

# ORIENTEERING AND THE SCHOOL CURRICULUM

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Orienteering is mainly about recognising spatial relationships - relationships of distance and direction. It is part of the school mathematics syllabus.

The geometry programme for children in junior classes includes arranging objects on the floor and outlining the arrangement on paper having regard to size, shape, distance and direction. The Desktop Map game could thus be regarded as mathematics activities and taught in maths time.

The following are part of the maths programme for middle school classes:

- Mapping the classroom.
- Mapping the child's home.
- Mapping the streets between home and school with the route from home to school marked.

Gathering information, identifying relationships, considering all the factors involved in a given situation and making sound decisions underlie the work of most subjects but that of social studies in particular. Effective use of these skills is central to success in orienteering.

Orienteering thus provides opportunities to apply syllabus skills and understanding in a social context. For example:

- *Social Studies:* Maps, plans, contours, and landforms land use, urban and rural surveys
- *Physical Education and Health:* Walking and running, agility running off tracks
- *Mathematics:* Plans, spatial relationships, scales, angles, symbols, time, distance, speed, arithmetic, surveying, estimating

*Outdoor Education:* An essential introduction to any form of Outdoor Education, allowing students to work independently, without constant instructor supervision.

*Personal Development:* Practises planning ahead, problem solving and decision making. Helps develop memory skills, concentration, as well as self-confidence and self-esteem.

*Orienteering provides an ideal combination of skill development for health, fitness and intellectual stimulation.*

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## MAP GAMES

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Map games are games that can be played indoors, in the classroom, library, etc. that practise navigational skills. Several games are described on the following pages (26 - 32).

They involve activities that are part of the school curriculum.

The games can be a useful lead-in to orienteering.

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| ▪ Circle of Friend, page 26.               | All ages     |
| ▪ Indoor Navigation, page 26.              | All ages     |
| ▪ Desktop Map, page 28.                    | All ages     |
| ▪ Treasure Island, page 28.                | All ages     |
| ▪ Orienteering Island, page 30.            | 7+ years old |
| ▪ Individual Orienteering Island, page 31. | 7+ years old |
| ▪ Trying To Trick You, page 32.            | 7+ years old |

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## Circle of Friends game

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### Aim of session

- To introduce map reading and drawing.
- To demonstrate the importance of turning a map the right way round before doing any map reading.
- To give the instructor the opportunity to learn a few names when working with a new group or class.
- To introduce following a marked route.

### Required

- A2 paper, e.g. newsprint
- Several different coloured vivid markers or crayons.

### Procedure

The children must be sitting in a perfect circle, which will include the instructor. Leave room to walk between each two children.

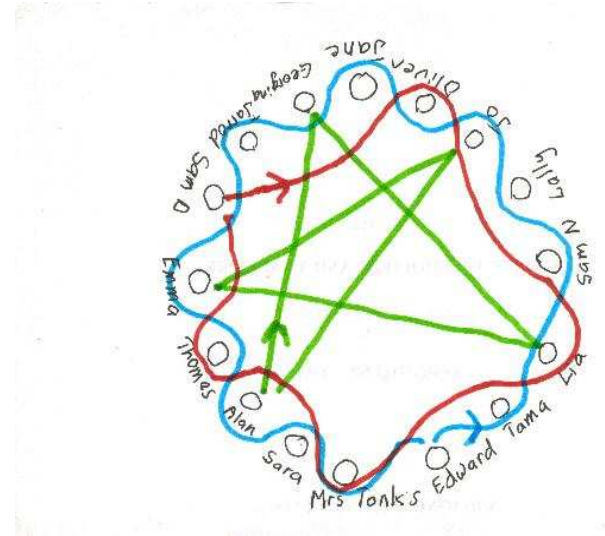
If there are more than 16 children divide them into pairs. One child sits on the chair and their partner sits on the floor in front of them.

Draw a "map" of the (inner) circle of children. Put your name next to the symbol representing you on the map. Fill in two or three other names by pointing to a child on the map and asking who it is.

Now turn the map upside down and ask children for a few more names by the same method. They usually twist their bodies or heads to make the map fit the ground again. This is a good demonstration of how awkward it is when the map is not orientated the same way as the features. Fill in all the names.

Draw a route for one child to follow, e.g. across the circle, around the person opposite and back to their place.

Draw some other routes for different children to follow, simple at first, then gradually becoming more complicated. Use different coloured markers or crayons for different routes.



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## Indoor Navigation game

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### Aim of session

- To continue the introduction of map reading and drawing
- To practise putting out control markers
- To practise reading the map and finding control markers

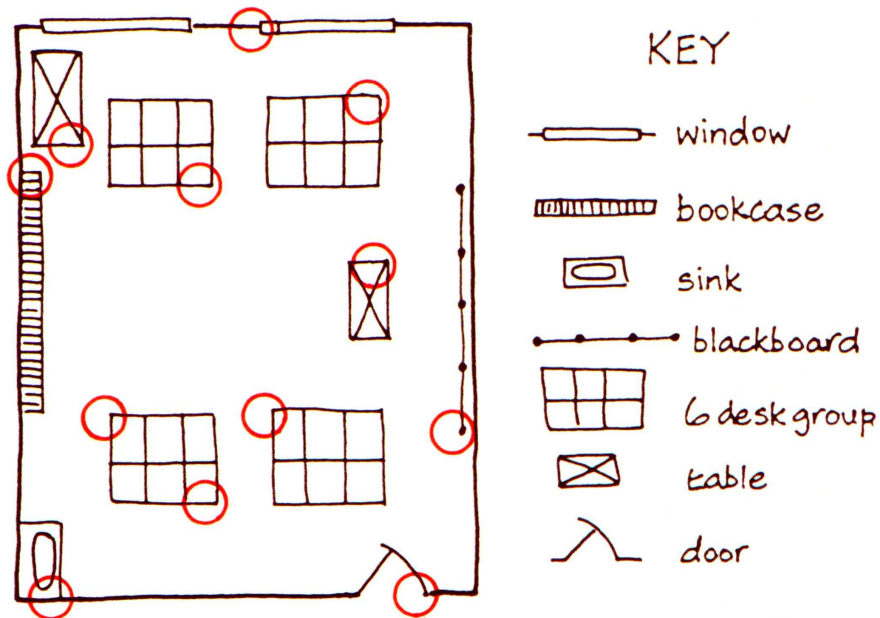
### Required

- A2 paper, A5 or similar paper and pencils
- Black and red vivid markers or crayons
- Mini controls - coloured stickers

## Procedure

Draw a simple map of the room on the sheet of paper. Draw a few things in the room and get a few children to go and touch these things. Ask what has been left off the map. Ask children to point out these things to you and show you where on the map to put them. Set rules about what you feel is too small to include on the map.

Draw a red circle around a feature on the map, e.g. a corner of a table. Ask someone to put a mini O marker at the exact location of the centre of the circle that you have drawn on the map. Do this with a few stickers until they all see that the circle on the map represents a sticker on a feature in the room.



Now give everyone or pair a sticker. Tell them to write a letter or symbol on it, and then find a location in the room to stick it. Outline basic rules about how hidden the stickers can be. Also give everyone or pair a number, i.e. 1, 2,

3, etc. that will identify their circle when they draw it on the map, but is not to be written on the sticker.

Participants then quickly put out their stickers in the room. They then draw a circle on the map where they have put their sticker. The circle's centre must be on the exact location of their sticker. They write the number the instructor gave them next to the circle on the map. They do not write their chosen letter or symbol they put on their sticker on the map because this is the answer that the other participants have to find.

Next everyone should list the number of stickers on a piece of paper to make an answer sheet. When the instructor says go, the game is to find as many of the locations of stickers as possible, and to copy the letter or symbol answer next to the number on their answer sheet. This way they have to relate the locations drawn on the map to the actual locations in the room. They also find it advantageous to use the map to find the locations rather than just search around the room for stickers.

After a set time limit everyone sits down and individuals are asked to disclose the letter or symbol they had on their sticker, and what number it was on the map, so that people can check their answers at the end. This is best done in number order.

At this point frustrations about stickers not being in the place shown on the map and stickers being too hidden can be discussed. A small mistake can make a potentially successful session into a disappointing experience, thus putting participants off orienteering and navigational activities.

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## Desktop Map game

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### Aim of session

- To continue the introduction of map reading and drawing.
- To practice relating maps to the areas they represent.

### Required

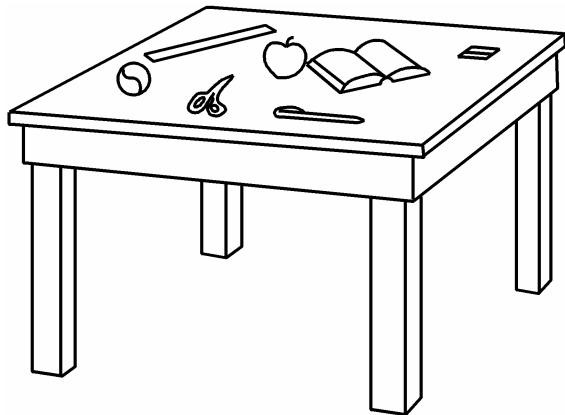
- Items in each child's desk.

### Procedure

Ask the children to arrange a few items from inside their desk on their desktop, e.g. a felt pen, rubber, notebook, ruler, scissors, calculator. Tell them to try and arrange them differently to those of their neighbours.

Children draw the layout of the items on the desk. They should **not** write their name on their map. Ask the children to go outside the classroom and to give you their map as they go. Shuffle the maps.

The children then return to the classroom, taking a map from you as they go. They should try and identify the desktop depicted on the map they have received.



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## Treasure Island game

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### Aim of session

- To introduce the drawing and use of picture maps.
- To practise turning the map "to fit".
- To work out ways to go (routes).
- To practise giving and following directions

### Required

- Items such as those listed below for constructing the island.
- Clipboard, pencil, rubber and unlined paper for each participant.
- A Lego pirate or similar miniature toy person.
- Black and blue vivid markers or crayons.

### Procedure

Teacher reads a pirate and Treasure Island story (to set the mood!) to the class or group, then makes a miniature Treasure Island. Make a simpler island with fewer features for younger children and a more complex island for older ones.

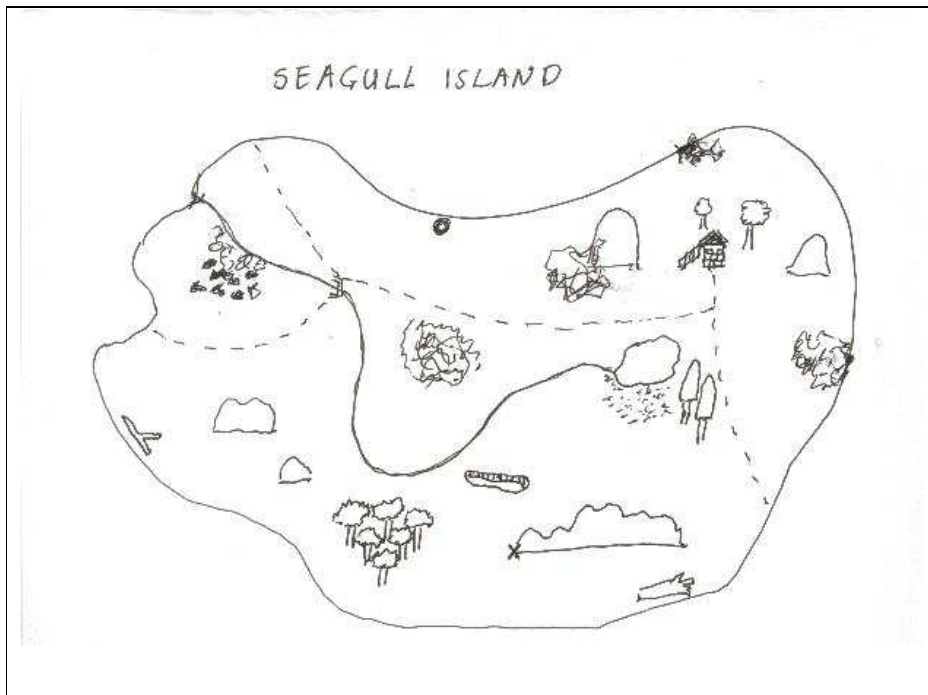
Put down a sheet of blue paper or plastic for the sea. Cut an island shape out of a piece of cardboard (A4 or bigger), and place it in the sea. Use a blue plastic bottle top filled with water for a lake. Make a river by drawing a line in blue from the lake to the sea. Draw two or three tracks in black. A block with windows and a door drawn on it can be a hut.

Use some sand to make two or three hills, and maybe an area of "quicksand". Use some blu-tack to hold up some leafy twigs for trees, or use Lego trees. Make a bush and perhaps a hedge with something like sprigs of parsley. Add a manmade feature such as a tyre off a toy car. A stone can be a rock and a piece of bark can be a log. Some staples can be used for a bridge.

Now ask a few children to describe the island - the shape of it, and the relationship of the features on it, e.g. What is behind the hut? What is

beside the tyre? What is between the log and the hill? What is the closest thing to the bridge? What is next to the log? What is on top of the hill?

Next ask the children to draw a picture of the island - a pirate's map. Some children will be faster than others. Suggest that when they finish they should think up a name for their island, and draw some things that live in the sea, e.g. whales.



Tell the children that they are going to have turns at hiding some treasure and finding it. Show them the "gold" - a round yellow adhesive label. Demonstrate how to hide the treasure. Choose someone's map and show how to mark where you have hidden the treasure. A small toy boat can be placed at the landing place, which should be on the other side of the island.

Explain that the map must be "turned to fit the ground". Now describe the route the pirate who gets the map is going to take. Tell where the pirate will land, and what he will see as he makes his way to where the treasure is buried.

For example: "I am going to land by the log. I will turn left and follow the coast until I come to a track. I will follow the track. On my right hand side I will see a long mountain. I will pass a big rock on my left and then a tree. Soon I will come to a track junction. I will turn left towards the river. I will cross the bridge over the river. At the end of this track is a hut. I will dig up the floor of the hut and there I should find the treasure."

After you have described your route use the toy pirate to walk the route and dig up the treasure.

Choose a child to hide the treasure. The other children must shut their eyes while the treasure is hidden. The child marks their map to show where they have hidden the treasure. Choose someone to read the map and give directions for the route to be taken to find it. Choose a third child to follow the directions, using the Lego pirate to "walk" along the described route, then use the toy pirate to walk the route. Repeat this until each child has had at least one turn at one of the roles.

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## Orienteering Island game

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### Aim of session

- To introduce orienteering symbols.
- To practise drawing maps using orienteering symbols.
- To practise short orienteering courses on the island, deciding on ways to go.

### Required

- The island used for Treasure Island.
- Clipboard, pencil, rubber and unlined paper for each participant.
- Black and white orienteering map symbols list (See page 14)
- Three or four miniature orienteering controls.

### Procedure

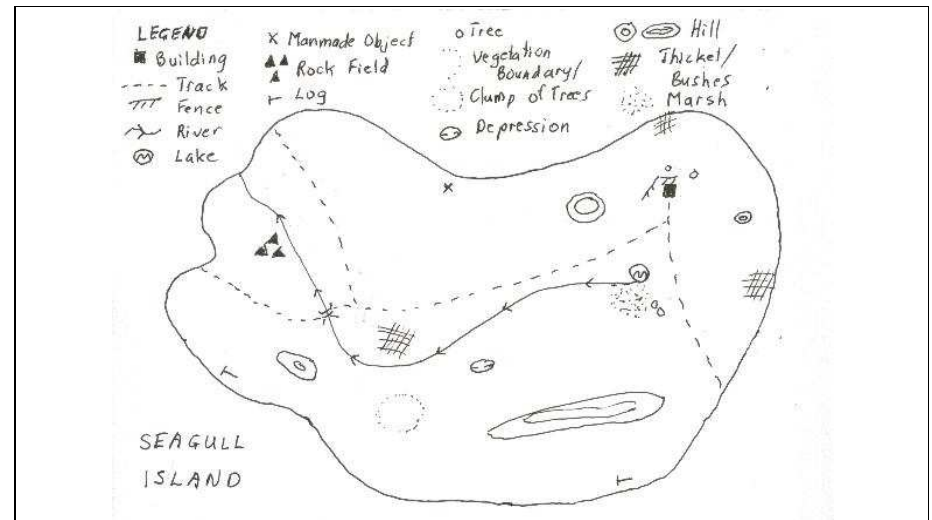
Instructor tells children that they are now orienteers.

Orienteering is similar to using a pirate's map to look for treasure, except instead of reading a map to find treasure, orienteers read a map to find controls, and the controls should be easily seen when close to them.

Display the list of orienteering symbols and explain that they are to use them to draw their maps. Each child then draws a map of the island using the symbols. They should list the symbols used in a key or legend on their map.

Next they are going to have turns at setting a short orienteering course, reading the map and doing the course. Show them the miniature orienteering controls. Demonstrate how to choose places to put the controls, and choose a start and finish place.

Show on the blackboard or whiteboard how to draw the course on a map.



Orienteering Island map

Chose a Start place on the island and demonstrate how to mark it on the map with a red triangle. Choose 3 or 4 control places and demonstrate how to mark each place on the map with a red circle and to number each one to show the order of visiting them. Choose the Finish place and demonstrate how to mark it on the map with a double red circle.

Now describe the route you are going to take. Tell where you will start, and what you will look for as you make your way to each control, and why you chose that way to go. After you have described your route and what you will pass on the way, use the toy pirate to walk the route.

Select someone to be the Course Setter whose job is plan a course and put out the controls for it. The Course Setter marks their map to show where they have put the controls, as well as marking the Start and Finish places. Choose a second child to read the map and give directions on how to do the course. Select a third child to carry out the directions and follow the route described. Repeat this several times until each child in the group has had at least one turn at one of the roles.

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## Individual Orienteering Islands game

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### Aim of session

- To practise drawing maps using orienteering symbols.
- To practise reading orienteering maps.
- To practise using orienteering maps and deciding which way to go.

### Materials

- A collection of items such as used for Treasure Island, enough for the group of children to use to construct their own islands.
- Clipboard, paper, pencil and rubber for each participant
- 3 or 4 miniature orienteering controls per child (See page 14)

### Procedure

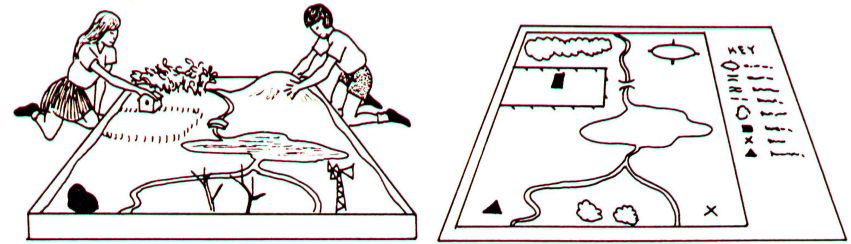
Each child constructs an Orienteering Island on his/her desk.

Each child sets a course, using three or four controls, chooses a Start and a Finish place, and then draws a map of it using the symbols. A legend should be put on the map that shows the symbols used.

The children can then "visit" other islands and use the map of it to do the orienteering course.

The children can continue visiting other islands until they are competent at turning the map to fit the ground, recognising the symbols, matching them to the features, and doing the course on each map.

Alternatively they could make a large-scale model as illustrated.



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## Trying To Trick You Game

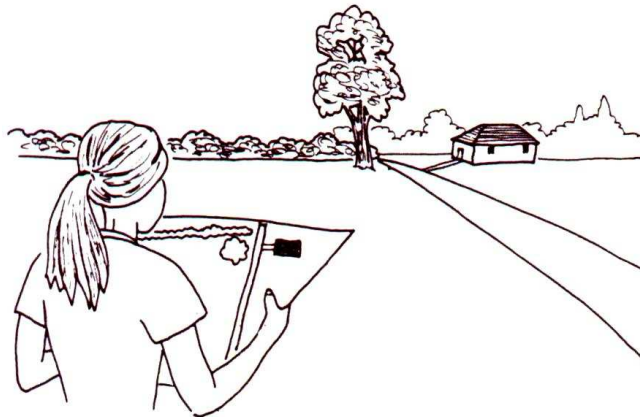
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This game practises the skill of turning a map the right way round; that is, turning the map to fit the ground. (The orienteering word for this is *orientating* the map.) It can be played every time a new map is introduced.

Stand the children in the mapped area. Ask them to look around to see what features are in the area. Features may be: area of grass, netball court, footpaths, buildings, trees, bushes, gardens, fences, walls, goal posts, cricket pitch, rubbish bins, benches, water tank, etc.

Ask them: What is close to them? What is far away? What features are close together? Can they see everything in the area? What can't they see? If it is an unfamiliar area naturally they won't know what they can't see. It is important that they observe what they can see around them so they can work out on the map where they are.

Now give each child a map of the area. Ask them to turn their map to fit the ground. Walk around the group to check if all have turned their maps. Children can check the others beside them to see if they have them turned the map to fit the ground.



Map turned to fit big features

If there is a road on the map that can be used to help turn the map round the right way.

Any writing on the map should be ignored when it comes to turning the map. It doesn't matter if the writing is sideways or upside-down.

Stand in front of the children when they have all turned their maps. Tell them you are going to try and trick them to turn the map the wrong way around. Walk a quarter of the way around the group until they are side on to you. Ask them to turn to face you.

Some will keep the map turned the right way as they turn, changing their hold on the map. Others will turn and their map will also turn. Then they will realise the map is no longer turned to fit and will correct it. Yet another group will turn and their map will also turn, and they will need prompting to turn their map. Others try and swivel their map without moving their feet.

There may be a few who have not yet grasped the concept, and will not be able to turn it the right way around. Walk around to behind the children and ask them to turn to face you. This time you will notice that more children will keep their map turned.

Move to different positions around the group a few more times until most, if not all children are automatically keeping their map turned.

If any children have particular difficulty turning the map to fit and turn their bodies instead, another method to use is as follows. After getting them to have the map turned correctly, to then place the map on the ground and move themselves around the map to face in the required direction before picking the map up again.

(No matter where you are or in what direction you running, it is the orienteer who changes direction, not the map.)