



SCOUT MEETING SCHEDULE: WEEK 1

Theme: Map and Compass "A"

Date: _____

<i>Time</i>	<i>Activity</i>	<i>Program Details</i>	<i>Leader Responsible</i>
15 mins.	Gathering Activity	Guard the Pin Game <i>(See detail planning sheet)</i>	_____
10 mins.	Opening Ceremony	<i>Details can be found in the Scout Leader's Handbook</i>	_____
20 mins.	Game	North, South, East West <i>(See detail planning sheet)</i>	_____
40 mins.	Skills	Review basic compass, skills and map symbol identification <i>(See detail planning sheet)</i>	_____
20 mins.	Game/Challenge	Map Symbol Relay <i>(See detail planning sheet)</i>	_____
20 mins.	Patrol/Troop Meeting	Map Drawing Session. <i>(See detail planning sheet)</i>	_____
10 mins.	Closing	<i>See Scout Leader's Handbook</i>	_____
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	_____

Badge Links: _____

Meeting Notes: _____



GAMES: Guard the Pin

Purpose

- This game is fun, and requires fast reaction and teamwork.

Equipment

- Leaders will need one plastic bowling pin (or detergent bottle) and one soft sponge ball.

How to Play

1. Put the bowling pin in the centre of a circle, about one metre in diameter. One player is selected to guard the pin. The guard must stay outside the small circle.
2. Form the rest of the Scouts into a large circle, one arm's length apart, around the circle containing the pin.
3. Players in the large circle must try to knock over the pin with the ball. The guard may block the ball with any part of his body, except hands.
4. A player who knocks over the pin becomes the guard. Players may pass or throw the ball around the circle to get a clear shot at the pin.

GAME: North, South, East, West

Purpose

- This game will reinforce knowledge of compass directions.

Equipment

- None.
- Play the game indoors or outdoors.

How to Play

1. Select a leader and loosely form the rest of the Scouts in an open area facing the leader, so that everyone can see each other. The four sides of a room may be identified as North, South, East and West, or, if playing outside, use some prominent outdoor features to represent these directions.
2. Whenever the leader calls out a compass direction, the players immediately must jump so they are facing the direction called.
3. Start with the four main points of the compass. When the Scouts are proficient, move up to 8 and even the 16 compass points—16 is a real challenge!
4. Players can be eliminated if they jump in the wrong direction. Start the game by allowing them to correct themselves if they make an incorrect jump. Of course, they must identify what direction they jumped to before continuing.



SKILL SESSION: Compass

The compass needle always points North, right?

Wrong! The needle has two ends, and one points South. Avoid confusion by always keeping the distinction between the ends in mind.

Okay, the North end of the needle always points North, right?

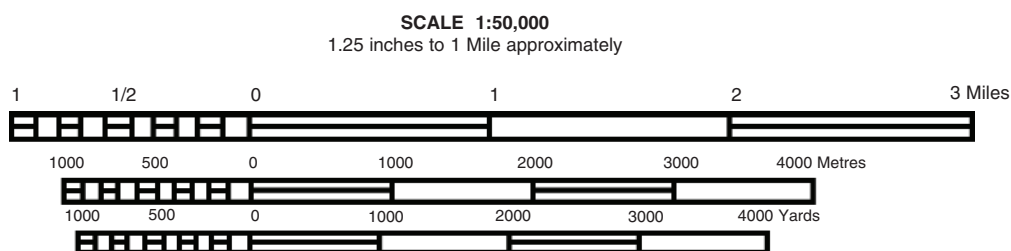
Wrong! The compass needle points to magnetic North, not True North. However, trail navigation is not so precise that a hiker needs to worry about this slight angle declination. It's more important to know the compass points and in which direction you are travelling on the map.

Map Symbols

All Canadian topographic maps carry a graduated scale on the bottom of each sheet.

This scale usually shows the distance in both miles and kilometres. To use this scale, measure the route that you're travelling, then compare it against the scale to determine distances.

If it is a straight route, a ruler or piece of paper will do for measuring. If your route curves, use a piece of string.



North is generally found at the top of the map and South at the bottom. Look on your map for the compass symbol indicating North.

Topographic maps depict the vertical shape of the land by showing contour lines and other map symbols. Brown contour lines, which connect points of equal height, help identify hills, valleys and flat areas. Each line is numbered to tell you the height of the ground above sea level.



MAP SYMBOLS

Dual Highway		Buildings	
Cart Track		Telephone Line	
Trail or Portage		Power Line	
Railway - single		Windmill	
Railway - multiple		Lighthouse	
Railway - abandoned		Historical Site	
Horizontal Control Point		Tower	
Bench Mark		School	
Boundary Marker		Bridge	
Mine or Quarry		Lake or pond	
Well		River	
2 lane highway		Stream	
Cemetery		Rapids	
Church		Dam or Falls	
Post Office		Swamp	
Spring		Orchard	
Icefield		Index contour	
Woods		Sand	
Contour line		Depression	



GAMES: *Symbol Reading Relay*

Purpose

- This game will help reinforce map symbol identification.

Equipment

- Before starting, gather a pencil and map per patrol, and one identical master map.

How to Play

1. On the master map, circle different map symbols the Scouts have learned (for example, Church, bridge, hospital, swamp, etc.). Then number each symbol in succession.
2. In relay fashion, Scouts must run to opposite ends of the meeting room where the master map is placed. Here they must locate symbol #1 on the master map, identify what it is and where it lies in relation to themselves. Then the Scouts must return to their patrol map and circle the exact same spot. The next youth runs to the master map, locates #2, then returns and places a circle on that spot on their patrol map.
3. The game continues until the Scouts have transferred all circled symbols on the master map to the patrol's map. ACCURACY is very important!

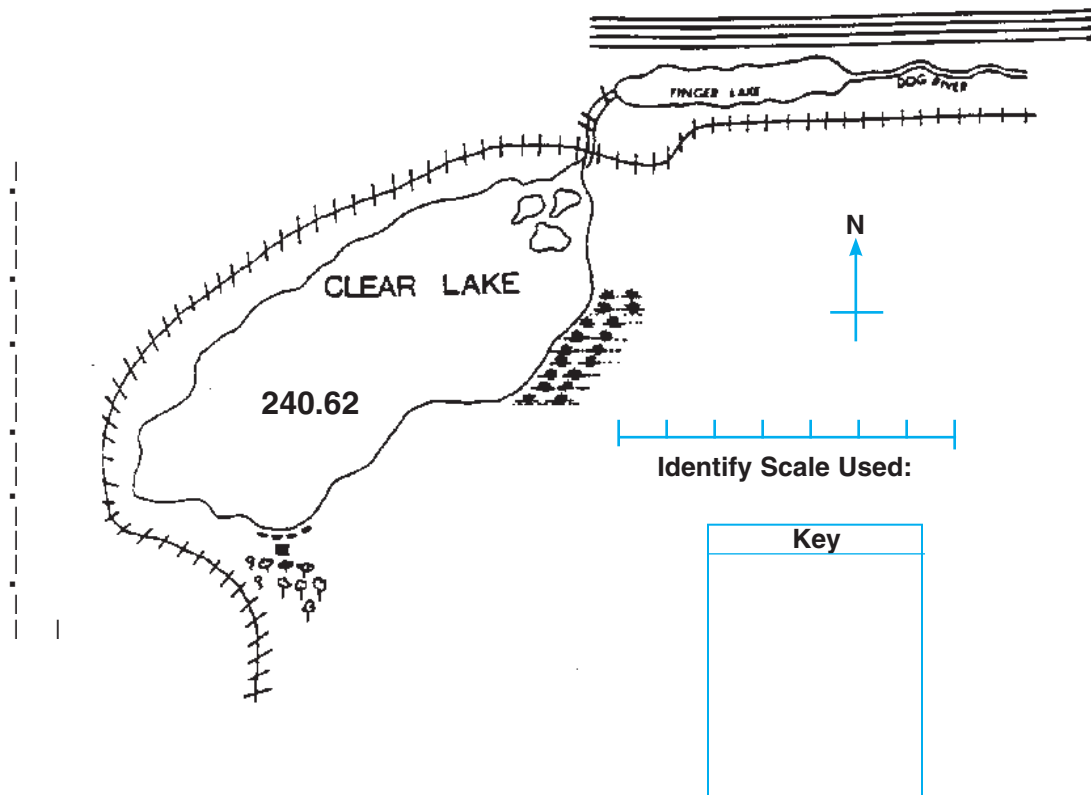
PATROL CHALLENGE: *Map Drawing Session*

4. Distribute the directions to each patrol or small group to do individually. Take a piece of white paper, ruler and pencil, and draw the following map.
5. Place the paper so the long sides are on the top and bottom. The scale is 1 kilometre to one centimetre.
6. Clear Lake is a large body of water covering about 1/5 of the paper, located in the centre of the map. It is roughly oval in shape and runs on a SW to NE axis. A small river that runs two kilometres to the North lies at its uppermost point. This river is fairly straight, with three sets of rapids near its middle section. A small lake running East to West joins the other end of the river. The river exits from the West end of this lake, called Finger Lake. Finger Lake is shaped like a finger and is 5 1/2 kilometres long and 1/2 kilometre wide. A river enters Finger Lake from the East. This river, called Dog River, runs due East off the map.
7. A railroad comes onto the map from the South—due South of the southernmost point of Clear Lake. The railroad line runs North, meeting Clear Lake at a hunting and fishing camp.



PATROL CHALLENGE: Map Drawing Session

8. The camp consists of one large building standing back from the shore and four smaller buildings near the shore. There is a small orchard behind the large building. Two small springs are located just West of the orchard. The railroad skirts around the Northwest side of Clear Lake, crossing the river at the rapids, then running North to Finger Lake. At that point, it turns East running off the map.
9. A four lane divided highway runs East to West immediately North of Finger Lake. The height of Clear Lake averages 240.62 m, depending on the season. Three small islands lie clustered in Clear Lake immediately South of the river that joins it with Finger Lake.
10. A hydro line runs North to South immediately West of Clear Lake. The Southeast shore of Clear Lake is swampy.
11. After drawing Clear Lake and area, check your maps against the sketch.





SCOUT MEETING SCHEDULE: Week 2

Theme: Map and Compass "A"

Date: _____

<i>Time</i>	<i>Activity</i>	<i>Program Details</i>	<i>Leader Responsible</i>
15 mins.	Gathering Activity	Compass Basketball Game (See detail planning sheet)	_____
10 mins.	Opening Ceremony	Details can be found in the Scout Leader's Handbook	_____
20 mins.	Game	Spud Game (See detail planning sheet)	_____
40 mins.	Skills	Review history and describe how compass works. Explain how to take a bearing and how that relates to orienteering. Allow Scouts to practise bearings first before play- ing the game. (See detail planning sheet)	_____
20 mins.	Game/Challenge	Pace Counting (See detail planning sheet)	_____
20 mins.	Patrol/Troop Meeting	Silver Dollar Hunt (See detail planning sheet)	_____
10 mins.	Closing	See Scout Leader's Handbook	_____
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	_____

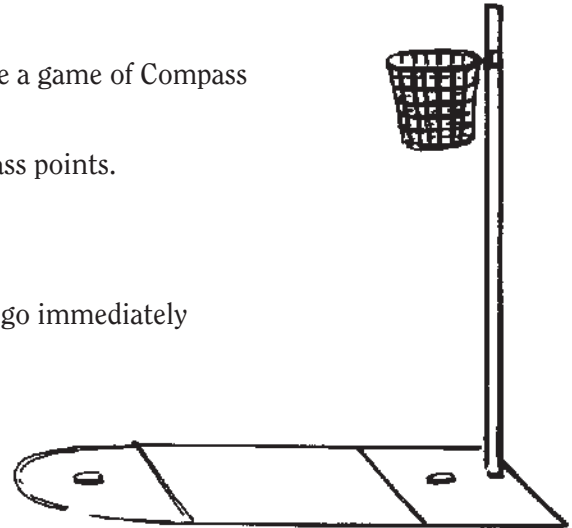
Badge Links:

Meeting Notes:



GAMES: Compass Basketball

- If there is a basketball court near your meeting site, organize a game of Compass Basketball to help Scouts learn compass points.
- Mark circles on the court to represent the eight main compass points. (North is just below the basket, South behind the foul line.)
- Divide players into two teams.
- When the leader calls a compass point, the first player must go immediately to that position on the court and shoot at the basket. If he goes to the wrong point, the youth may not shoot.
- Score two points for going to the correct mark and one point for making a basket.
- After all players from the first team have had their turns, the other team takes over. Compare total scores.



Games: Spud

Equipment:

- All you need is a soft rubber ball for this game.

How to Play

1. Scatter the Scouts around the playing area; one Scout (the leader) stands in the centre with the ball. The game starts when the ball is dropped and the leader calls the name of another Scout.
2. The Scout named must retrieve the ball and call "Halt!" All other players freeze. The Scout holding the ball then tries to hit one of them. The target Scout may duck and dodge, but may not move from his spot. If hit, a "spud" is scored against him. If a thrower misses, a "spud" is scored against him, and the scout must try again.
3. The other players scatter anew; the ball is retrieved, "Halt!" called again and the ball thrown at another player.
4. The Scout with the fewest spuds at the end of a specified time is the winner.

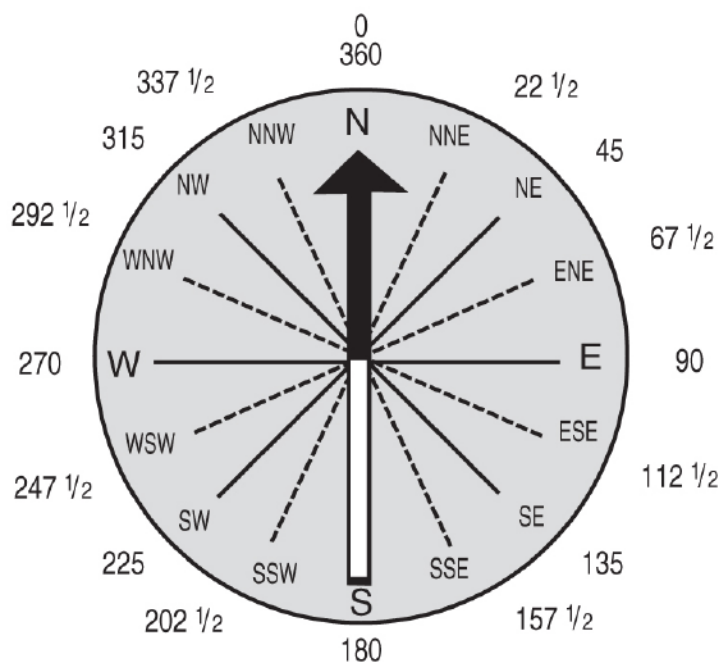
SKILL SESSION: History of the Compass

- The first compass was probably a rock or stone containing magnetized ore which, when suspended on a thong or vine, would always point in the same direction.
- No one knows who first discovered the compass.
- The Chinese seem to have understood its secrets 3,000 years before Europeans learned to steer without the aid of the sun and the North Star.
- According to some authorities, Marco Polo brought back an understanding of the compass to Europe from Cathay in 1260 A.D.



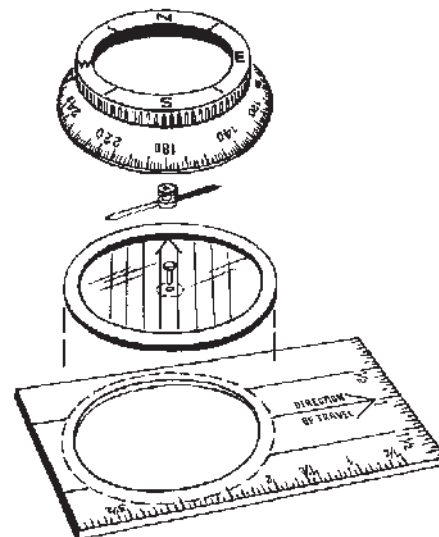
The Compass Points

- When you know where North lies from looking at the compass needle, you should have no difficulty finding the principal points of the compass.
- When you face North, South lies directly behind you, West on your left, East on your right.
- There are 32 points of the compass. (*The following diagram only shows 16 of these points.*)
- Fortunately, someone finally suggested the use of the 360-degree circle instead of names.
- Nowadays, most people take their directions or “Bearings” by degrees instead of by names. *For example,* instead of saying “East”, they say 90°. This is the same information you get from the grid lines on a topographical map.



Pathfinder Compass Parts

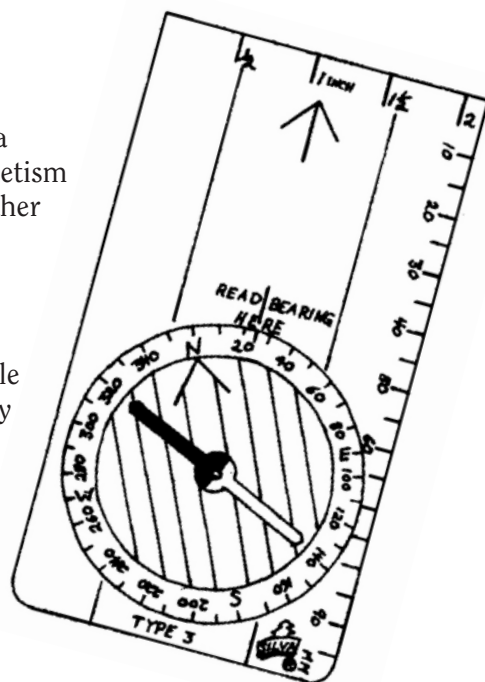
1. Top of compass housing with cardinal points on upper rim, and degrees on outer rim in two degree portions.
2. Magnetic needle with red North end.
3. Bottom of compass housing (transparent in some models) with orienting arrow.
4. Base plate with direction-of-travel arrow and metric and inch scales.





How your Compass Works: Compass Needle

- The magnetized needle is the important part of a compass. Balanced on a pinpoint, it must be free to swing around. Left to itself, the earth's magnetism makes the compass needle point towards magnetic North. This end is either painted (black or red), stamped with the initial "N", or shaped like an arrowhead.
- Remember that the North-seeking end of the compass needle must be aligned with North on the compass housing. If the other end of the needle (usually painted white) is aligned with North, your bearing will be exactly 180° off.
- Compasses can break or even lose their magnetism, but generally good compasses (*i.e. a compass whose needle is encased in a liquid*) are very reliable. If you don't reach your destination, probably the fault rests with you, not the compass!



The Orienteering Compass

- Many types of compasses exist. The orienteering-type compass used for many illustrations in this section is good for both hiking and orienteering. In the orienteering compass, the needle housing rotates on a base plate. This helps when reading the compass and serves as a direction pointer in the field. The edge of the base plate has measuring scales to help when you are reading and making maps.
- We will assume your compass is similar to the one shown below. That is, it has a transparent plastic base with an inscribed direction-of-travel arrow, and a movable plastic or metal housing marked in degrees from 0° to 360°.

BEARINGS: Taking a Bearing to an Object

- Hold the compass in the palm of your hand with the direction-of-travel arrow pointing directly at the object on which you are taking a bearing. Unless your compass has a sighting device, hold the compass at about waist level, parallel to the ground.
- Make sure that no metal object (*i.e.*, a belt buckle) or electric current is close enough to deflect the needle. Let the compass needle reach a stationary position, then turn the compass housing until the North-seeking end of the compass needle (usually painted red) points to North (N) on the housing.
- Check to ensure that the direction-of-travel arrow is still aimed at the target (bearing) object.
- Now, simply read your bearing in degrees where the base of the direction-of-travel arrow meets the compass housing. (Some compasses have the words, "Read Bearing Here", at this position.)
- Check to make sure the North end of the compass needle is aligned with North.



Following a Bearing



- If you wanted to travel a route on a bearing of 200°, here's how you would do it.
- Start by turning the compass housing until the 200° mark is over the base of the direction-of-travel arrow.
- Now, hold the compass in the palm of your hand at waist level and in a horizontal position, with the direction-of-travel arrow pointing straight in front of your body.
- Turn your whole body (not just the compass) around slowly until the North-seeking end of the compass needle is aligned with North on the compass housing.
- To follow a bearing of 200°, just walk in the direction indicated by the direction-of-travel arrow. (Do not travel in the direction of the compass needle, except when you want to go North.)
- When following a bearing it's safer and more accurate to look ahead and pick out a landmark (i.e., a tree, rock, etc.) along your route.
- Then lower the compass and walk to the landmark.
- Repeat this procedure until you have reached your destination.
- If there is no landmark or if you are travelling through thick bush, an effective procedure is to send someone in your group ahead to the limit of visibility, direct that person to the proper bearing, then walk to your human landmark.

GAMES: Pace Counting

Purpose

This game will help Scouts determine the length of their pace.

Equipment

You'll need several tape measures and lengths of string for measuring.

How to Play

- To determine the length of your personal pace first measure off a 100 metre distance with a tape.
- Walk this measured distance three or four times and divide the total numbers of double paces by the number of times you walked the 100 metres.
- *For example*, if you counted a total of 204 times that your left foot touched the ground when walking the route four times, dividing by four will tell you that you require an average of 51 double paces to travel a distance of 100 metres.



PATROL CHALLENGE: Silver Dollar Hunt

Purpose

- This challenge will help reinforce compass bearings.

Equipment

- Each participant requires one orienteering compass, one fake “silver dollar” (7.5 cm circle from tin can top), and one card with distances and directions. Each card should have the following same directions with “X” being different for each player.

Directions for Card

1. Take 50 steps at “X”. (For this example we will use 90° for “X”)
2. Take 50 steps at “X” (90°) plus 120°. (i.e. 90 + 120 = 210°)
3. Take 50 steps at “X” (90°) plus 240°. (ie. 90 + 240 = 330°)

This should create a triangle which will bring the Scout back to their own silver dollar.

How to Play

- Scatter participants widely over a field with fairly tall grass.
- Place a “silver dollar” at the feet of each Scout.
- On the signal, “Go!”, each Scout sets his compass for the direction on his card and walks the specified distance.
- Do this again for the second and third bearings.
- When done, the “silver dollar” should be at the Scout’s feet (or at least within immediate sight).
- The patrol with most Scouts winding up within 7 ½ steps of their “silver dollars” (5 percent error) wins.



SCOUT MEETING SCHEDULE: WEEK 3

Theme: Map & Compass "A"

Date: _____

<i>Time</i>	<i>Activity</i>	<i>Program Details</i>	<i>Leader Responsible</i>
15 mins.	Gathering Activity	Scarf Tag (See detail planning sheet)	
10 mins.	Opening Ceremony	Details can be found in the Scout Leader's Handbook	_____
20 mins.	Game	Compass Relay (See detail planning sheet)	_____
40 mins.	Skills	Review how to apply the compass to a map. In Patrols or individually practise with the map quiz. (See detail planning sheet)	_____
20 mins.	Game/Challenge	Orienteering Course Relay (See detail planning sheet)	_____
20 mins.	Patrol/Troop Meeting	Dutch Compass Game (See detail planning sheet)	_____
10 mins.	Closing	See Scout Leader's Handbook.	_____
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	

Badge Links: _____

Meeting Notes: _____



GAMES: Scarf Tag

Purpose

- This game is just for fun.

Equipment

- All you need is one piece of cloth or scarf.

How to Play

- Select one player to be “IT”.
- Give another player a scarf (or cloth).
- Only the player with the scarf is chased by “It”, however the scarf can be passed (not thrown) to other players.
- If touched by “It”, the player with the scarf becomes “IT” and the scarf is given to another player.

Compass Relay

Purpose

- Scouts will gain increasing familiarity with compass points through playing this game.

Equipment

- You will need something to draw a compass on the floor or ground, and cards (to be used as markers).

How to Play

- Form teams into relay formation. Opposite each team is a compass circle drawn on the floor or on the ground. The points are shown, but only North is marked.
- When the leader calls out a compass point, the first player on each team places a mark (before the leader counts to six) on the compass circle in front of their team at the point that he believes is the one that was called.
- If the player is correct, he falls in behind his compass circle. If wrong, he goes to the back of his team. The next compass point is called and the next player marks it on the compass circle. (Position a judge at each compass circle and remind players that coaching is not allowed.)
- The team getting all its players behind the compass circle first, wins.



GAME: Applying a Compass to a Map

- Individually, a map and compass are valuable tools for navigation. Together, they extend the limits of each, allowing us to determine our direction and distance, and to reach any objective.
- The distance from one point to another is determined by measuring the distance on the map using any unit of measurement (the metric system is the most convenient).
- This measurement is then converted to the distance in the field by means of the map scale. *For example*, a measurement of 2 cm between two points on a 1:50,000 scale map would be equivalent to a distance of 100,000 cm (or 1 km) in the field.

Taking a Bearing From the Map

- Direction is measured by placing the base of the compass along the line joining the starting and finishing points. Make sure the direction-of-travel arrow is pointing in the direction you wish to go.
- Holding the compass base steady, turn the compass housing until the grid lines in the compass housing are parallel to the magnetic North/South lines on the map. Make sure that North on the compass housing is pointing to magnetic North on the map.
- Now simply read the bearing on the compass housing at the base of the direction-of-travel arrow. This is the bearing you would follow in the field to move from the starting to the finishing point determined on the map.
- Note two very important points.
 - First, failure to comply with either one of the italicized statements (above) will result in an error of 180 degrees.
 - Second, the compass bearing determined from the map can only be followed in the field if the grid lines on the compass housing are aligned with the magnetic North/South lines. If they aren't, you must make a correction for declination. (See *Fieldbook for Canadian Scouting* for further details.)

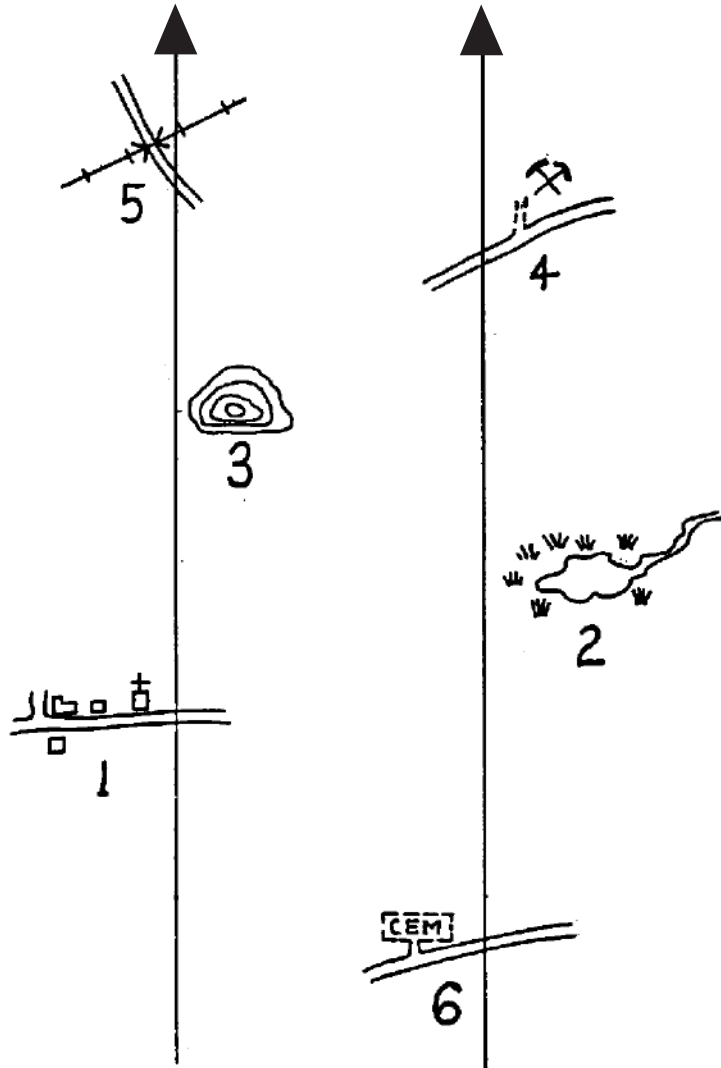
Transfer Bearings to a Map (or Predetermining a Position on the Map.)

- Scouts can also take a field bearing and transfer it to a map. To accomplish this, start by taking a bearing on an object found on your map.
- Next, place the compass on the map (it's useful to have the map attached to a flat surface such as a clipboard) so the compass grid lines are parallel to the map's magnetic North lines.
- The direction-of-travel arrow must be pointing toward the object on which the bearing has been taken.
- As well, North on the compass housing must be pointing toward magnetic North on the map.
- Your field position would be represented by some point along the line made by the base of the compass from the object. (See *Fieldbook for Canadian Scouting* for further details.)



Map and Compass Quiz

Determine the bearings from one point to another in the sketch below using a compass.



- | | | |
|-----------------|-----------------|-------|
| From Church (1) | to Lake (2) | _____ |
| From Lake (2) | to Hill (3) | _____ |
| From Hill (3) | to Quarry (4) | _____ |
| From Quarry (4) | to Bridge (5) | _____ |
| From Bridge (5) | to Cemetery (6) | _____ |
| From Quarry (4) | to Lake (2) | _____ |
| From Church (1) | to Cemetery (6) | _____ |
| From Bridge (5) | to Church (1) | _____ |



Map and Compass Quiz Answers

From Church (1)	to Lake (2)	74°
From Lake (2)	to Hill (3)	296°
From Hill (3)	to Quarry (4)	50°
From Quarry (4)	to Bridge (5)	274°
From Bridge (5)	to Cemetery (6)	160°
From Quarry (4)	to Lake (2)	175°
From Church (1)	to Cemetery (6)	128°
From Bridge (5)	to Church (1)	182°

GAMES: Orienteering Course Relay

Purpose

- This game will reinforce map symbols and bearings.

Equipment

- You will need one map per patrol (all identical), one compass and pencil per patrol, and one master set of bearings numbered in succession.

How to Play

- Using the maps, predetermine a start point and a set of bearings for Scouts to follow. These bearings should lead to a number of points that can be identified by using the map symbols (i.e., #1 - 305° from the Start Point to a swamp; #2 - 170° from the swamp to a cliff, etc.).
- In relay style, Scouts must run to the opposite end of the meeting room where the set of master bearings are placed. Here they get to see the bearing and the symbol which they must find on the map. (Let each Scout see only one bearing.)
- Participants then must return to their patrol map and, using their patrol compass, find the symbol. The next Scout does the same for the ensuing bearings until all the bearings are followed. **ACCURACY is imperative.**
- Allow beginners to carry the compass with them to the set of master bearings so they can use it to locate the symbol. This will put the emphasis on using the compass and not on remembering the bearing.



PATROL CHALLENGE: Dutch Compass

Purpose

- This challenge will reinforce the compass points.

Equipment

- You will need a Scout stave and markers for the compass points.

How to Play

- Set out a circle about four meters across. Depending on the number of participants, place markers at compass points around the circle.
- Players must stand at the compass points, leaving North blank.
- The leader stands in the centre of the circle holding the Scout stave upright with one end on the ground.
- Calling out a compass point, the leader simultaneously releases the stave.
- The player occupying the compass position called must run in and catch the stave before it hits the ground. If successful, the Scout returns to his position and the leader calls out another compass position.
- If the Scout fails to catch the stave, he moves to the original North position.
- The empty position becomes the new North.
- Allow players a few seconds to figure out where they are on the compass, then, resume the action.
- If they get too quick, either enlarge the circle or speed up the time you allow after misses.



SCOUT MEETING SCHEDULE: WEEK 4

THEME: MAP AND COMPASS "A"

Date: _____

<i>Time</i>	<i>Activity</i>	<i>Program Details</i>	<i>Leader Responsible</i>
15 mins.	Gathering Activity	Game : Jump the Shot (See detail planning sheet)	_____
10 mins.	Opening Ceremony	<i>Details can be found in the Scout Leader's Handbook.</i>	_____
20 mins.	Game	Game : Find Your Bearings (See detail planning sheet)	_____
40 mins.	Skills	Review contour lines. Draw your own con- tour lines. Play contour matching games (See detail planning sheet)	_____
40 mins.	Game/Challenge	Score Orienteering (See detail planning sheet)	_____
10 mins.	Closing	<i>See Scout Leader's Handbook</i>	_____
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	_____



GAMES: Jump the Shot

Purpose

- This is a really fun circle game.

Equipment

- You will need a rope and a soft weight tied to the end.

How to Play

- Form your players into a circle with a leader or player in the middle.
- The leader swings the rope with a soft weight on it, keeping it close to the floor below the players' knees.
- Each player jumps over the rope as it passes. If the rope or the weight hits a Scout, the player is eliminated for that round.
- Identify the winner by one of several methods: either the last player left wins, or all players hit by the rope/weight receive a penalty point and the player with the fewest points wins.
- You might play the game by eliminating a hit player from the circle. Only after answering a skill-testing question can the youth return to the game.





Find Your Bearings

Purpose

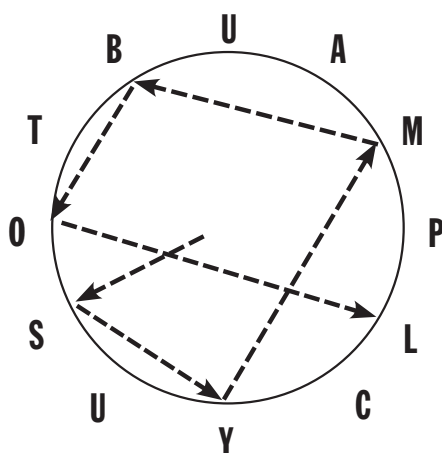
- In this game you'll be creating words using compass bearings.

Equipment

- Each Scout should have a pencil, paper and compass.

How to Play

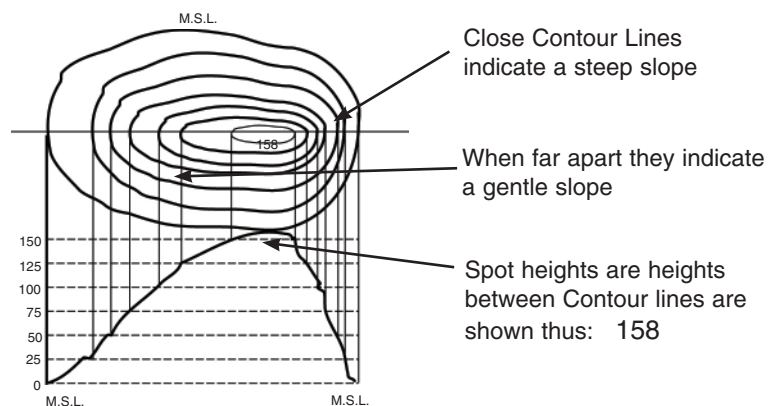
- Mark out a circle in a field and place stakes in the ground with a single, highly-visible letter on each stake.



- Each Scout (or patrol) must spell out a word by finding its compass headings. (See diagram.) For example, if assigned the word "SYMBOL", a Scout would take a compass reading to the first letter "S" from the centre stake.
- After marking the bearing down, the Scout would walk to the "S" and take a bearing to the next letter "Y" and continue until finishing the word. Leaders must check to make sure the bearings are correct. Depending on the size of the circle, you could have groups of Scouts all playing at once.

SKILL SESSION

CONTOUR LINES





- The drawing (previous page) illustrates an imaginary hill which rises from sea level to 158 m.
- This is how it would appear on a map and how it would appear in cross-section. Where lines are far apart, the ground slopes gently.
- Where they are close together, the hill is steep.
- When lines are crowded, they indicate a cliff. At the top of a large hill, the map may give you a number called a “spot location”, which shows the altitude of the crest.
- Map symbols are identified on all maps with a legend, which may be shown in the margin or on the back. These symbols tell you details of the terrain, and various features of the area.
- The colours found on maps are symbolic, too.
- Everything in black indicates the works of man (i.e., roads, railroads, bridges, towns, boundaries and dams).
- Water, such as rivers, lakes and swamps, is blue.
- Valleys, hills and mountains are brown. On some maps, woodland areas are shown in green, and main highways in red.

*Canadian topographic maps are relatively inexpensive to purchase.
Simply contact your local Natural Resources Office or write, fax or phone:*

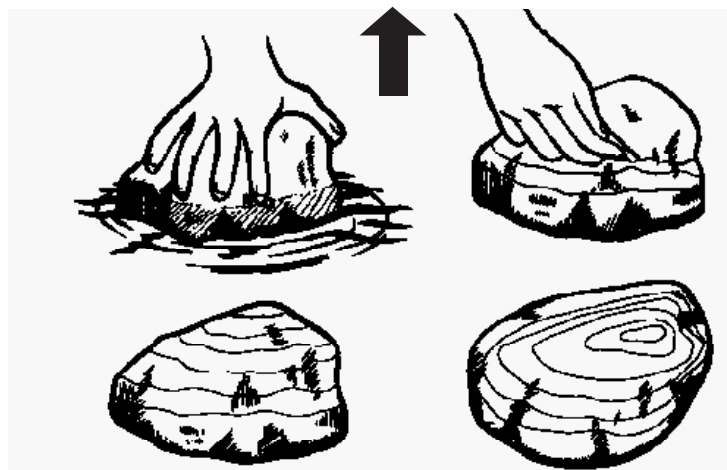
CANADA MAP OFFICE
NATURAL RESOURCES CANADA
615 Booth St., Ottawa, ON K1A 0E9

1-613-952-7000 (Phone) • 1-800-465-6277 • 1-800-661-6277 (Fax)

If you live in a large city, a local supplier will probably be able to provide the most popular maps.

SKILL SESSION: Contour Line Drawing

- Each patrol needs to have several different sized rocks, a basin of water and waterproof markers.
- Dip a rock partly into water and mark the water line. Dip it 2 cm deeper, draw another line, and so on until the rock is completely marked.
- This is an easy way to demonstrate contour lines.

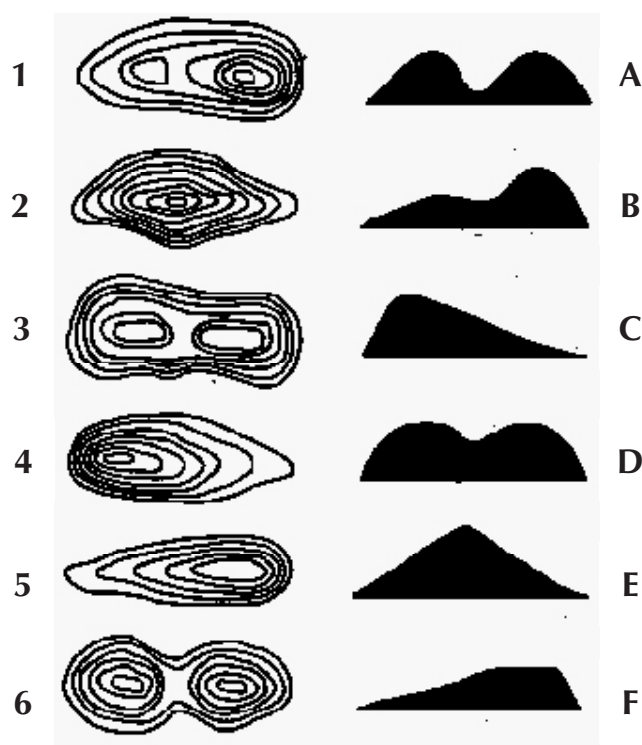




GAME: Contour Matching

Three games are possible by using the contour lines and hill silhouettes shown below.

- Make sufficient copies of the lines and silhouettes (i.e., one for each player) and ask each Scout to match the hills to the contours.
- Make copies of only the hill outlines. Players must then draw the contour lines corresponding to the hill silhouettes.
- Make copies of only the contour lines and ask the players to draw the hill outlines.



ANSWERS: 1.B; 2.E; 3.D; 4.C; 5.F; 6.A

PATROL CHALLENGE: Score Orienteering

- Score Orienteering is a fun, competitive activity to reinforce map and compass skills.
- Players must read their maps and choose the best route to find their way to control points in the shortest time.
- Not only is it challenging to follow a map, but the Scouts must make a good orienteering map of their own –no easy task!



NOTE: Leaders should prepare the course before the meeting.

Setting Up a Course

1. *Choose a Playing Area:*

Your playing area should have well-defined boundaries with noticeable landmarks (i.e., school yard with trees, small park with picnic tables, fenced campground). Walk over the area first to determine if it's a suitable place for your course. Then draw a basic outline of your playing field showing landmarks and map symbols. Include a legend. Don't forget to show North.

2. *Draw a Map of Your Playing Area:*

Select 10-20 control points and mark them on your map with numbers. If you decide to have a control point behind a tree, place the number on that side of the map. Make an original map for yourself and a copy for each team. (If four teams are each designing a course, one copy is enough.) Each team must run the course while being timed, then switch maps and start the next course until all have completed the courses.

3. *Make Control Point Markers:*

Make a marker for each control point. Each marker should have its own number and symbol (i.e., #2 has a square, #3 has a triangle). Make a master list of the symbols and numbers for yourself. The other teams will require a list of the numbers with space to write down the symbol for each number.

4. *Attach the Markers.*

Fasten your markers to the control points with string, tape or tacks exactly as you have indicated on the map. If playing in a public area, do not put them in position too early; someone might remove them.

How to Play

1. *Preparation.*

Distribute maps, checklists, pencils and compasses. Direct each team to the correct playing area. (Set a maximum time limit.) Teams may return earlier if they finish the course, but everyone must return by a specific time.

2. *The Game.*

Ensure each team has a watch and a whistle. The watch is for teams to check the time limit; the whistle is only necessary if playing in a wilderness area. Teams must stay together and move from control point to control point as a group, not individually. Have the time-keeper note the time, then start the teams. The time-keeper will also note the time taken for each team to return. The last team to run each course removes the control point markers—no-trace orienteering.

3. *Scoring.*

After running all the courses, compare the master list with each team's list. Award points for each control point collected and the speed. For variation, assign control points with higher and lower scores depending on degree of difficulty. Teams may also collect points for finishing earlier than the maximum time



MAP AND COMPASS AFTERNOON EVENT

This event will put into practice some of the skills learned previously, as well as teach new ones through round-robin stations. Four parent volunteers (or perhaps Venturers or Rovers) are required to help run the stations. These people will require extra time ahead to ensure they are familiar with the skills and set-up at their station.

The best site for this event will be a place where there is some bush to walk through, a wide field for round-robin activities, and a large gathering area. Before the actual event, set up a compass course from the gathering area to the field for the round-robin stations; as well, make copies of the directions for your Scouts. You will also need to prepare an orienteering course at the field for the snack. (See Detail Planning Sheets.) Before the event,

MAP AND COMPASS "A"DAY HIKE

<i>Time</i>	<i>Activity</i>	<i>Person Responsible</i>
12:45	Scouts arrive at the gathering area where the event is to take place. Recap safety tips: need for hats, sunscreen, drinking water, staying with buddies, etc..	_____
1:00	Distribute maps and compasses to Scouts. Set them off in patrols, 5 minutes apart. Leaders should follow to collect stragglers.	_____
1:30	Meet at field. As Scouts arrive, send them to one of the four stations. Each station is a 1/2 hour event. Station A: Learning to judge distances Station B: Pencil method of measuring Station C: The compass as a watch Station D: The watch as a compass (See Detail Planning Sheets) Note: While the Scouts are at the stations, leaders should set up the orienteering course for the break; hide the food.	_____
2:30	Break. Distribute directions for orienteering course and set them off to find their snack. Variation: include clues. (See Detail Planning Sheets)	_____
3:00	Resume Round-Robin Stations.	_____
4:00	Start back to gathering area. Ask a leader to follow them back, collecting stragglers. (See Detail Planning Sheets)	_____
4:30	Wide game in gathering area (i.e. Capture the Flag or other familiar game). See Detail Planning Sheet.	_____
5:00	Parents pick up Scouts at gathering area.	_____



MAP AND COMPASS WALK

TO AND FROM THE ROUND-ROBIN STATIONS

Before the Event:

- Prepare a short (approximately 20 minute) compass course from the gathering area to the field where the Round-Robin Stations will be set up.
- If you can get a topographic map of the area, use it to plot a meandering course; otherwise, give the Scouts bearings to noticeable landmarks until they reach the field. (i.e., walk at a bearing of 60° to the stream. At the stream, turn to 78° and walk to the trail sign marked “River Trail.” Turn to 120° and continue to the concession stand; then follow the trail to the field.)
- Avoid using paths, if possible, to make it more challenging for the Scouts. Plan on sending a mature Venturer, a Rover or one of the parent volunteers with the patrols as they follow the course—a good linking activity.

After the Round-Robin Stations

- On the way back to the gathering area, the Scouts can follow the first compass course backwards by adding 180° to each bearing, or follow another course previously prepared. A third choice might involve taking a path back to the gathering area.

ROUND-ROBIN SESSIONS

STATION 1: Learning to Judge Distance

Purpose:

- Scouts will learn the exact length of their pace (one walking step, measured from heel-to-heel or toe-to-toe). Try to learn to pace exactly three metres with five of your strides.
- If you always pace off distances this way, 1665 of your paces will equal one kilometre. Remember that the eye measures distance “as the crow flies” or from eye-to-object. Because this does not allow for irregularities in the ground, ground distance may be greater than visual distance.
- Use the following hints for identifying how far away a person is. At 700 metres, a person looks like a post. At 650 metres, the head is not yet visible, but at 550 metres, the head appears as a dot. At 450 metres, a person looks bottle-shaped, while at 350 metres, you can see leg movements. At 250 metres, you can see the face; at 200 metres, you can recognize clothing details. At 100 metres, the eyes and mouth can be seen clearly.

Equipment

You will need one long measuring tape, 2 or 3 smaller measuring tapes, string, posts, paper and pencils.



Method

1. Before your Scouts arrive, set up two or three 100 metre strings for them to measure their pace against. If space permits, set up objects at various distances.
2. Have Scouts check their pace length first, then begin estimating short distances, and pacing to check their guesses.
3. If space permits, get them to estimate how far away various objects lie; write their answers down, then check the distances with a tape measure.

STATION 2: Pencil Method of Measuring

Purpose

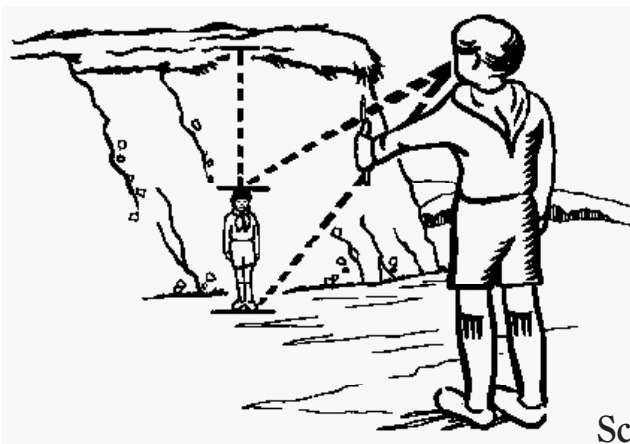
Scouts will learn how to determine the height of an object using a friend as a guide. The object must be taller than your friend (i.e. a tree, tower, cliff, building, etc.).

Equipment

You will need pencils, measuring tapes and paper.

Method

1. In pairs, each Scout measures the other youth and writes the Figure down.
2. While Scout A stands against the object to be estimated, Scout B should stand a short distance away. Scout B holds a pencil at arm's length, and sights across the top of it to the top of Scout A's head.
3. Then Scout B should move his thumb down the pencil until he sights across it to Scout A's feet.
4. Now Scout B raises his arm until the line of sight over his thumb touches the top of Scout A's head.
5. Scout B notes where his line of vision across the top of the pencil cuts the object to be measured.
6. Scout B moves his arm again and repeats step 5.
7. Scout B keeps repeating *Steps 5 and 6*, counting as he goes up, until reaching the top of the object.
8. The number of sightings Scout B took of Scout A represents the number of times the object is higher than that of Scout A. Multiply that number by Scout A's height to find the height of the object.



Scout B



STATION 3: THE COMPASS AS A WATCH

Purpose

- Here you will learn to determine what time it is using an orienteering compass. The sun moves
- 15 degrees in one hour (360 degrees in 24 hours). Figure 1 shows the bearing of the sun at any hour of the day.

Equipment

- You will need orienteering compasses, pens or match sticks, and a copy of Figure 1 for each Scout.

Method

1. Place the compass in the sun on a level surface.
2. Turn the compass housing until its “S” is exactly above the North end of the magnetic needle.
3. Place a pen or match stick upright over the middle of the compass, Figure 3. The shadow of the pen will indicate the bearing of the sun. By using Figure 1, Scouts can estimate the time.

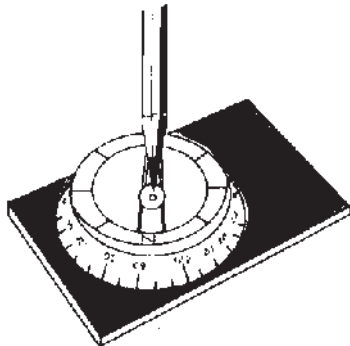


Figure 2

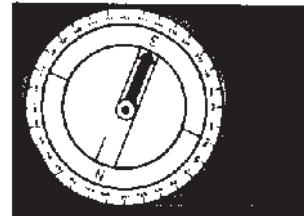


Figure 3

STATION 4: USE A WATCH AS A COMPASS

Purpose

If your compass should get lost or broken, you can still find direction using a watch. The sun rises in the East, and sets in the West. The actual compass point at which it rises varies a bit in the summer and winter (being towards the East in the summer in Canada).

However, at six o'clock in the morning, the sun is due East. At twelve noon it is due South, and at six in the evening it is due West. At nine in the morning it is SouthEast and at three in the afternoon it is SouthWest.



Equipment

- For each Scout you'll need a watch (not digital), pen or match.

Method: On a Sunny Day

1. Lay the watch on the ground.
2. Place a match upright against the edge of the watch (stick the match into the ground if you can).
3. Turn the watch until the shadow of the match falls exactly along the hour hand, i.e. until the hour hand points directly to the sun.
4. Divide the angle between the hour hand and Figure 12 in half.
5. Between 6 a.m. and 6 p.m. **Standard Time**, a line from the centre of the watch through the half-way mark between the hour hand and the Figure 12 will point at **True South**.
6. By scratching a line on the ground or stretching a string southward from the centre of the watch, you have a **North-South line**.

The Method Works In This Way:

At twelve noon the sun is to the South. It takes 24 hours for it to come back to this position, but in the meantime the hour hand of your watch has gone around twice. If you have a twenty-four watch, all you have to do is point the hour hand at the sun, and the Figure 12 would point South. But since most watches are divided into only 12 parts, use the halfway point between the hour hand and the Figure 12.

The above method uses **Standard Time**. If the watch is on **Daylight Saving Time**, use the same method but with the following additional step. Divide the hour hand and Figure 1 to find South. (See your *Fieldbook for Canadian Scouting* for diagrams.)

Method: On a Cloudy Day

If the sun is not shining, you can still use the watch method by utilizing a piece of white paper.

1. Place the paper over the watch face.
2. Hold a match at the end of the hour hand, close to, but not touching, the paper. Under the point of the match, notice a very small shadow. One side of the shadow will have sharp or well defined edge, while the opposite side will have a fuzzy edge. The sharp edge is the side the light of the sun is trying to radiate from.
3. Turn the watch so the hour hand is facing that direction or until the little shadow (if produced backwards) would pass through the centre of the watch. Sometimes the day will be so dark, it will be difficult even to see the shadow under the point.

In this case, use a stick about one centimetre square. Practice will prove that no matter how dark the day, it's possible to always get a shadow, and that the shadow will have a sharp edge and a fuzzy edge. The sharp edge is the side towards the sun.



ORIENTEERING SNACK

Purpose

- Here your Scouts will follow an orienteering course, collecting clues and a snack. At the end of the course each Scout will have their snack.

Equipment

- Compasses
- Snacks
- Clues
- Paper with Directions.

Method

1. Before snack time, prepare an orienteering course around the edge of the field. Form the Scouts into pairs and set them off.
2. From starting point **A**, give your Scouts a clue and bearing to follow to point **B**. At point **B** they will find part of their snack as well as another clue. (*Choose snacks that don't require refrigeration.*)
3. From point **B**, the Scouts will follow another bearing to point **C**. Here they will find another part of their snack and another clue.
4. They continue until they've found all of their snack and have collected the clues. Now they may eat their snack.

Example:

From your starting point, follow a bearing of 45° to the clue “the tree from which we get a household cleaner” (Pine-Sol), point **B**. At point **B**, high in a tree you will find apples and another clue.

- At point **B**, take a bearing of 70° and walk to point **C**, “a favourite restaurant in the movie the Lion King” (Old Log). At point **C**, under a log there will be bags of Gorp hidden, and another clue.
- At point **C**, walk 140° degrees to “the essential of life” (water), point **D**. In the creek, there will be juice boxes with another clue.
- At point **D**, walk 275° degrees back to the field. At the field, leaders will have pieces of cheese, and candy bars.
- Let your Scouts relax and eat their apples, Gorp, cheese, chocolate bars and drinks.

Variation:

Put the clues into code to make it even more challenging.



WIDE GAME: Capture the Flag

Equipment

- You need two flags or pennants (that can be hung on a branch)
- Coloured wool (to identify teams)
- A large playing area with some cover.

Method

- Divide the troop into two teams. Team members should wear a different colour of wool on their arms to help identify teams. They are given their flag and time to hang it before the game starts.
- Each team owns half the area. Players may capture opponents that they find in their area. A team member cannot be captured in his own team's area.
- Teams must try to find and capture their opponent's flag, all the while defending their own by capturing opponents who are trying to take it. The winning team is the one that captures their opponent's flag and returns to their home base. If time expires before this is accomplished, the team that captured the most opposing members wins.
- Capturing: When the wool on an opponent's arm is captured, the player must return to home base for a two minute penalty before being given another piece of wool and resuming the game.

Variation:

Players can be captured with a two-hand touch. Prisoner must then go to the jail defined by their captors. Prisoners can only be freed by a member of their own team touching them. Several captured players can be freed at once if they are holding hands.

