

# MAP MAKING

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The first maps used in Kiwi Orienteering are simple maps, hand drawn by the children themselves. See Understanding maps on page 8 and Mini Maps on page 12.

After that a school grounds map is used. Making a simple map of the school grounds is not particularly difficult. It has considerable value as an activity for able students. See the following section on Do-it-yourself maps.

Kiwi Orienteering progresses from the school grounds to local parks and school camps. The same principles for mapping a school apply to parks and school camp venues. See the following section on Do-it-yourself maps.

Alternatively, for a professional standard orienteering map of your school, local park or school camp venue contact your local orienteering club. See Contacts on page 42. They will probably have a mapper who is prepared to map any of these places in colour for a nominal fee.

Orienteering mappers use Ocad (software for orienteering computer aided design). An older version, Ocad 5 can be downloaded for free and used to draw school, park and school camp maps (see page 36).

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## Do-it-yourself maps

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Hand-drawn maps are quite acceptable for school grounds, parks and school camps.

### Required

- The principal's map of the school buildings (the Asset Plan) or plan of other area.
- Alternatively, an aerial photograph of the school or other area. These can be obtained from the Council for a few dollars.



The local Council can provide an aerial photograph of the school.

- Tracing paper or (much better) draftsman's drawing film.
- Pen or pencils of different colours for fieldwork.
- Fine felt tip pens of different colours or thicknesses for cartography.
- Laser printing for the title and the key.

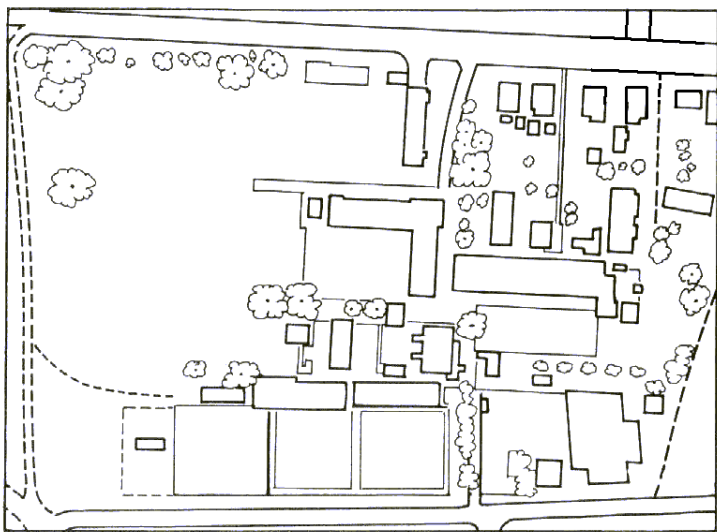
### Procedure

Decide which part of the photograph or plan you wish to use. Reduce or enlarge that part until it roughly fits an A4 - A3 page.

If your basemap is a copy of an aerial photograph, it may not photocopy well for reduction / enlargement. It is best to trace what you can see onto tracing paper or draftsman's film, discard the original photograph and reduce / enlarge the tracing.

Tape over your fieldwork yet another fresh piece of tracing paper or drafting film.

Walk around the area drawing what you see onto the film. It is often best to completely re-draw (trace) everything you want to map, but sometimes you can just make careful corrections and additions.



Trace what you can see on the photograph to make your basemap.

If you have completely traced the basemap, remove the fieldwork tracing from the original basemap and discard the latter.

Tape over your fieldwork yet another fresh piece of tracing paper or drafting film.

Go over the tracing neatly with a ruler and pen. Consider using different thicknesses of black pen, or different colours.

Add the title, the key, the date and your name.

### What to map – the three principles

1. Map anything that might impede the orienteer's progress, like bush, high fences or a creek.
1. Map anything that the orienteer might use to navigate by, such as a path across the sports fields.
2. Map anything that would be useful as a control site. (If you want to attach permanent control markers, make sure you map wooden objects!)

### What not to map

**Fine detail** crammed into a small area is too hard to map. Just map the major features.

### Prominence in Context

Map what stands out; don't map detail that is lost in the noise. A 50cm knoll in the bush probably doesn't stand out; such a knoll on the field does stand out, and should be mapped. Consider the child's point of view. Drinking fountains stand out to them!

**Overhead structures** are often too hard to include, unless you have only one or two to handle. If your school has many sheltered pathways, it may be best to ignore them and concentrate on what can be seen at ground level.

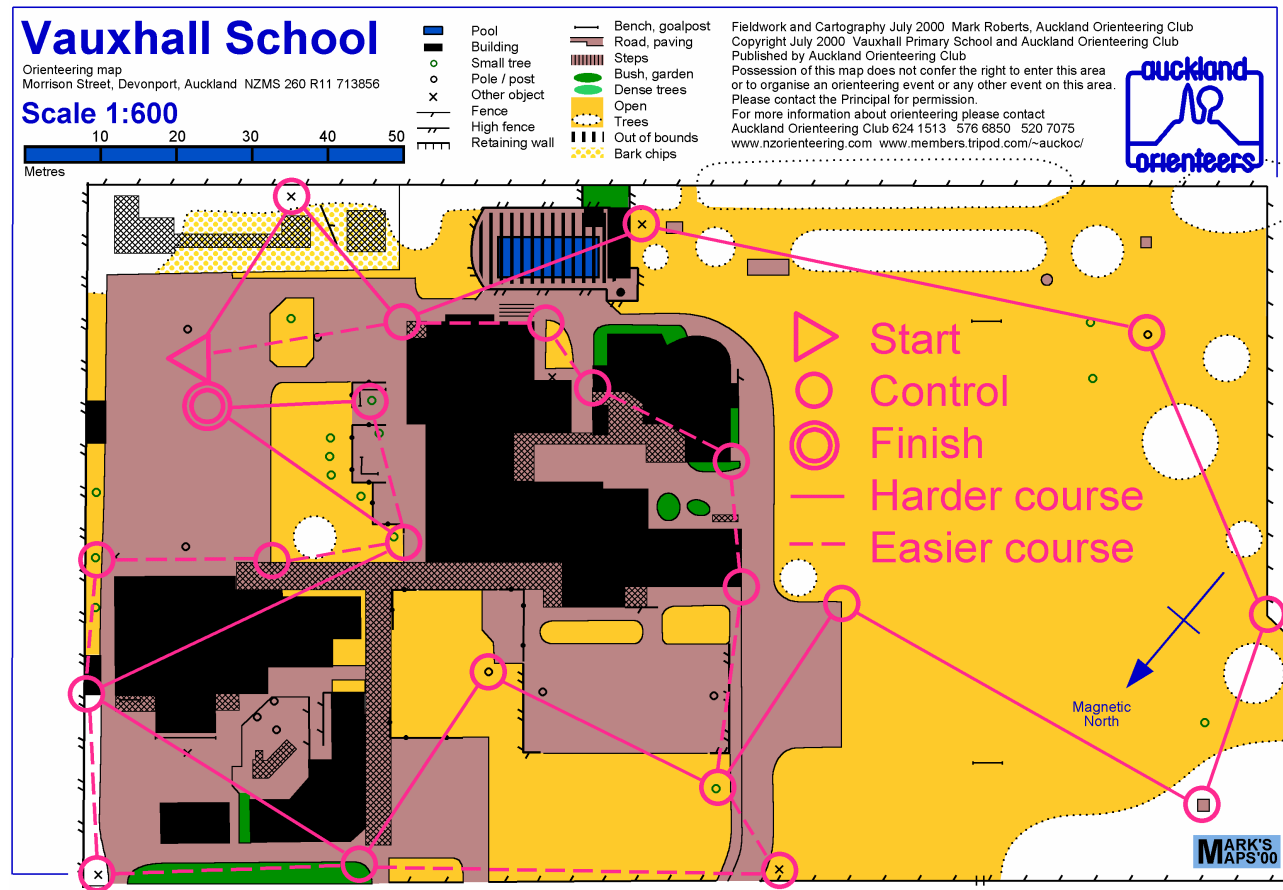
**Benches** can be ignored if there are dozens of them under the eaves of every building - they add little for the extra effort.

**Buildings** should be outlined at ground level - note that the aerial photograph will show eaves.

## Computer drawn maps

A skilled orienteering mapper will draw your map using Ocad, the software used for orienteering maps all over the world. The international standard symbols specified by the International Orienteering Federation could be modified or extended for the special needs of school maps.

See Contacts on page 42 for a list of mappers and your nearest club.



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## Do-it-yourself maps using mapping software

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An older version of Ocad, the mapping software used by mappers - Ocad 5 can be downloaded for free (see page 43 for contact details) and used to draw school, park and school camp maps. It has considerable value as an activity for the more able students.

The procedure is similar to hand drawing maps except it does away with using tracing paper / draftman's drawing film.

### Required

- The principal's map of the school buildings (the Asset Plan), or plan of other area.
- Alternatively, an aerial photograph of the school or other area. These can be obtained from the Council for a few dollars.
- Clipboard and pen or pencils of different colours for field work.

### Procedure

Put a copy of the plan or the aerial photo on a clipboard. Field work the area; that is walk around the area, adding features using the appropriate mapping symbols, and colouring different areas in orienteering map colours, e.g. buildings are black, open areas, e.g. grassed areas are yellow.

Use the software to scan your map, and then draw over it using the appropriate symbols, and colour in buildings, grassed areas, etc.

When the map is completed print it, and go around the area again checking for accuracy. Complete any corrections. Add a title, a legend showing what the symbols used stand for, the name of the mapper and date the map was completed. Make two disc copies of the map and store in different safe places.

The map can be updated as required. Be sure to save the updated map on disc, and to write on it the date of the update.

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## Hiring a mapper

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Your local orienteering club may be able to put you into contact with a competent and willing orienteering mapper in your area.

The mapper will probably ask you for the Asset Plan of your school. Ideally, it should be reasonably up-to-date, and should show the whole school grounds. It's OK to provide two plans - one for the buildings and a second at a different scale for the grounds.

Expect your mapper to do something like the following:

- Identify themselves to the Office on arrival at the school.
- Take possession of your Asset Plan and manipulate it using your photocopier to create a basemap.
- Alternatively, go to the local council office to source an aerial photograph of the school to create the basemap.
- Fieldwork the school grounds by walking around with a clipboard. (Note that the mapper will not use precision surveying equipment, but will rely upon his eyes and experience to survey the map.)
- Draw the map in Ocad and supply you a sample print in colour.

*Now it is your turn: check the map thoroughly, including a field check (walk around the mapped area comparing the map to the features in the area) if you possibly can. The mapper is only human and may have missed some details. Make any corrections you have noted on the sample map and return it to the mapper.*

The mapper will then

- Complete any corrections
- Arrange printing of a class set for you.
- Supply the Ocad file to you on disc.

In addition, your mapper may be happy to:

- Help you choose control sites and to design courses.

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## Printing maps

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Some schools have laser colour printers these days. You can print the map from the disc the mapper supplies you with, or from your file, if you draw your own map using Ocad.

You can download a demonstration version of Ocad 7 or 8 free of charge from the Ocad website. Look in Resources (page 42) for the address. It will run on a Windows PC only. The free version allows you to do most Ocad functions except for substantial changes to maps, so for instance you can't use it to draw a map from scratch. It will allow you to print the map on your laser printer and you can do limited manipulation of courses and control sites.

Consider using Ocad to print maps as and when you need them, instead of photocopying a master map, which always gives a poorer result.

If your school does not have a laser colour printer your mapper will help you get the maps printed at the local copyshop, or the copyshop they use. Alternatively print one copy on an inkjet and then colour laser copy it at the local copyshop. Note: it is very expensive to print a class set on an inkjet.

If a laser printer at your copyshop has an Internet connection you can email the map as an EPS file.

Colour school maps come out well on a Black & White laser printer. Bush and forest maps rely upon colour tints to convey the runnability of the terrain, influencing route choice. This is rarely relevant in a school map.

### **A laminated class set of maps**

One option is to print a class set of maps in full colour and laminate them for frequent use. This has both advantages and disadvantages. Here are some suggestions and observations.

Print more than you need - perhaps 40 - to allow for losses.

Laminate them strongly with plenty of overlap - they will be used and abused in damp conditions, and a single pinprick will allow moisture to enter and destroy the map.

Colour printed maps cost less than a dollar each. This may be too expensive for a single use but cheap for a class set. Lamination adds to the cost.

Courses can be drawn on the laminated maps using a fine pointed permanent marker, which can be removed subsequently using methylated spirits.

When laminating a class set, consider laminating onto the back, either the instructions, course combinations, or maybe the local park map.

Another option is to put each map in a resealable plastic bag. This will be cheaper than laminating, but the maps will not last as long.

Ideally, your students will take their maps home to show their families. They can't do this with a reusable map.

School grounds change quickly so don't expect your laminated class set to last more than (say) a couple of years without updating and reprinting.