cut across or not?



Yellow standard

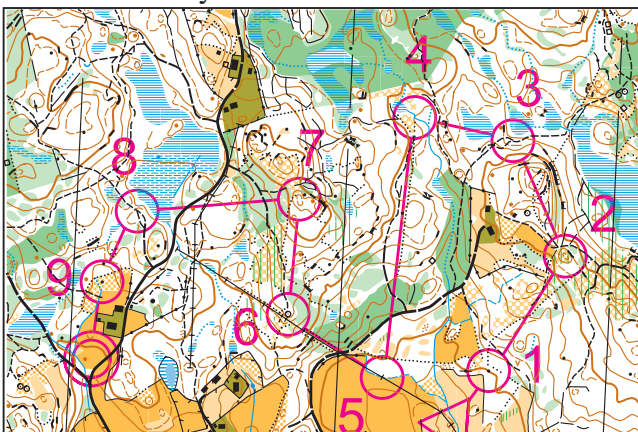
The yellow standard builds on the earlier standards.

Individually the orienteer will now completely lose contact with a line feature.

We progress with cutting across but still with safe catching features. The difference is that in the white standard the runner will now do this without being able to see the point they are going to. This extended distance of cutting across could require that the runner can successfully take a compass bearing. In order to take a compass bearing the controls need to be placed further away from line features. Therefore as a leader you have an important responsibility to teach the runners how to take a compass bearing.

A new element for those running the yellow standard is to be able to read and understand contours. Understanding that something marked on the map with a brown line represents that it goes up or down in the terrain is not always simple. The runners should be ready to think abstractly and need to train a lot on simple contour orienteering before they can grasp this.

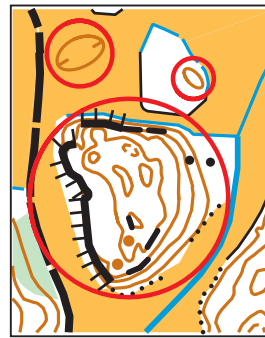
Apart from this the runner will come across route choice which can include length and runability.



A yellow standard course and its different obstacles and difficulties.

The yellow standards key concepts:

- Runability – The necessity to interpret and evaluate how easy or challenging it will be to take themselves through the terrain, looking further than just the map picture.
- Rough orienteering means to orienteer using only parts of information that the map gives you. In other words, sifting out information that is superfluous.
- Easy contour orienteering consists of understanding that the map symbol for a hill is a brown ring and that a larger hill is drawn with more brown rings. Apart from this in areas of Sweden it is also important to understand that a depression is marked with a brown ring with a small line, a tag.



A map picturing a hill, a slightly larger hill and a depression.

The aim for the yellow standard:

The runner should be able to successfully complete a course that consists of the elements that are typical to this level. For example; to take a compass bearing and follow it or to find controls which are placed on the highest point of a hill and the equivalent for a depression. Apart from this they should understand if a hill or a depression is high or deep. The runner should even understand the maps shades of green and yellow and therefore conclude the runability of the terrain.

Compasses

There are two main models of compasses for taking compass bearings with today; a base plate compass and a thumb compass (see the white standard page 19). Every compass has its advantages and disadvantages. Therefore as a leader you should ensure that your club has a number of each variety so that the runners can try them before it is time to buy their own.

Base plate compass

When it is time to take a compass bearing you need to hold the compass and map together as if they are a unit. When following the compass bearing you should hold the compass and the map in different hands.

The base plate is the most accurate for compass bearings.

As a leader show them how to take a compass bearing. Then ensure:

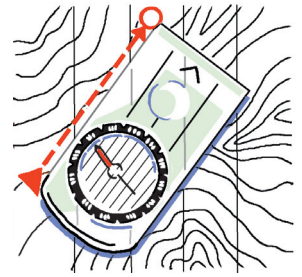
That the runner is accurate with the turning of the compass dial and that the edge of the compass lies parallel with the leg they want to run.

- That the runner is not careless with the adjustment of north and therefore risking running off course.
- That it is held flat and directly in front of the runners' stomach.
- That the runner turns with the whole of their body when the north needle needs to be aligned in the compass dial.
- That the runner looks for an object ahead of them in the terrain.

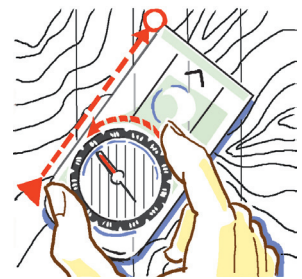
Let the runners train a lot with setting a compass bearing. If the runner familiarises them self with this they will feel surer about the direction. Naturally it is also possible to use the base plate compass to orientate the map but this needs only the compass needle, with no turning of the compass dial.

This is how you set a compass bearing with a base plate compass

- Place the compass on the map with one edge along the line joining where you are and where you want to go.



- Turn the compass dial so that North on the compass dial points to north on the map. You can also use the North-South lines on the compass dial for help with this, aligning them with the maps north lines.



- Take the compass away from the map and hold it horizontally in front of you. Turn your whole body so that the red section of the compass needle points towards N on the compass dial.
- Move yourself in the direction that the direction arrow on the base plate points.

- When you are sure which direction you need to go try and find a clear object in front of you in the terrain. It can be an individual tree or another obvious detail. When you have come to this object pick another and keep going until you arrive at your destination.



The thumb compass

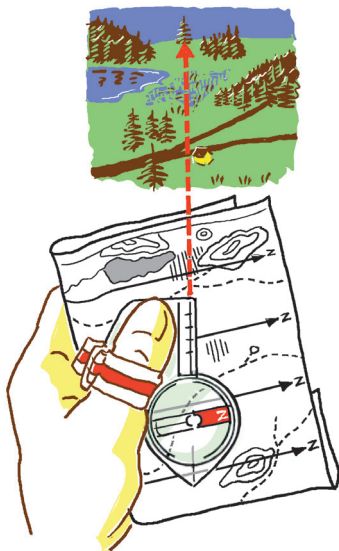
The thumb compass requires more map reading than a base plate compass and it is easier to start using, but the compass direction is not as accurate as with a base plate compass.

As a leader show them how to take a compass bearing even with a thumb compass. Then ensure:

- That the thumb compass is sitting correctly and that the north arrow and north on the map are aligned.
- That the runner holds the compass horizontally and directly in front of them.
- That the whole body turns when they look for the direction.
- That the runner looks for a clear object in front of them in the terrain.

This is how you set a compass bearing with a thumb compass:

- Put the direction arrow of the thumb compass on the map where you are, pointing on the line you would like to run.
- Hold the map and compass as if they are a unit horizontally in front of you. Turn your whole body so that the north needle points to north on the map.
- Move yourself in the direction that the direction arrow points and choose a clear object in front of you in the terrain. When you reach your chosen object, move the di-



rection arrow of the thumb compass to that place on the map and choose a new object in the terrain.

Risk factors with the compass

Even if the runner can take a compass bearing there is a risk that they will not follow it accurately.

It is of great importance with both compasses that you hold the correct direction and don't drift to one side. This is even more important when using a thumb compass.

Here are a few situations that require extra caution:

- When passing straight through the forest or through young forest plantations. Sometimes it can be easier to run in a certain direction which can mean that the runner can drift from their bearing.
- When passing through an area with defined edges. This can easily make the runner follow this direction and therefore lose their own direction.
- When passing through large marshes. When you run over a large marsh with no extra reference points it can be hard to hold your direction.
- When going round large hill formations or marshes. In this situation it's easy to 'hop off' too soon or too late and therefore have the wrong direction.
- When running across or up a slope there is a large risk that you follow the slope or over compensate.
- When something disrupts the runner's concentration, for example an animal or a runner who is running in a similar direction affects you.

In order for the runners to understand these you need to set training exercises where they find themselves in these situations whilst following a compass bearing. When training in tough terrain the runner should think

Exercises for following the compass

Star orienteering

An appropriate training when they are trying different compasses is star orienteering when you as the leader can stay at the start point and help them. The runners can change compasses a few times and test how the different compasses work for compass bearings. You should plan this kind of training a few times throughout the season so that the runners really can test which compass suits them best. In order not to stress the runner the club should loan out compasses for longer periods of time and allow the runner to change compass type if desired.

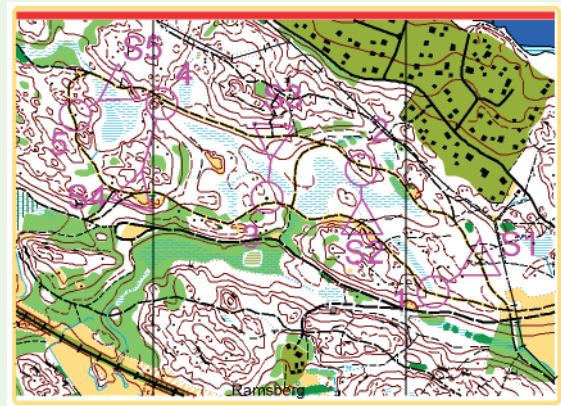
Compass bearings with a base plate

Draw a number of different legs on the map that the runner will take a bearing to and report the degree of the bearing for. Whether the runner shows the leader the bearing immediately or writes down the degrees is your choice. Set the legs out to all the compass

points and include long and short legs, so the runner can experience what it could be like on a real course.

“Slingerbulten”

Find an area on the map where there are two parallel line features. Taking rough bearings run through the terrain and see how close you come to the control point. Mark the controls with a kite and the start points with some tape.



about zigzagging their way through the terrain, by giving way to obstructions in both directions.

Training contour reading

As a leader you should be aware that the understanding of how contours are reproduced on the map can vary a lot between runners. To some it can be obvious and simple and to others complicated and difficult to un-

derstand. This depends on a conception of height and three dimensional thought and presumes abstract thinking and requires that the runner is mentally ready to understand this. Think about starting with obvious hills or depressions. Take your runners to a place with a view over an area where it is easy to see hills of different types.

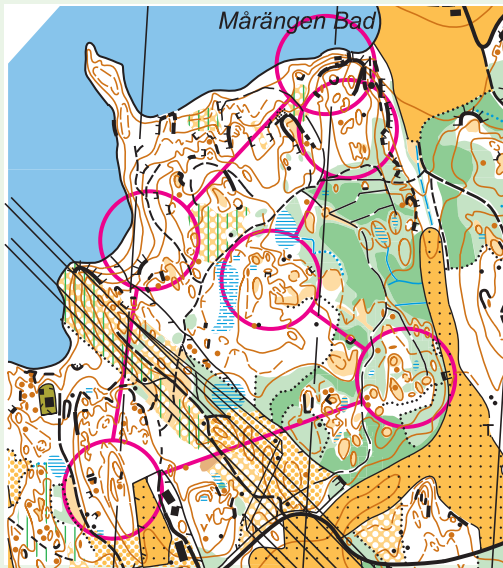
The maps contour distance (height difference between two contours) should also be covered. This is usually shown with 5 m or 2,5 m and the difference in level depends on how hilly the terrain is. Relatively flat areas usually have a contour distance of 2,5 m but it is still possible, without problem, to find the hills even in this terrain.

To train physically at the same time as training orienteering technique it can be good to place the start point of the star orienteering exercise on the top of a hill. This means the runners have perfect hill training and a good training effect on the heart on the run back to the start, at the same time as training their orienteering technique on the way to the control.

Exercises for understanding contours

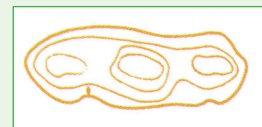
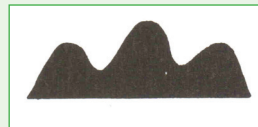
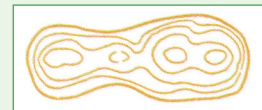
Map walk on hills

Visit a few different sorts of hill, for example round, oblong, steep, small, large, track shaped. Look for hills that are obvious and pronounced for your runners to gain understanding.



Hill contours

You can also use pictures of hill that the runners need to pair up with the correct map picture.



Build a landscape

Building up a landscape at different levels and then drawing a map of this landscape on paper is a brilliant way to train contours.

Visibility – runability

To gain understanding of how the different colours and shades on the map show different grades of runability in the terrain requires a lot of training in different types of terrain at different times of the year. This training is primarily of meaning to those who want to get through the forest quicker, but even those who want to learn to read the map more accurately can benefit from this. In order for the runners to build a picture of how the different colours and shades look in reality you should look for these areas in the forest. Let the runners see how it feels to try and run through these different terrain types. The first time the runners find themselves caught up in a green area they will begin to understand how much time it can take if they choose to run through this on a route choice.

Even let the runners experience different varieties of green areas compared to

more open forest areas. Is there, for example, a difference between the visibility of a birch forest area and a close grown coniferous forest?

When the understanding of colours and shading has been achieved the runners will find it easier to make route choices that are best in terms of runability.



Slow running



Difficult running



Hard running



Slow running,
low vegetation

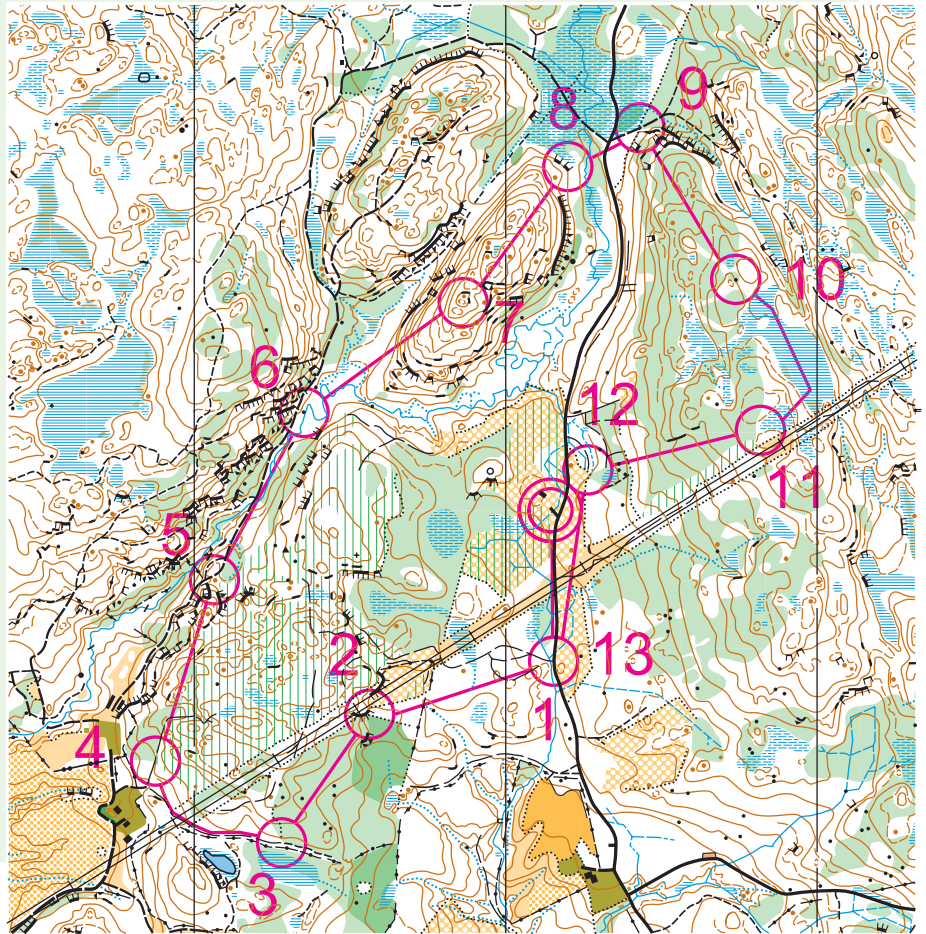


Difficult running,
low vegetation

Exercises for visibility/ runability

Plan a test course with different elements which involve running through white forest and different varieties of green, and therefore visibility, in the forest. Even let the runners test the visibility on different slopes, up hills, down hills and in flat terrain.

On this test course the plan is for the runners to follow the line between controls so that they pass through the different terrain types. In the end of the course they should run down to control 13 and then back to the finish along the track.



Set out the course as usual with a few route choices and have the runners run the course twice, taking different route choices. If you add electronic punching to the exercise it can increase enjoyment of the exercise and they will hopefully show an interest in discussing routes after they have run, talking about which route was fastest.

In summary

In the yellow standard the runners gain their first insight into how you orienteer using contours. Remember that this is a difficult step for some of them to take and therefore you should either wait with this or try to explain the brown contours in different ways. As a leader you should start simple and don't take things too fast when introducing contours. With the yellow standard it is important that runners are able to find controls that

are on the highest point of a hill.

At this level you should also introduce the compass and how you take a compass bearing. It is important to teach the runners the accuracy of the course you run and with following a compass bearing so that they can begin to trust their new aid.

The runners have also learnt that visibility is shown with different shading and structures of yellow and green on the map.

Orienteering Exercises

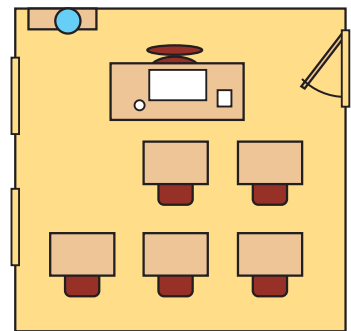
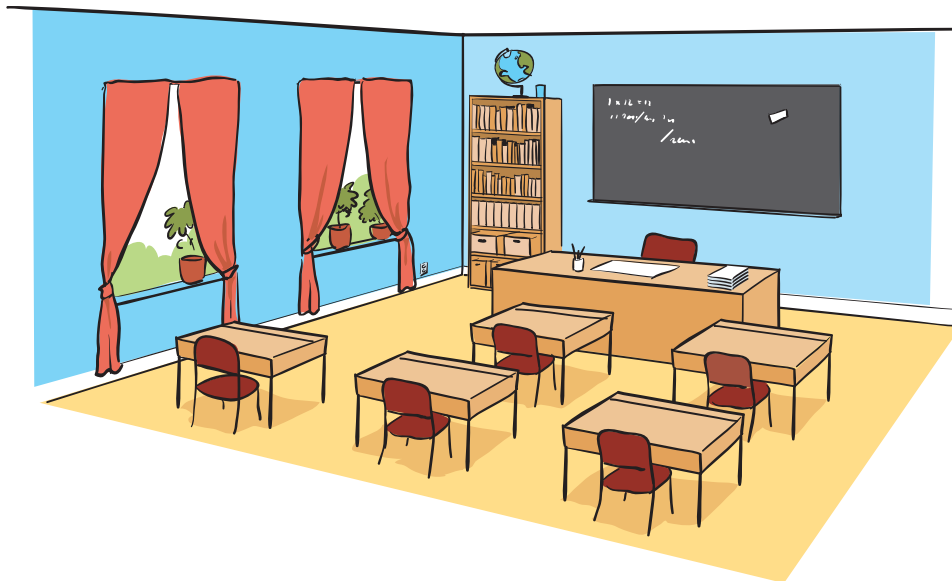
Green standard

At this level students learn the foundations in order to be able to orienteer. First and foremost they need to be able to understand that the map is a reduced picture of reality seen from above. They also need to know what the colours on the map represent and what the most common map symbols are. In addition to this they need to be able to orientate a map. At this level all of orienteering they will be following line features.

- Know how to and be able to orienteer following line features.
- Orientate the map with help of terrain and a map aid (= a simple compass), and the thumb grip.
- Recognise how the start, controls and finish are marked.
- Know the colours and symbols on the map.
- Map understanding, what is a map?



Mini orienteering – in the classroom



The idea of the exercise:

To understand how the map is built up and its function.

This needs:

A notepad and pens.

Preparation:

None.

Instructions:

Let the students make their own orienteering kites.

Place the notepad on the floor in the classroom. Stand around the notepad with all of the students. Draw a map of the classroom. Let the students help you by deciding what should be on the map.

Separate the students into two groups. Send one group out of the classroom while the other group set out their orienteering kites around the room. Then mark where the kites are on the map.

Bring the other group of students back into the classroom. Now they need to use the map in order to find all of the other groups orienteering kites.

Then have the groups switch roles.

Tips 1: As an alternative you can substitute the notepad on the floor for a black board or a flip chart.

Tips 2: Have the students take turns to point to a place on the map where they will place the kite, and then have them set the kite in the correct place in reality.

Tips 3: In order to make it clearer that the map is a reduction of reality as seen from above you can have the students stand on their chairs or benches.

Build a landscape and draw your own map



The idea of the exercise:

To understand how a map is put together.

To understand that the map is a reduction of reality.

To practise the map symbols.

This needs:

Thick felt tip pens of different colours.

Building plastic or similar.

A poster of the map symbols.

Preparation:

Mark out a square of about 1m x 1m.

Instructions:

Let the students make their own orienteering kites.

Build a fantasy landscape within the square. Use materials that can be obtained. Be generous with time for this and let their imagination flow.

Place the plastic over the landscape and draw a map of the landscape. Discuss what should be included on the map and which map symbols you should use.

Extension:

When the map is finished it can be used for mini orienteering. Set out their mini orienteering kites in the landscape and have the students show you where they are on the map.

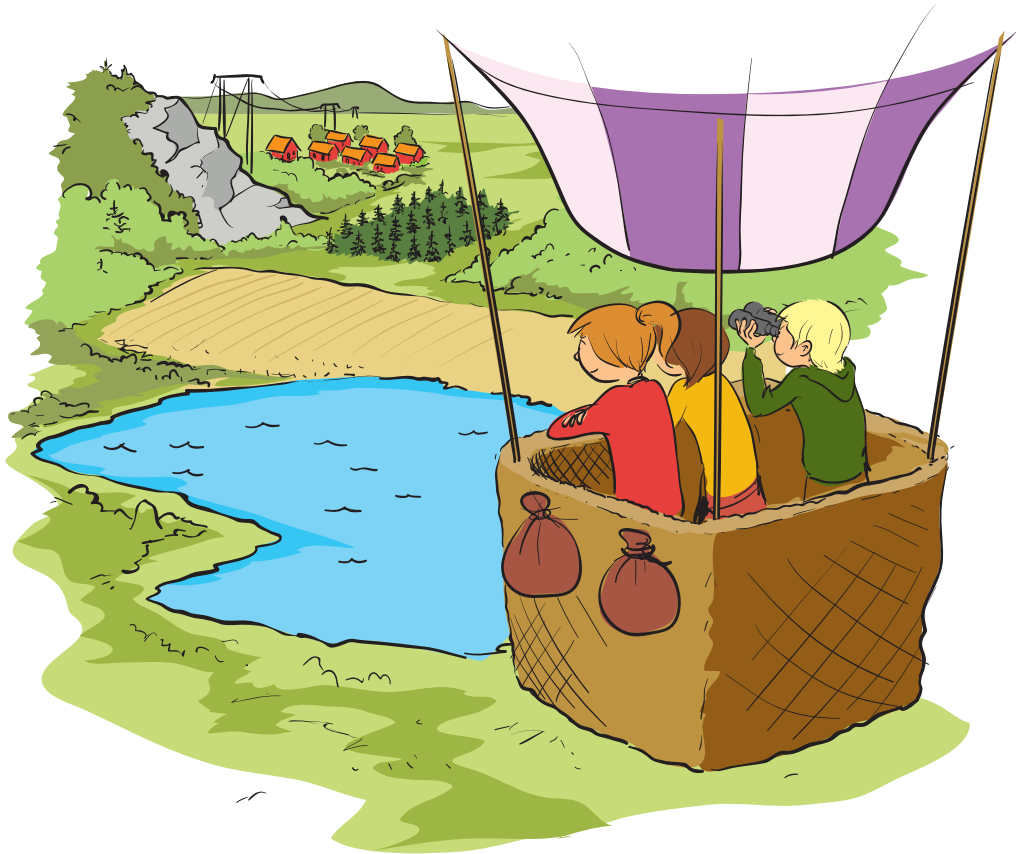
Practise orientating the map by going around the landscape and keeping the map orientated.

Let the students 'orienteer' in each others landscapes.

Tips 1: Instead of writing the map on a large sheet of plastic the students can draw their maps on their own sheet of A4 paper. This is good to have as a reminder.

Tips 2: Let the students use their 'own map symbols' when they draw their landscape onto the plastic. Then have them draw a map with the real map symbols on A4 paper and discuss the differences.

Hot air balloon



The idea of the exercise:

Gain understanding that the map is a picture of reality as seen from above.

Learn the map symbols.

This needs:

A white board or flip chart, white board pens or felt tip pens in blue, brown, black, yellow and green.

Preparation:

None.

Instructions:

The leader tells the story of the hot air balloon (see the next page).

Tips 1: If there is a hill nearby it can be an advantage if you tell the story from here whilst looking out over the landscape.

Tips 2: If the students have a home work book, or log book, they can draw the map symbols in here and have it as homework.

The Hot Air Balloon Journey

When you orienteer you use a map that is a reduced picture of reality.

Imagine that you are flying in a hot air balloon a hundred meters up in the air.

Look out over the edge of the balloons basket, what can you see?

- We can see a lake. Which colour do you think this would be on the map?
(Blue – draw blue on the board)
- Now we are flying over an open field. Which colour do you think you would draw open land with?
(Yellow – draw yellow on the board)
- We are continuing over a spruce plantation. When it is really thick in the forest which colour do you think you would draw on the map?
(Green – draw green on the board)
- All of the normal forest is drawn with white.
(Preferably show an orienteering map now)
- Now you can see houses, boulders and power lines. Many different objects that you can see are drawn in black on the map, exactly the same as they look from up in our hot air balloon.
(Black – draw a house from above on the board)
- Now there is just one colour left and that is brown. Everything that goes up or down in the terrain is drawn with brown.
(Brown – draw brown on the board)

Now we have all of the colours that exist on an orienteering map drawn on the board.

I have maps here of the area in which you live. (*Give out maps of the nearby area if you have them*). Now we are going to look at the map symbols that are on the map and see what they mean. I will draw them up next to the correct colour on the board.

Examples of the maps colours and symbols:

Small blue lines – marsh, the wetter the marsh the bluer it should look. Compare this to a lake. Everything blue has something to do with water.

Broken yellow – meadow, field, grass areas, the yellower this is the more open the area is.

Green colour – close, low visibility forest – the darker green it is the thicker the forest.

NB. Also look at the yellow/green colour where you are not allowed to go; for example building sites and around a railway line.

Brown lines – contours – the closer together the brown lines are the steeper the slope.

Black – everything that man has made, for example paths, houses, power lines and also boulders and crags.

The snake



The idea of the exercise:

To practise map symbols.

This needs:

Map symbol relay cards, it is appropriate to have a set for each group of 10 students for this exercise.

Preparation:

Check that there are 20 cards and mix the cards up.

Instructions:

Assemble the students in a circle.

Deal out the kart symbol cards.

Ask: 'Who has a boulder?' The student with the boulder map symbol answers 'I have the boulder' and shows the group the symbol. They then turn the card over and read the back of the card, and asks: 'Who has a track?'

This procedure repeats until all the cards have been completed. If the exercise has been carried out correctly the final question should be: 'Who has a boulder?' This is when the snake bites its own tail and the student answers: 'The snake'.

Tips 1: Have the students work in small groups, each with a few cards therefore increasing their participation in the activity.

Tips 2: If you want more movement in the game the students can run one lap around the group before showing their card.

Tips 3: The cards will be more durable if they are laminated.

Tips 4: A good repetition exercise is to time the students and then they can try to compete and improve their time. Every time they repeat the exercise have the students switch cards with each other so that they see a variety of symbols.

Map symbol relay



The idea of the exercise:

To practise map symbols.

This needs:

Map symbol relay cards, one set for each team.

Max. 10 students in each team.

Preparation:

None.

Instructions:

Split the students into teams. Stand each team in a circle.

Place the map symbol cards, with the map symbol facing up, in the middle of the circle.

The first person in each team is given a feature to find, for example a house.

This person goes to the map symbol cards and finds the card with the correct symbol on it and returns to their place. They run one lap around the team and return to their place before showing their card to the next person.

The second person turns the card over, reads the back of the card to see which symbol they need to look for, goes forwards to the cards, replaces the card the first person gave them with the map symbol facing up and looks for their symbol. They take this back to their place, run one lap around the team and give the card to the next person.

This procedure repeats until the first symbol has been taken again. Then the relay is finished.

It is important that the correct cards are taken each time otherwise the exercise won't work. Let the whole team help out so that it is correct.

Tips 1: This exercise is appropriate inside and outside. If the exercise is carried out outside then it is useful to laminate the cards.

Tips 2: If the students are unsure about the map symbols you can set up a poster of the symbols near to where the cards are placed.

Tips 3: The map symbols relay is a good exercise that works as a warm up or if you have a short amount of time at the end of a session, a good way to keep practising map symbols all year.

Variations:

A simpler version is to collect in the cards after they have been used. For younger children you can say, or show them, which symbol that they need to find. As a repetition of the exercise you can do a relay where the students stand in two lines a short distance from the cards, and then one at a time run forwards and find the correct card. You can place some obstacles for them to overcome between them and the cards if you want.

Map symbol memory



The idea of the exercise:

To learn the map symbols.

This needs:

Map symbol cards

Preparation:

Check that there are 42 cards. Mix them up.

Instructions:

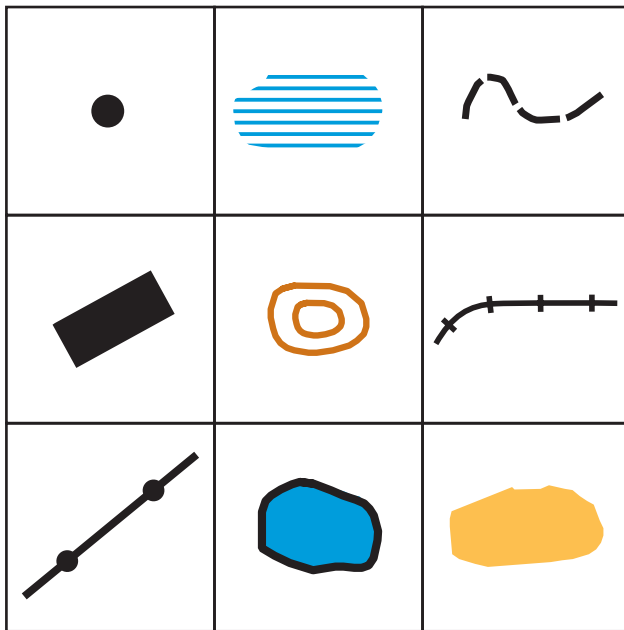
Carry this out as a normal memory game, i.e. the students should turn over 2 cards at a time and try to find a pair with the same symbol.

With the help of a map symbols poster have the students understand what the symbols mean.

In order for a student to keep the pair that they have found they must be able to say what the symbol is.

Tips: An appropriate repetition exercise for those students who cannot partake in physical activities.

Map symbol bingo – Training map symbols



The idea of the exercise:

Practise map symbols.

This needs:

Bingo grids, pencils or coloured pens.

Preparation:

Put up a map symbols poster or draw the map symbols on the board or a flipchart. All the children choose nine map symbols and write them in their grid.

Instructions:

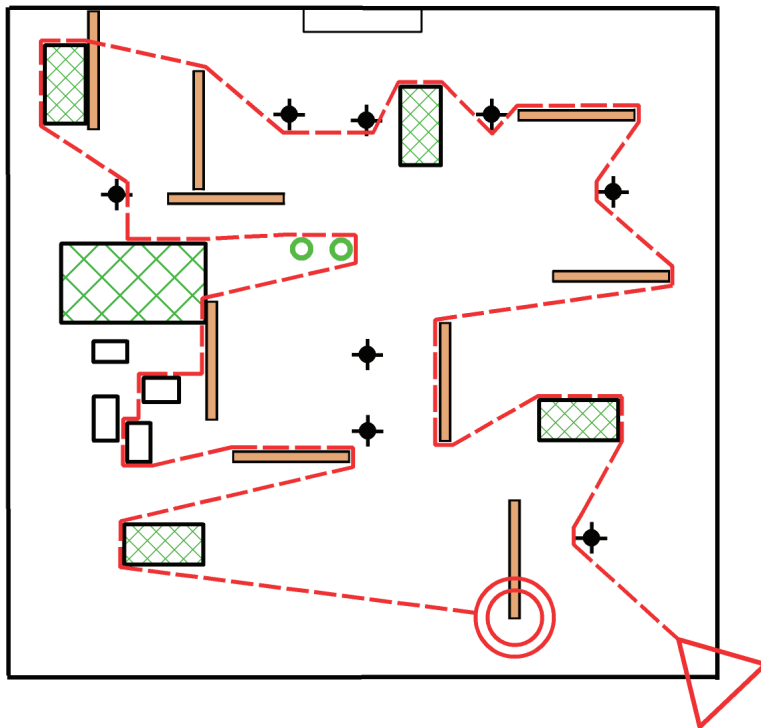
Call out different map symbols. If a student hears their map symbol they place a cross through it on their grid. When someone has three map symbols in a row crossed through they call out “bingo”. Then you continue until someone has a “full house”.

Tips 1: You can have a Bingo grid with 16 squares.

Tips 2: Give the map symbols as homework and let the bingo be the homework test.

Tips 3: Have the exercise as a walking quiz when the students have written in their bingo cards before they start.

Line orienteering – Indoors



The idea of the exercise:

To practise understanding the map and keeping the map orientated.

This needs:

A map of the “terrain”.

Terrain objects, such as cones, mats and benches.

Control markers.

Preparation:

Draw a base map. Draw in obvious features, for example a wall clock, which makes it easier for the students to orientate the map. Draw in different courses. Use different colours for the different courses. Have each course start in a different corner of the hall. Have one map for each student.

Instructions:

Build up the “terrain” with the help of the students so that it matches the map.

Put out the control markers along the lines, the smaller the markers the harder the exercise.

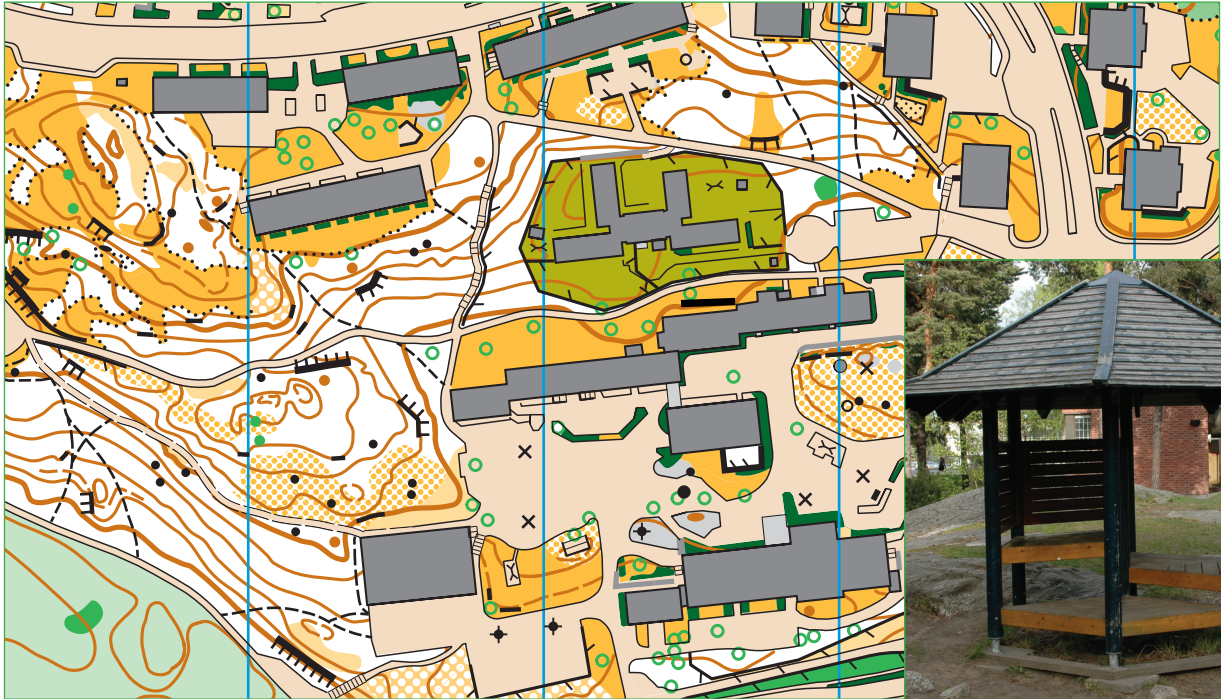
Have the students run as many courses as they have time for. When they get to the finish they should point out where the controls were on the map.

Extension:

Have blank maps so that the students can draw their own lines that they will then follow.

Have the students set out their own controls which they then draw onto each others maps.

Photo orienteering – in the school grounds



The idea of the exercise:

To practise understanding the map.

This needs:

Photos taken around the school grounds.

Maps.

Pens.

Preparation:

Take photographs around the school grounds.

Develop and number the photos.

Decide on a start and a finish point where you set up the photos.

Instructions:

Hand out the maps and pens.

Let the students look at the photos.

Have the students run to the place where the photos were taken. They then need to find where on the map the photo was taken and mark this on the map.

The students should run to as many of the photo places as they have time for.

Tips: A good way to spread out the students is to have them visit the photo sites in different orders. Use a control card, or a different method, to show which order they should look up the photos in.

Orientating the map – in the school grounds



The idea of the exercise:

To practise understanding the map and orientating the map.

This needs:

A map of the school grounds, Map bags, Control markers, Control cards. Pens, Answers, Plastic crates.

Preparation:

Choose a start point and a finish point.

Make 5-7 different alternatives with a different control for each alternative. Make a map for every student, plus some extra. Write the same number on the back of the map as the number the control number on the map. You should have the same number of plastic crates as map alternatives. Place the maps reverse side up. Set out the control markers with a letter on them. Copy the control cards and make a control card with the answers on.

Instructions:

Give out the maps, control cards and pens to the students.

Split the students up onto the different courses, and send the students out after they have orientated the map.

Have the students run as many alternatives as they have time for.

Tips 1: A good way to spread the students out is if you mark onto their control cards which order they should collect the controls in.

Tips 2: Mark the controls with letters that preferably make a word.

White standard

Orienteering with the help of line features is still the most important part of white standard orienteering. However, these line features can be less obvious and in the form of small streams, unclear paths, vegetation points and many more.

It can also be that the route to the control requires the runners to cut across a short distance between two line features. The control sites can now be placed beside line features, but they should be within sight of the line feature and be obvious. At this level the concept of route choice to the controls is introduced for the first time.

- To cut across towards an obvious line feature.
- Be aware of features beside line features.
- Advance thinking, route choice, short or long.



Map symbols

The idea of the exercise:

A repetition of map symbols.

This needs:

Work sheet, Pens

Preparation:

Photocopy the work sheets.

Instructions:

The students need to draw a line matching the correct map symbol to the correct word.

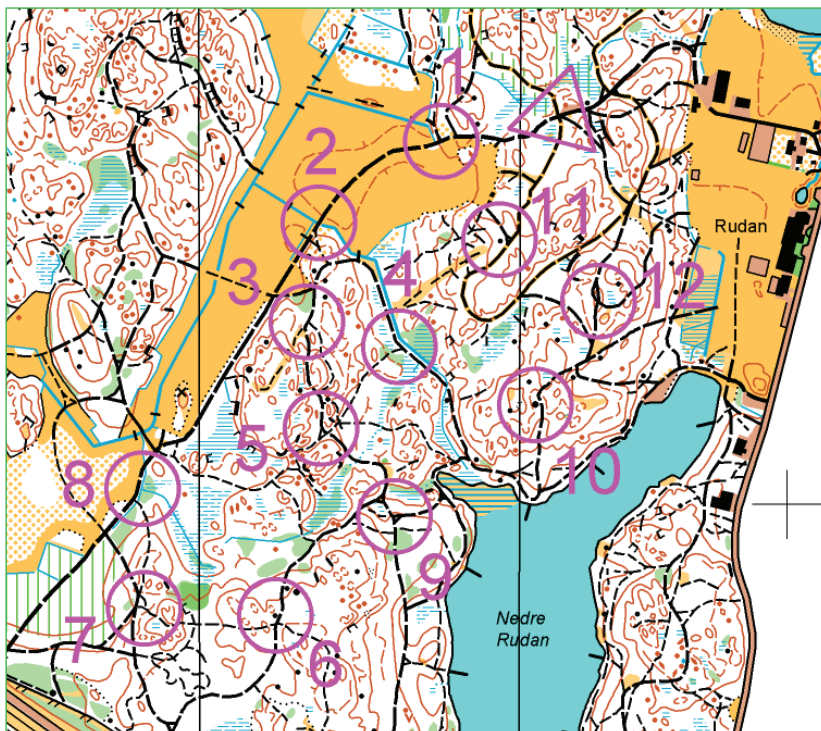
STENMUR
STEN
STIG
VÄG
HUS
JÄRNVÄG
SJÖ
SANKMARK
HÖJD
GROP
ÄNG
TÄTSKOG

Tips: Appropriate repetition exercise for those students who cannot partake in physical activity.

STENMUR
STEN
STIG
VÄG
HUS
JÄRNVÄG
SJÖ
SANKMARK
HÖJD
GROP
ÄNG
TÄTSKOG
KRAFTLEDNING



Control Pick – In the nearby area



The idea of the exercise:

Choosing a route, practising understanding the map.

This needs:

Maps, Map bags, Control punches, Control cards, “Answer” control cards.

Preparation:

Mark 10-15 controls onto a map. Make control descriptions and attach them to the maps. Make one map for each student. Set out the controls with punches or a letter written on them. Take a control card with you and make an answer control card.

Instructions:

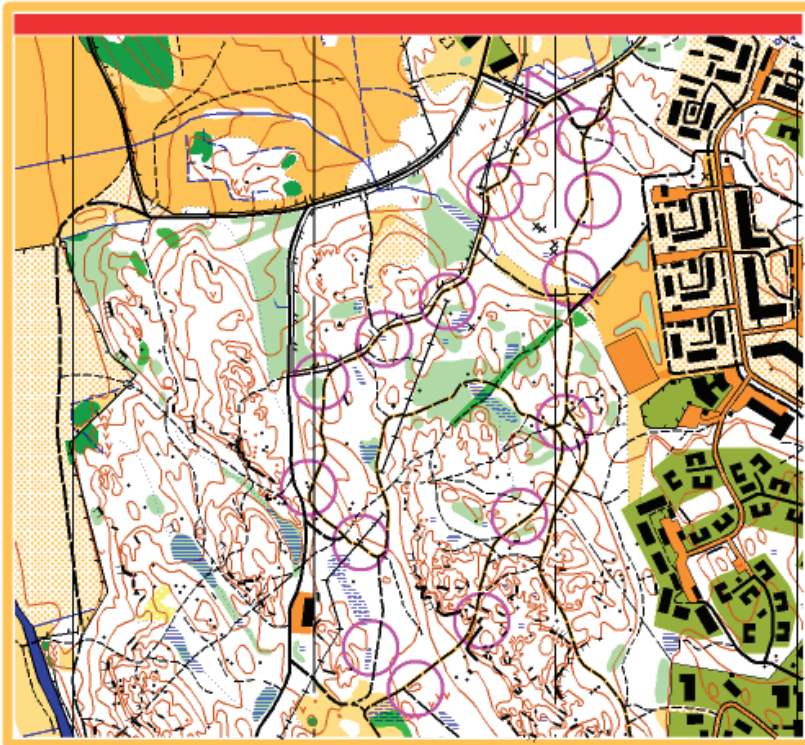
The controls can be taken in any order as the students choose which controls they will go to. This exercise has a time limit.

Explain the point of the exercise. Give out the maps and control cards.

After the students have planned their routes and have shown that they have orientated their maps you can send them out on the course.

Tips: Have the controls at different difficulties. It can be an advantage if some of the controls are of a green standard.

Map walk



The idea of the exercise:

Map reading beside line features.

This needs:

Maps. Map bags. Control markers.

Preparation:

Plan an appropriate route. Set out controls markers on features in the terrain close to line features and at line feature junctions.

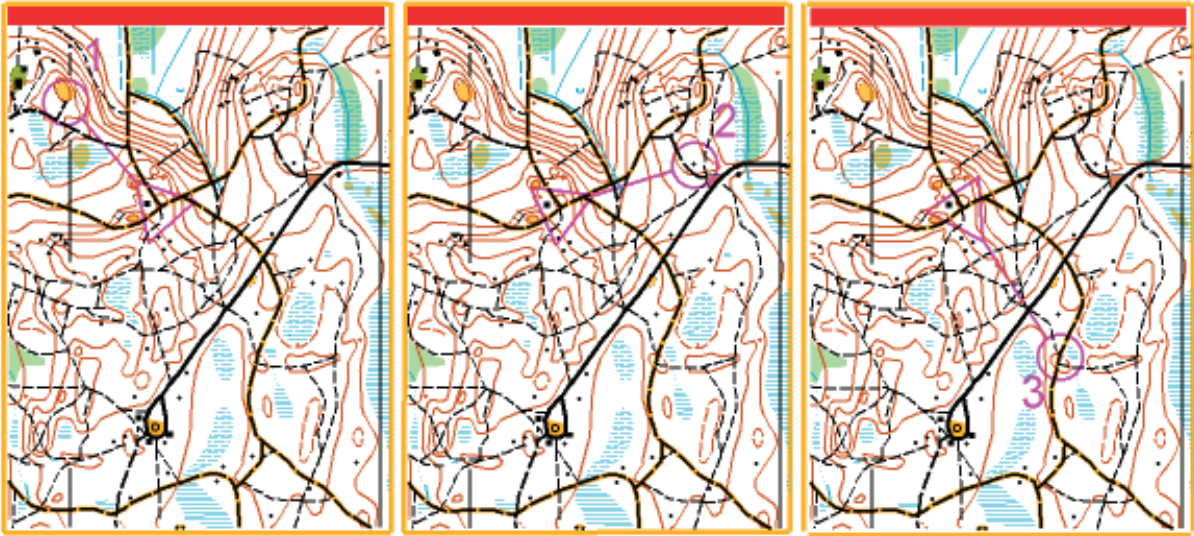
Instructions:

Give out the maps.

Walk together with the students along the planned route. Compare the colours and symbols on the map with the terrain. At the control points the students need to point to where they are on the map and show that the map is orientated.

Tips: Those students who wish to run ahead should be allowed to do so and should wait in a group at every control point.

Hang out – Run – Collect in



The idea of the exercise:

To practise map reading and to be aware of the features beside line features.

This needs:

Maps with controls marked on, one control per map. Map bags. Control markers.

Preparation:

Draw 10-15 different courses with a start point and one control for each course. All maps should have the same start point/meeting point. As the students will be hanging out the controls it is important that the control sites are obvious. Make the maps. With this kind of exercise it can be useful to have more maps than you have students.

Instructions:

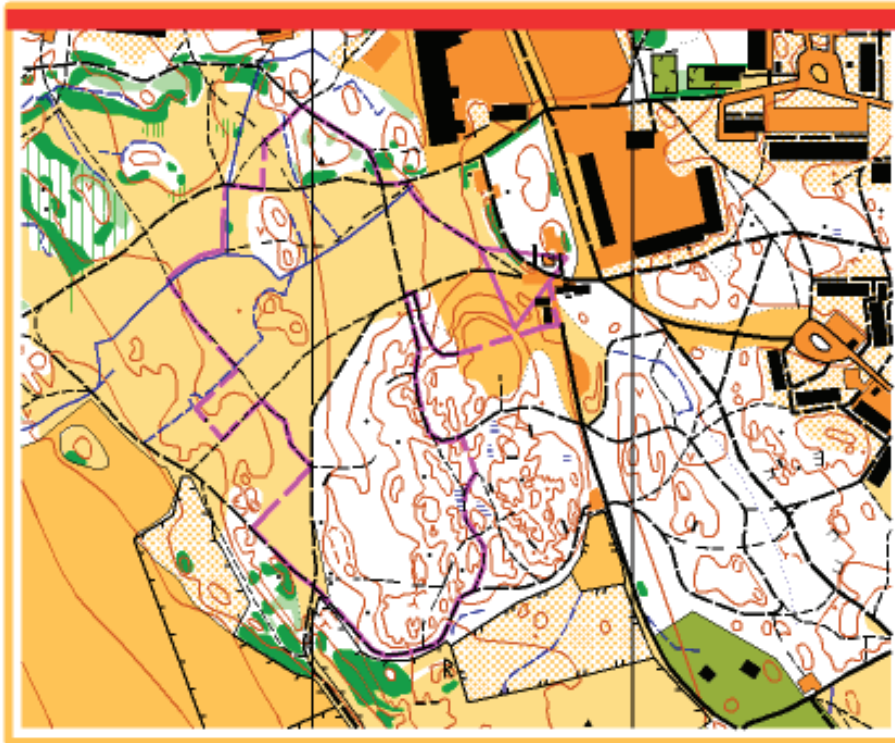
Give out the maps and control markers. The students now need to set out the control marker at the control site shown on their map. When they have set the control marker out they return to the start point and exchange maps with another student. They now need to collect in this control marker that is shown on their new map.

Explain the point of the exercise and send the students out once they have shown that their map is correctly orientated.

Tips 1: Have simple control markers that differ from each other with numbers, or in another way.

Tips 2: Allow the students to go in pairs if they feel unsure.

Line orienteering



The idea of the area:

To practise reading the map, and cutting across towards a clear line feature.

This needs:

Maps with a line drawn on. Map bags. Control markers. Control cards. Answers.

Preparation:

Draw a line on the map. Draw the line so that the students practise cutting across towards a clear line feature. Place control markers out along the line. Have a map and a control card for every student.

Instructions:

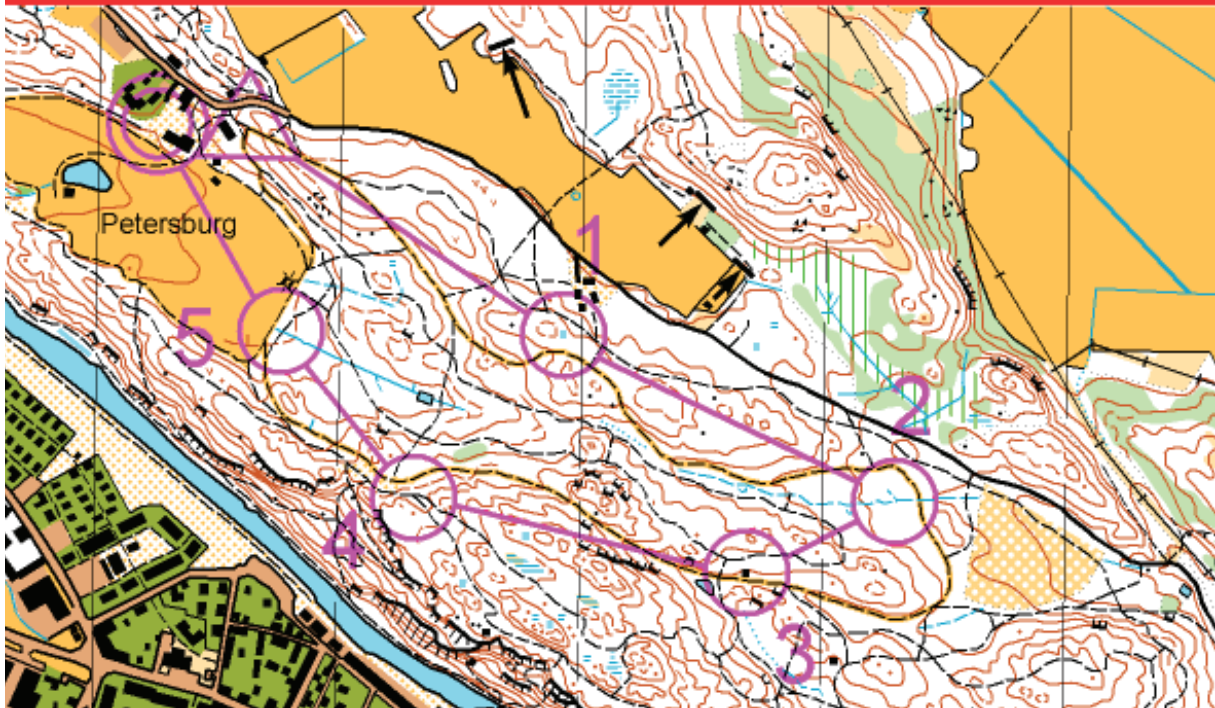
Explain the idea of the exercise.

Hand out the maps and control cards.

Send the students out after they have shown that the map is orientated.

Tips 1: Have the students run the line in both directions, this saves time as you can send a few students at the same time. Many students will need to choose their own route as there are not so many that have run before them.

Long or short route – nearby area



The idea of the exercise:

To make a simple route choice assessment, to practise distance judgement.

This needs:

Maps. Map bags. Control punches. Control cards. Pens, if necessary. Answers.

Preparation:

Make a course with two different route choices between controls. The choice should be between two safe alternatives. Only the length of the route choices should be different, it is still only using obvious line features. Make control descriptions and attach them to the maps. Take a map for each student. Set out the control markers, with a punch or a letter. Take a control card and record the answers.

Instructions:

Hand out the maps, control cards or pens if necessary. Make sure that every student has their own map.

Put the students in pairs, as similar in ability as possible. They will take a different route choice to every control. They then wait for each other at each control.

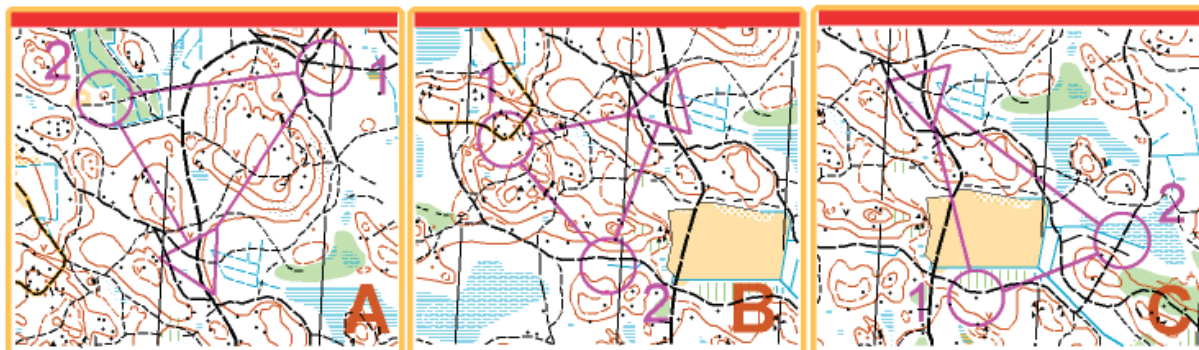
Tell the students that they need to take it in turns to choose their route first.

Send the students out in pairs after they have shown that they have orientated their maps.

Tips 1: Have the students run the line in both directions, this saves time as you can send a few students at the same time.

Many students will need to choose their own route as there are not so many that have run before them.

Three leaf clover – in nearby area



The idea of the exercise:

Simple orienteering with control points beside line features, and orientating the map.

This needs:

Maps. Map bags. Control punches. Control cards. Pens if necessary. Answers.

Preparation:

Choose a start and finish point. Make 3-6 different courses with two controls per course. Draw one course per map. Make control descriptions and attach them to the maps. Take a few more maps than you have students. Set out the control markers, with a punch or a letter. Take a control card and record the answers.

Instructions:

Hand out the maps, control cards and pens if necessary.

Send the students on the different courses after they have shown that the map is correctly orientated.

When the course is completed the student takes the answers control card and checks their control card, they then take a new map.

The students should run as many courses as they have time for.

Tips 1: Have the students run the line in both directions, this saves time as you can send a few students at the same time. Many students will need to choose their own route as there are not so many that have run before them.

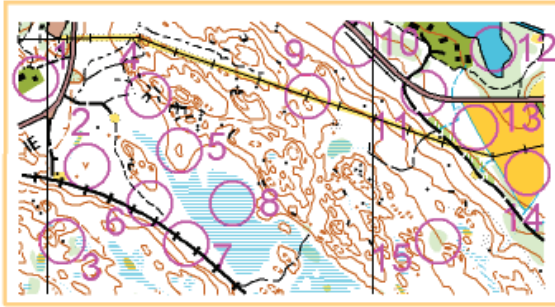


Yellow standard

The biggest challenge at this yellow standard is to begin to understand how the hills and how the difference in level is shown on the map. There will also be longer sections where they need to cut across between line features. The controls will start to be placed further from line a feature, which requires that they learn how to set, and follow, a compass bearing. At this level they should also understand how the different colours are used to represent visibility and how this could influence route choice.

- Compass and map reading to control points.
- Compass and map reading to clear line features.
- Understanding hills, when is it up and when is it down? Where is the highest point?
- Understand the colours and symbols that represent visibility.

Map symbols



- | | | |
|----------|-----------|-----------|
| 1. _____ | 6. _____ | 11. _____ |
| 2. _____ | 7. _____ | 12. _____ |
| 3. _____ | 8. _____ | 13. _____ |
| 4. _____ | 9. _____ | 14. _____ |
| 5. _____ | 10. _____ | 15. _____ |

The idea of the exercise:

A repetition of map symbols.

This needs:

Work sheets. Pens.

Preparation:

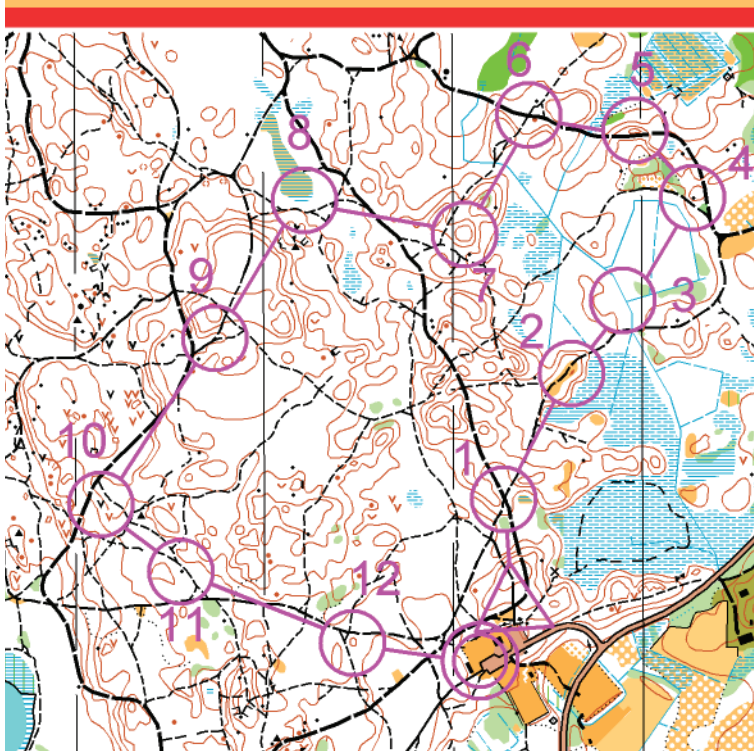
Photocopy the worksheets.

Instructions:

The students have to write down the map symbol that is the centre of all of the control circles.

Tips: This is an appropriate repetition exercise for those students who cannot partake in physical activities.

Control pick – forest environment



The idea of the exercise:

Route choice, practise understanding the map.

This needs:

Maps. Map bags. Control punches. Control cards. Answers.

Preparation:

Mark 10-15 controls on the map, most of the controls should be planned at the yellow standard. It can be an advantage to have some controls of an easier standard. Make control descriptions and attach them to the map. Take enough maps for each of the students. Set out the controls, with a punch or a letter. Take a control card and record the answers.

Instructions:

Explain the idea of the exercise. Hand out the maps and the control cards.

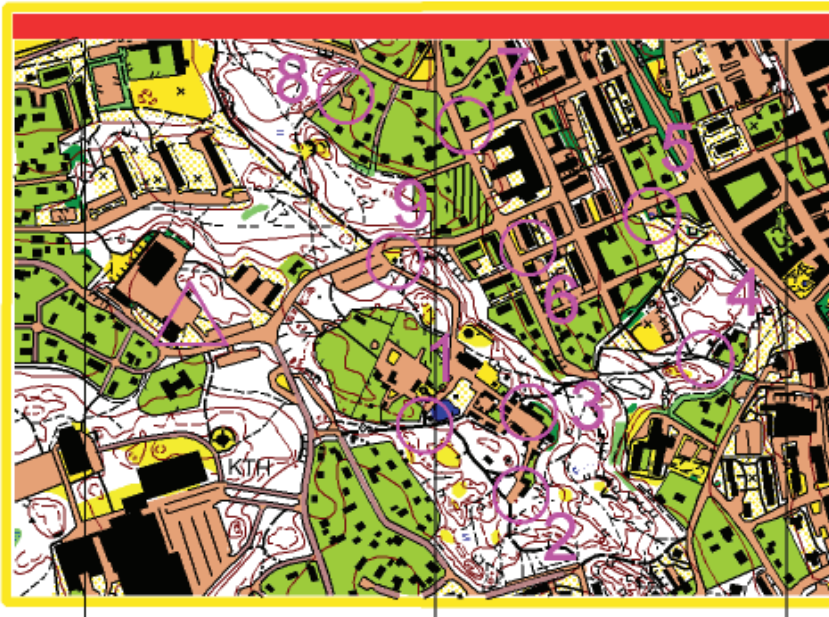
The controls can be taken in any order. It is an exercise with a time limit, so the students should go to as many controls as they can in the allotted time.

Send the students out after they have planned their route and shown that the map is orientated.

Tips 1: Vary the difficulty of the controls, it can be good to have some controls of green standard.

Tips 2: You can adapt this individually by marking which controls each student should go to on their control card.

Report orienteering



The idea of the exercise:

To practise reading the map.

This needs:

Map with controls drawn on. Pens.

Preparation:

Choose a number of appropriate control sites and draw them onto the map. At every control site write an appropriate question which can only be answered if they orienteer to the correct place.

Instructions:

Example questions:

What activity takes place in the house?

This house has moved here and was once a school. Where was the house when it was used as a school?

Which shops are there in the house?

The large tree that is to the north of the path is one of Sweden's most common types of tree, which sort is it?

How many parking spaces are there in this car park?

What address does this house have?

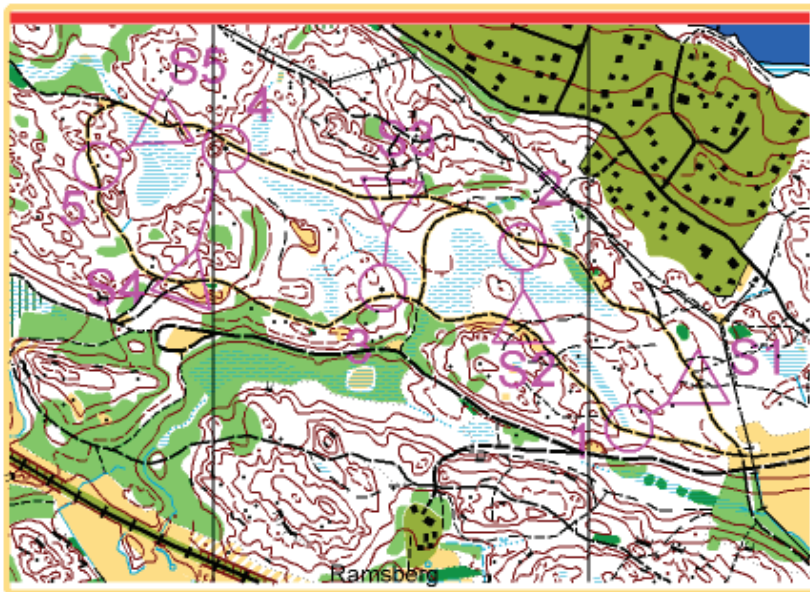
What colour is the letter box?

Which plant is it that loops around the pine?

What does it say on the stone?

Tips: This exercise is appropriate for subject integration.

“Slingerbulten”



The idea of the exercise:

To orienteer short legs between catching features and orientating the map, with help of the compass if necessary.

This needs:

Maps. Map bags. Control punches and other control markers and tape. Control cards. Compass if necessary.

Preparation:

Choose clear line features with about 100-200m between them. Set the courses with the start point on the line feature and the control beside the line feature, alternating between line features. Draw all of the controls on the map, and count out the right number of maps. Set out the control markers at the control points and tape at the start points. Take a control card and record the answers.

Instructions:

Hand out the maps and control cards.

Go through the point of the exercise.

Send the students out after they have orientated their maps.

Tips: You can mark the controls with letters which build a word.

Understanding hills



The idea of the exercise:

To practise understanding contour lines.

This needs:

Pile of sand, or similar. Pens. Paper.

Preparation:

Build a number of hills of various different profiles in a pile of sand, or something similar.

Instructions:

Gather the students around the “hills”. Discuss how the different profiles look.

Mark the contour lines into the sand, noting how they are closer together if the hill is steeper.

Talk about the contour distance on a map usually being 5m.

Let the students draw a map of the hills.

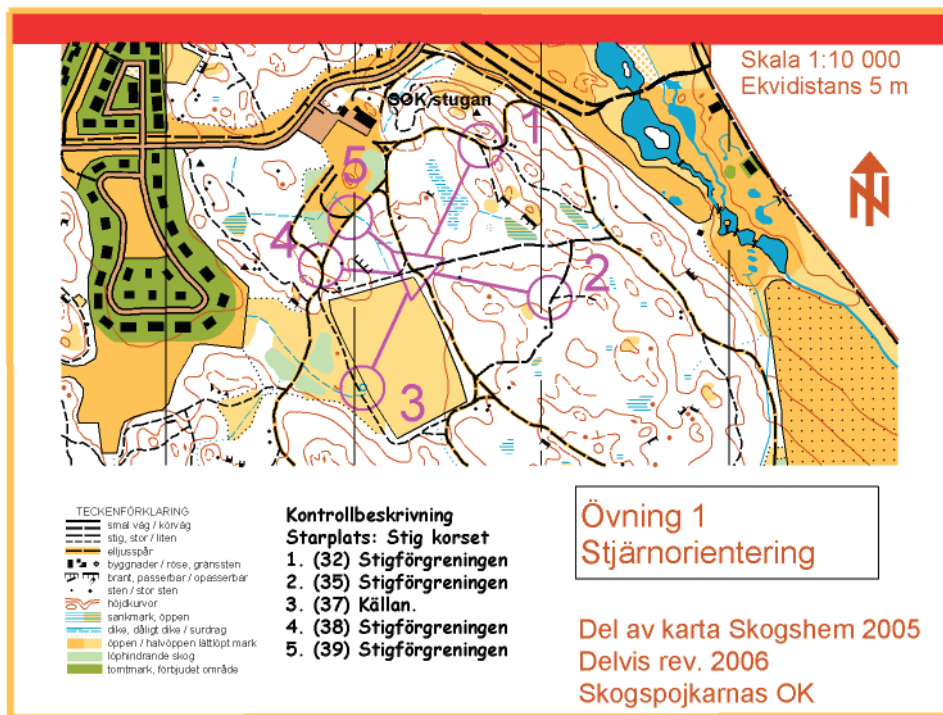
Tips 1: Instead of sand you can use snow, or a large appropriately formed boulder/stone to show how contour lines are used.

Tips 2: It can also be good to do this exercise in reverse. Provide the students with a finished map with one or more hills on and then they build the hills out of the sand.

Extension:

Let the students form new hills.

Compass star



The idea of the exercise:

Understanding the map, compass and reading the map at each control.

This needs:

A map. Control punches. Control cards and course order. Plastic crates.

Preparation:

Find a good start and finish point. Plan 5-7 different courses with one control per course. It is important to place the control just before a clear line feature. See the example map. Take a few more maps than the number of students you have. Write the same number on the back of the map as the number of the control. You need the same number of plastic crates as you have courses. Place the maps with the back side facing up. Set out the control markers. Take a control card and record the answers.

Instructions:

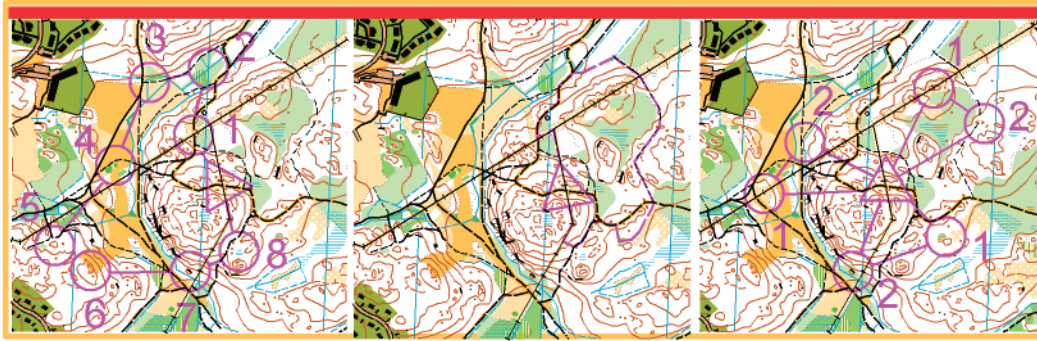
Hand out the maps, compasses and control cards.

Split the students up between the different courses and send them out after they have orientated their map.

The students should run as many courses as they have time for.

Tips: You can mark the controls with letters which build a word.

Bonus exercise – element course



The idea of the exercise:

Understanding the map, compass and map reading.

This needs:

Maps. Control punches. Control cards.

Preparation:

Find an appropriate start and finish point.

Plan three different exercise models. For example control pick, line orienteering and three leaf clover course (one map per course).

Take the right number of maps.

Set out the controls.

Take a control card and record the answers.

Instructions:

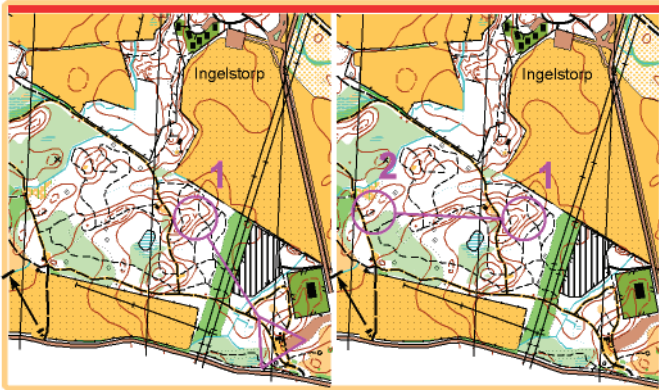
Hand out the maps, compasses and control cards.

Explain the point of the exercise.

Split the students up onto the different courses and send them out after they have orientated their maps.

The students should run as many courses as they have time for.

Bonus exercise – Quiz orienteering



The idea of the exercise:

To practise reading the map and orienteering skills. Instead of orienteering kites the controls are marked with multiple choice questions. In order to be able to run to the correct next control they must be able to answer the question correctly.

This needs:

Multiple choice questions. One map per student, with only the first control is marked on. Compass if necessary. Pens.

Preparation:

Plan a yellow standard course.

Mark the start point and first control onto the map. At the first control place a multiple choice question with three alternative answers along with a map with three new controls marked on it. These three circles should be placed relatively close to one another and with the corresponding number from the multiple choice answers written beside it.

At the correct answer they will find the next question but at the other two controls they will not find anything.

If necessary you can place some tape at the wrong answers so that the students know that they have answered wrong but have orienteered correctly.

At the correct answer they will find the next question and a map with three new controls marked on it.

You choose how many controls/questions you want depending on how long you would like the course to be.

Instructions:

Explain the point of the exercise.

Hand out the maps and send the students out once they have orientated their maps.

Tips: Set the course so that you don't need to go too far yourself when you set the questions out. The questions do not have to be orienteering related, vary the topics. For example you can include questions on other sports, Swedish history or English words.

Some suggestions for questions:

How many colours are there on an orienteering map?

- 1. 4
- X. 6
- 2. 10

If the map scale is 1:5,000 how far is 1cm on the map?

- 1. 500m
- X. 5m
- 2. 50m

Which colour on the map represents a hill?

- 1. Brown
- X. Black
- 2. Yellow

Bonus exercise – Sprint relay



The idea of the exercise:

Understanding the map, speed and excitement.

This needs:

Maps. Control markers with punches. Control cards with course order.

Preparation:

Find a start and finish point. Plan four different courses at the desired difficulty level. Call them A, B, C, D (see over). Copy the maps and control cards. Make a “course order” for the teams. See right. Split the maps up into plastic crates in place at the start.

Instructions:

Separate the students into teams, two students per team. Choose who will run which leg. The first runner runs legs 1 and 3 and the other runs legs 2 and 4.

Give every team a control card.

Send out those students who are running the first leg.

When the students come back to the start/finish they hand over the control card to their team mate who then runs the team’s second leg.

The first team to complete all 4 legs is the winning team.

Tips: You can reduce your work load by planning just 2 courses which both runners run in both directions.

Suggestions for “course ordering”

Team 1: ACBD

Team 2: ACDB

Team 3: CABD

Team 4: CADB

Team 5: BDAC

Team 6: BCAD

Team 7: DCAB

Team 8: DACB

Bonus exercise – Poker orienteering – Reading the map beside line features



The idea of the exercise:

Practise reading the map beside line features. A different and fun way of training orienteering.

This needs:

Map. One or two card games. A whistle if necessary. Control markers.

Preparation:

Find and mark out an appropriate number of control points on the map. Take enough maps so that all students have their own. Place playing cards at the marked controls.

Instructions:

Explain the point of the exercise. The aim is to win themselves the best possible hand of poker in the designated time. They are allowed to have 5 cards in their hand at one time. The idea is that the students must transport themselves between the controls where they will then be able to change their cards. The best hand of poker wins.

A good time limit for this exercise is between 15 and 25 minutes. It is useful to have a whistle to alert them of when each time limit is up.

Hand out 5 cards to each student at the start.

Give them each their own map and start the exercise.

Tips 1: For older students choose a large area. For younger students you can choose a smaller area where the cards are placed anywhere and they have no map with them (this then becomes a forest familiarisation exercise).

Tips 2: For those who are not familiar with poker you can decide that the highest card wins instead.

Tips 3: This also works in pairs or teams.

Forest familiarisation and games

These games which we have given examples for can achieve many things. In general it is to familiarise them with the forest and land around them.

In the same way that you play in water and the pool to gain confidence in the water when learning to swim it is important to feel comfortable in the forest if you are going to learn to use a map.

So with these games it is possible to train motor skills and team work. They also provide good warm ups and warm downs.

It is also important to remember that it is simply fun to play, which can give the students a positive relationship to being out in the countryside.



Map symbols - Green standard



This needs:

Tape or cones.

Preparation:

Mark out a playing area with tape or cones.

Split the students into small groups and name the groups after different map symbols, for example boulder, hill, lake and path. Every student can then stand next to a tree or a cone within the marked area.

Instructions:

One student, who is not standing by a tree says “all...boulders change places” or “map symbol” which means everyone changes places. The student who is not by a tree then tries to take a free tree while the others change places.

Then the student left without a tree calls out another instruction, “all...change places”.

The map symbol can be exchanged for animal names or plant names.

If there are too many trees in the area simply mark those that you are using with some tape.

The boulder, the hill and the path - Green standard



This needs:

A4- paper with different map symbols, a different map symbol on every page.

Preparation:

Find a marked off area containing a number of terrain features. The area shouldn't be too big and you should be able to see the whole area. Draw all of the existing terrain features onto different A4-sheets.

Instructions:

Gather all of the students and run through the game.

Show the A4-sheet with, for example, the boulder on. As quickly as possible the children should run and stand on this feature (it does not need to be the same one if there are more than one in the area).

Show a new sheet with a new symbol on. The game continues like this until you have used up all of the symbols.

The flag - Green standard

This needs:

A jar or container painted like an orienteering flag.

Preparation:

Look for an appropriate forest area with good hiding places.

Select a student to guard the “flag”

Instructions:

The student that is guarding the kite closes their eyes and counts to 50.

During this time the other students hide themselves within the designated area. The student who is guarding the flag then tries to find all of the hidden students. If he/she finds Pelle then he/she calls out “Pelle to the flag” with one foot or hand on the flag at the time. Pelle must then come forward. If someone has time to creep forwards and kick the flag then the “guard” is out and everyone returns and the game starts again.

Plaster tag - Green standard

This needs:

Tape or cones.

Preparation:

Mark out a game area with tapes and cones.

There should preferably be trees and bushes in the area.

Choose someone to be on.

Explain the rules.

Instructions:

The “tagger” needs to try and tag the other students with a touch of the hand.

A student who has been tagged has to place their hand – the plaster – over the place where they were tagged, the wound. If a student is tagged twice they need to use their other hand as a plaster over the new “wound”. After someone has been tagged three times they start to help the “tagger” instead.

The treasure hunt - Green standard

This needs:

“A trail”; for example in the form of different map symbols drawn onto small pieces of paper, control kites or tape. Treasure. Written signs.

Preparation:

Put the markings in order to form a trail that is easy to follow. Write instruction signs, such as “Now the thieves have a hole in their sack and the map symbols they have stolen are falling out of the sack. Follow the map symbols.” Set up a new instruction sign when the type of marking finishes. Set up a treasure chest where the trail ends. The treasure can be something to eat or the map to the next exercise. Be prepared to improvise.

Instructions:

The students should follow the trail individually or in pairs.

Attention path - Green standard

This needs:

Tape. Objects to place out in the forest.

Preparation:

Mark out a course using tape and place out the strange objects.

It can be objects such as a compass, a map, a training shoe, a water bottle etc.

Place the objects on different hills, some of the objects can be hung from trees and others can be placed on the ground.

Instructions:

The students should walk the trail you have set with tape and all the time pay attention to what they see out in the forest.

When they come back they are required to explain what objects they have seen on the walk that do not belong in the forest.

Red and white flags - White standard



This needs:

A mini orienteering flag. Red bands or bibs.

Preparation:

Split the students into two teams, a red and a white team.

Give the red team the bands or bibs.

Mark out the playing area with tape or cones.

Instructions:

One team, for example the white team, begin by hiding the mini orienteering flag in a cunning place. The whole team need to know exactly where it is hidden. The other team, the red team, gather themselves somewhere out of sight and wait until the flag has been hidden.

When the white team are ready they call the red team back and they then need to find the flag. In order to make it easier to find they can catch a member of the white team. When they have captured someone they must provide a clue as to where the flag is hidden. When the red team have received the clue they let the captured person go again. When the red team manage to find the flag it is their turn to hide the flag and the teams switch roles.

Variant of the exercise:

When someone is captured they must provide 3 clues as to where the flag is hidden, but only one of these clues is true.

By doing this it is a little harder to find the flag and you can trick the other team into looking in the wrong place.

The statue - White standard



Preparation:

Split the students into teams of 4 people.

Instructions:

The teacher orders, for example, “three hands and five feet on the ground”. The team then need to lift or support each other in order to have a statue that meets the teachers order.

The students should solve the problem together and be inventive.

The first to solve the problem is the winning team.

The teacher then gives a new order.

The parasite - White standard

This needs:

Different coloured drawing pins. Tape if necessary.

Preparation:

Look for an appropriate area in the forest with natural boundaries or mark out the boundaries of an area with tape. About half the size of a football pitch is appropriate. Place the drawing pins securely, of three colours, in trees and roots. Different number of each colour, with the ratio of 1:2:3.

Instructions:

Tell the students that there has been an invasion of insects within the area. They have taken possession of the trees in the forest copse and everyone needs to help to get rid of them. They breed quickly so the students need to be quick. The land owner has promised a reward to those who gather in the insects; 15, 10 and 5 points respectively for the different species. One of the species is rare, one common and one exists in abundance. The students need to search for the insects in patrols or smaller teams and those who get the most the most points win.

A variant on the exercise:

If you want to protect the trees and use something that is easy to collect we recommend that you use buttons of different colours instead.

Tarzan course - White standard

This needs:

Tape or if necessary rope.

Preparation:

Tape a route through tight thickets, over boulders, balancing on roots, up and down steep hills, preferably with rope as an aid. Make the course tough but with a “cheat route” round the obstacle.

Instructions:

The students need to follow the trail and take themselves round as Tarzan would have done. This can be done individually with gaps between the students or in a group.

Jungle rounders - Yellow standard

This needs:

Tape or cones. A rounders bat and a ball. Rounders base

Preparation:

Mark the rounders posts out with cones or tape.

Or it is possible to use trees and bushes for the pitch.

Instructions:

Play as a normal game of rounders.

Jungle football - Yellow standard

This needs:

Tape. Football.

Preparation:

Mark out the football pitch and goals with tape in an appropriate area in the forest.

There can be bushes and trees on the pitch.

Split the students into teams.

Instructions:

Play as a normal game of football.

Pole football - Yellow standard

This needs:

Football. Sticks of about 30cm in length

Preparation:

Use a pole or a tree as the “goal”. Split the students into teams.

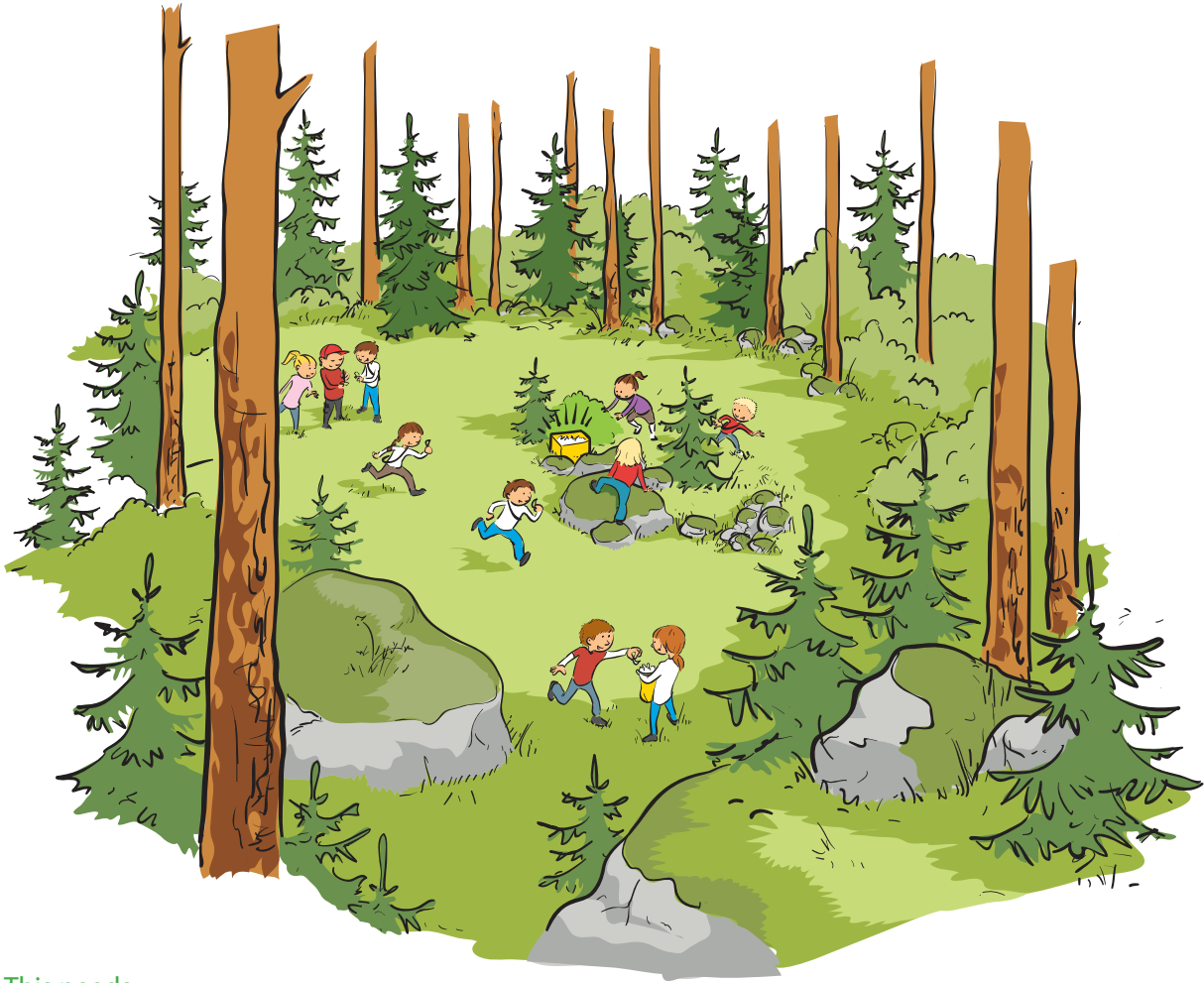
Instructions:

All the players need to hold a stick, with both hands, behind their back.

Both teams have the same goal, and a goal is counted when someone kicks the ball so that it hits the pole or the tree.

For the rest of the game the rules are the same as in normal football.

The post master - Yellow standard



This needs:

A plastic container with small control markers in. Bibs or bands in two colours. Two pens, or the same colour as the bibs/bands. Tape, if you need to mark out the playing area.

Preparation:

Find an appropriate area in the forest, about as big as a football pitch, preferably with natural boundaries, or mark these boundaries with tape. Hide the “treasure” which is the container with small pieces of paper in. Choose a “post master” and a “post box”. Split the students into two teams and differentiate the teams with the bibs. Explain and show the boundaries of the area.

Explain that in the area there is some buried treasure and that there is also a “post master” and a “post box”.

Instructions:

On a given signal everybody runs and searches for the treasure.

When someone finds the treasure they take a piece of paper. Then they search for the “post master” who is moving around the area all the time. The “post master” then marks the piece of paper with that teams colour.

Then they need to find the “post box”, who is also moving around the area, and post their piece of paper (i.e. place it in a bag or similar). They then go back to the treasure, take a new piece of paper, have it stamped and post it, and so on. The game is over when there are no more pieces of paper in the container or when it begins to get boring. The team with the most pieces of paper wins.

