

NATURE STUDY

The purpose of this section is to identify specific stars, planets and constellations as a basic introduction to the study of the heavens, and to extend the junior's appreciation of flora and fauna.

Six class periods have been allocated to teach the basic course, and one for the advanced section, with an understanding that some of the activities will require out-of-class time.

Requirement 1 IDENTIFY THREE PLANETS, FIVE STARS, AND FIVE CONSTELLATIONS.

CLASS PERIODS

Two

OBJECTIVE

To create an understanding of the vastness of the universe and a realisation of how big God is. To enable the Explorer to readily recognise prominent heavenly bodies, and to teach the orderliness of creation.

TEACHING METHODS

In teaching this subject, pictures and charts may be used in conjunction with the material supplied. If possible arrange a visit to a planetarium or for the use of a private telescope for viewing. Include the story of Orion in connection with the Second Advent. (See Early Writings, page 41).

PLANETS, STARS & CONSTELLATIONS

A. PLANETS

There are five planets that at various times of the year are visible to the naked eye. It is impossible to give any fixed rule for finding and recognising these planets, for they change their position in reference to other heavenly bodies. Information concerning the planet's positions may be found in major newspapers.

However, there are a few general observations that may help the junior. Mercury and Venus are called inferior planets, for they revolve about the sun more closely than does the earth. As seen from here, then, they are very near the sun, and therefore they can best be viewed right after sunset or in the early dawn. Mercury was called by the ancient observers, "The Sparkling One" and Venus is so brilliant that it gained the names

"Phosphorus" and "Lucifer". Mercury is visible only a few days in the entire year. Venus is often visible in bright daylight, but it is not visible at all times of the year, and so to make its acquaintance, we need to consult the almanac.

Mars is much smaller than the earth, and is the planet next farthest from the sun. It appears as a reddish star. Jupiter is the largest in our solar system. It is one of the most brilliant lights we see in the heavens. Its light is silvery white. Jupiter takes almost twelve years to make a complete revolution about the sun. This means that for a whole year we find it in about the same section of the heavens.

Saturn, though not so brilliant as Jupiter, is extremely interesting. It has a yellowish tinge in its light. This planet requires more than twenty-nine years to complete its trip around the sun. It remains with its star companions longer than does Jupiter. The bands surrounding Saturn are indeed fascinating.

B. STARS

Observers of the heavens living in temperate latitudes will notice that the movements of the stars are of two kinds:

- a. The stars in the northern part of the sky rise and set each night like the sun and moon.
- b. The stars in the southern sky circle around the South Pole without rising or setting.

However, if you live North of the Tropic of Capricorn practically all the stars will be seen to rise and set. You will see the Southern Cross only in the Winter time in the evening or the Summertime in the morning. But you will see the Great Bear and other Northern constellations which are not visible to people living in more Southerly regions.

If you live as far South as Invercargill, most of the stars will appear as circumpolar stars most of the time. The above needs to be taken into consideration when studying the charts given.

Excellent aids for teachers of this requirement are:

- "A Star Chart for Australian Observers" W.J. Newell (Jacaranda Press)
- "An Easy Guide to Southern Stars" M.A. Orr (may be available from ABC)

STAR CHARTS

The following charts depict the sky as seen from the latitude of Sydney during March, June, September, and December. They are designed for use at about

9.00 pm near the beginning of the month, 8.00 pm near the middle of the month, and 7.00 pm by the end.

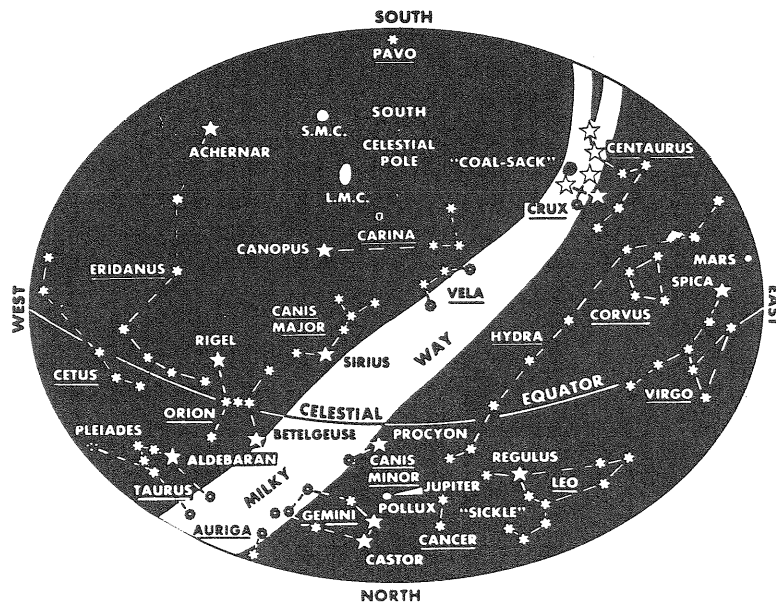
To identify the constellations, face North, and hold the chart above your head. The bright stars should be seen without trouble, given a clear night, but the fainter stars and Milky Way need a moonless night and preferably at least ten minutes dark adaptation of the eyes.

NIGHT SKY IN MARCH

Gemini occupies the far Northern sky, with Procyon of the Lesser Dog above. Almost overhead is the Greater Dog, Canis Major; with that blue jewel of the Autumn skies, Sirius, twinkling alongside the Milky Way.

Further South is Canopus, the second brightest start in the heavens, in the constellation of Carina. Below and to the East of Canopus are the four stars which outline the False Cross, commonly mistaken for the Southern Cross.

Crux itself lies, on its side, somewhat closer to the South-Eastern horizon. Below Crux are the Pointers, alpha and beta Centauri. Alpha is one of the closest stars to our solar system, and a small telescope shows it to be a wide double.



High in the North-West is mighty Orion the Hunter, shown in old star-maps as brandishing a great club at Taurus the Bull, which is much nearer the North-Western horizon.

Over in the North-East is Leo, a constellation which, if you stand on your head, really looks like a crouching lion! The white star Regulus is in the handle of the "Sickle", a clearly defined "Asterism", or group of stars.

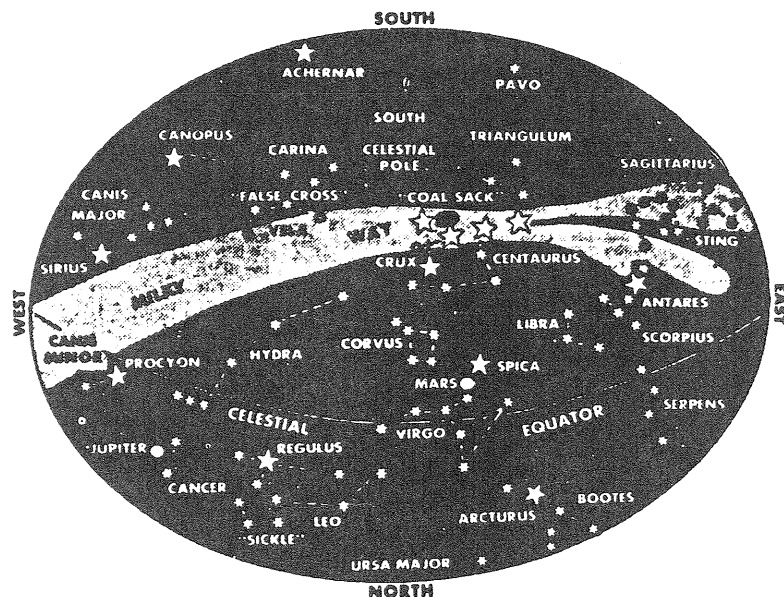
Just above the Eastern horizon is Virgo.

THE EVENING SKY IN JUNE

Canis Major, one of Orion's hunting dogs, is setting headfirst towards the Western horizon. Sirius, the brightest star in the sky, is also known as the Dog Star. Procyon is a bright star in the constellation of Canis Minor, the lesser dog.

Leo and Virgo, two constellations of the Zodiac, are prominent in the Northern sky, with the orange star Arcturus below, closer to the North-East horizon. High in the South flies the Southern Cross, approaching the highest point in its swing around the South celestial pole. Just below the Cross is a dark 'hole' in the Milky Way, known as the "Coal Sack". It is really a patch of gas and dust obscuring the light of the stars behind it.

The "Pointers", East of the Cross, lie at the start of a great rift in the Southern Milky Way that stretches through Scorpius, Sagittarius, and as far North as Cygnus. Again, the dark lane is due to obscuring matter, not an absence of stars.



Scorpius, complete with "sting", is now well up in the East, with some of the stars of Sagittarius appearing closer to the horizon.

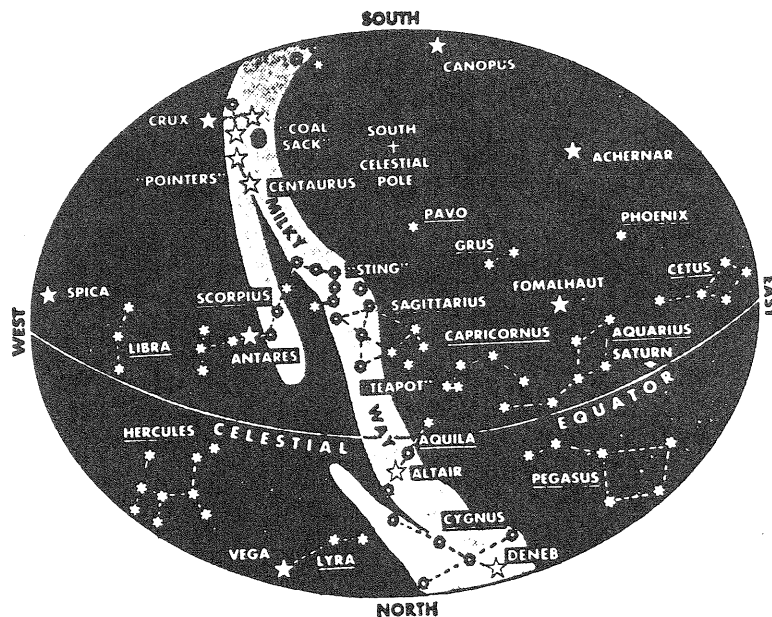
The brightest part of the Milky Way lies in this part of the sky, and when observed clear of artificial light appears as a broad misty band of light, speckled with groups of stars and patches of glowing gas.

NIGHT SKY IN SEPTEMBER

The stars of Spring are not as sparkling as those of Winter, but they have the advantage of being visible on warmer evenings.

The great arch of the Milky Way passes West of the zenith, with the striking constellation of Scorpius turning down towards the horizon. The 'teapot' in Sagittarius is almost overhead, being more readily recognisable as such if viewed when facing South.

The "Pointers" and the Southern Cross (Crux) continue their descent to the South-West, but Achernar, on the other side of the Pole, is rising higher in the sky. The second brightest star, Canopus, is past the lowest point of its swing around the Pole, and should soon clear the horizon mists.



In the opposite part of the sky, low in the North, is the fine constellation of Cygnus, the Swan, sometimes known as the "Northern Cross." Its brightest star, Deneb, is one of the most luminous known. Above the Swan is another bird-constellation, Aquila, the Eagle, flying across the Milky Way. Further East is Pegasus, with its main stars forming a distinctive square, which seems empty of stars. Above the equator is Aquarius, the Water-Carrier. In old drawings of the constellations, Aquarius is depicted as pouring a stream of water into the mouth of the Southern Fish, represented on our map by its brightest star, Fomalhaut.

Closer to the Eastern horizon are the stars of Cetus the Whale, and slightly further North, the faint stars of Pisces, one of the zodiacal constellations.

EVENING SKY IN DECEMBER

The December sky is rather poorly endowed with stars. The Milky Way, along which the brightest constellations lie, is hugging the Eastern horizon, extending from below the Pole to as far North as Perseus.

The two companions to our galaxy, the Large and Small Magellanic Clouds, are well seen above the Pole on moonless nights. The Large Magellanic Cloud is one of the furthest objects readily visible to the unaided eye - it is millions of kilometres away.

The great square of Pegasus has shifted over to the North-West, and the stars of Andromeda and Perseus occupy the far Northern sky.

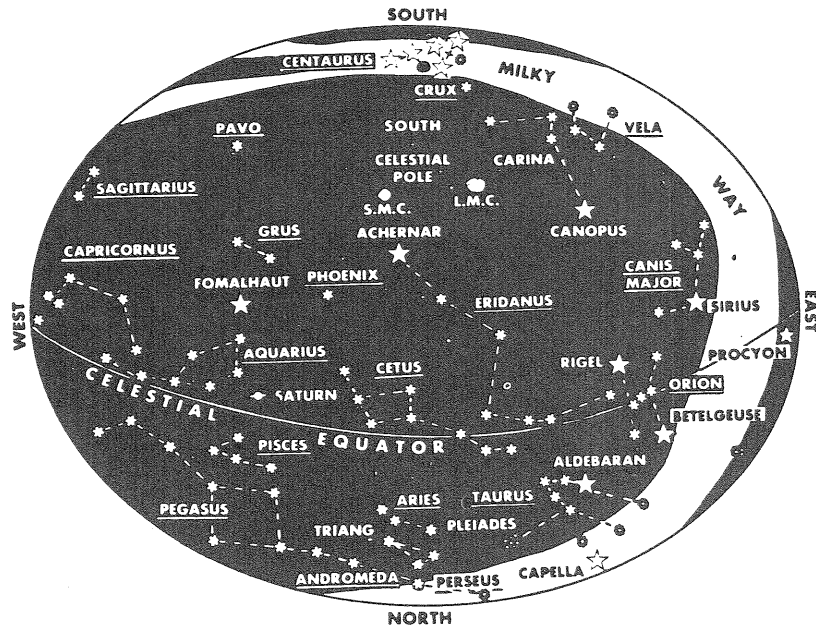
The zodiacal constellations visible at this time of the year in the evening sky stretch from the South-Western horizon to the North-East. Sagittarius is setting, then comes Capricornus, Aquarius, Pisces, Aries, and Taurus. A few stars of Gemini are just appearing in the North-East.

The most distinctive constellation in the December sky is Orion, the Hunter. The three central stars are easily found a short way above the Eastern horizon, and, with a line of fainter stars just above them, comprise the group known familiarly as the "saucepan".

The handle of the "saucepan" looks slightly blurred to the naked eye. With a small telescope this misty spot resolves into the great nebula of Orion, a vast cloud of dust and gas glowing with a faint green light. Clusters of stars are at present being formed out of the material of the nebula.

Orion also contains two very bright coloured stars - blue Rigel, above the "saucepan", and red Betelgeuse below it. Betelgeuse is a giant pulsating star, with a diameter varying between 400 and 560 million kilometres.

To the North of Orion lies Taurus, distinguished by another giant red star, Aldebaran. Around Aldebaran is seen a V-shaped cluster of stars, the Hyades. A little further West lies another cluster, the familiar Pleiades or Seven Sisters.



On the other side of Orion, to the South, is the brightest star in the sky, Sirius, the Dog Star. Sirius has a small but very dense companion star known irreverently as the Pup. The Pup has a mass similar to the Sun, but is only of planetary size. The matter in such a "white dwarf" is degenerate, with a density over a million times that of water.

RESOURCES

An Easy Guide to Southern Stars, M.A. Orr
 A Star Chart for Australian Observers, W.J. Newell
 Philip's Planisphere (Star Chart Disc) - Scout Shops

METHOD OF TESTING

Demonstration of ability to identify the requirements. This does NOT fulfil the Star Honour.

Requirement 2

COMPLETE ONE OF THE FOLLOWING HONOURS:
AMPHIBIANS, BIRDS, FLOWERS, STARS, OR
WEATHER.

CLASS PERIODS

Four

OBJECTIVE

To further broaden the junior's knowledge and interests, and their understanding of the limitless knowledge and power of God.

TEACHING METHODS

1. Talks by specialists
2. Illustrated talks - books and slides
3. Visit planetariums
4. Field trips
5. Collections
6. Films from State Libraries

Have the Explorers do research themselves and encourage them to make up personal books on the honour.

The requirements are listed for your convenience. Teacher's notes have been prepared and are available for your use from the Youth Department of your local Conference. Do not just read the notes, but use some of the above methods to make the subject as interesting as possible.

AMPHIBIANS

1. What are the characteristics of amphibians?
2. Name the two main orders of Amphibia and tell how to distinguish between them.
3. Distinguish between toads and frogs.
4. How do amphibians protect themselves?
5. Make a list of the amphibians that should be found in your locality. Identify five and tell where you found them. Or collect pictures or sketch five different amphibians which you can identify, and tell why they do not inhabit your area.
6. Describe the life history of some amphibians.
7. Explain the economic value of amphibians.
8. Where do toads spend the winter?
9. Identify two species of frogs by their sound, or imitate the sounds of two different species of frogs.
10. How do frogs and toads sing? What makes the noise so loud? Which ones sing with their mouths closed?

11. Observe a toad in your yard or neighbourhood to find out (a) where and when it sleeps, (b) when it leaves its home for food, (c) how fast it can travel, (d) how far it can jump, and as many other interesting things as you can find out about it. Or, hatch frog eggs in your own aquarium and watch them grow to tadpoles. Or, write an essay covering the details requested in the first section of this question.

BIRDS

1. Make a list of twenty species of wild birds that you personally have observed and positively identified out of doors.
2. Make a list showing the greatest number of species seen out of doors in one day.
3. What flight habit of a bird in your locality (peregrin falcon) distinguishes it from all other birds of its size?
 - a. How does this bird carry its food?
 - b. Of what does its food consist chiefly?
4. Name two birds that are expert at soaring.
 - a. What bird can fly backward?
 - b. What large bird doubles its neck into an S-curve while flying?
5. Name two or more birds that:-
 - a. Feed chiefly on the wing.
 - b. Feed chiefly on the ground.
 - c. Feed chiefly from the bark of trees.
6. Locate and describe, sketch, or photograph, five nests of birds, and identify the kind of bird that built each.
7. Write or give orally three ways in which God's love and purpose is shown in the creation of birds.
8. Set up a feeding station and report on the bird visitors observed over a period of five days.

FLOWERS

1. Draw or photograph 35 kinds of wild flowers and identify correctly.
 2. Draw and properly label, or point out the actual parts of a specimen: pistil, stamen, petal, sepal.
 3. Name six flower families and their distinguishing characteristics. Name at least two flowers in each family.
 4. Describe the life story of a particular flower, including the part played by insects or wind in fertilisation.
 5. Name at least two plants that are poisonous to touch, and state which, if any, are found in your locality.
- (It's necessary to do only three out of the following five.)
6. Arrange, draw or photograph a series of at least six flowers showing in order, the colours of the rainbow - red, orange, yellow, green, blue and violet.

7. Submit a list of flowers, naming at least one flower for each of the following categories: (a) having five petals, (b) having four petals, (c) having three petals, (d) having no petals.
8. Distinguish and name two out of five wild or cultivated flowers by their odour, while blindfolded.
9. List flowers that are visited for food by the following: (a) Honey eaters, (b) Bees, (c) Butterflies, (d) Moths.
10. Watch a flower for at least ten minutes in the sunshine, and at least ten minutes after dusk, and report on insect visitors. State number and kind of visitors and name of flower.

WEATHER

1. Be able to explain how each of the following is formed: fog, rain, dew, snow, hail, frost.
2. Be able to recognise, either in the sky or in pictures, the following types of clouds: cirrus, cumulus, stratus, nimbus.
(a) How is each formed? (b) What kind of weather is associated with each?
3. Explain the action of a mercury or spirit thermometer, a mercury barometer, an aneroid barometer, and a rain gauge.
4. Why is it possible to be rainy on one side of a mountain range and dry on the other. Give an illustration in your country. Why is it cooler and more moist in the mountains than in the lowlands? From which direction do rain and clear weather usually come in your locality?
5. Show, with the help of a diagram, how the earth's relationship to the sun produces the four seasons.
6. What causes lightning and thunder? What different kinds of lightning are there?
7. What is convection? What is its relation to winds?
8. Keep a weather chart for one week and record readings at twelve-hour intervals. Include the following: (a) temperature, (b) moisture - dew, fog, rain, frost, or snow, (c) cloud formation, (d) wind direction.

STARS

1. Of what is the solar system composed? What is the earth's nearest celestial neighbour? What is the distance?
2. Make a diagram showing relative positions and movements of the earth, sun, and moon. What governs the tide? What causes an eclipse? What is a shooting star?
3. How fast does light travel?
4. Identify in the sky, eight fixed stars.
5. What is a constellation? Name and point out six. Name two constellations visible throughout the year.

6. Draw a chart of the Southern Cross, Orion and Scorpio.
7. Observe a sunrise and a sunset, and describe each.
8. What is the Milky Way? Give its course through the heavens.
9. What is the morning star? Name the evening star.
10. Explain zenith and nadir.
11. What is the Aurora Australis? Have you ever seen it?

RESOURCE

Australasian Pathfinder Staff Manual. Contact your local library for books and information on the subject you have chosen to study.

METHOD OF TESTING

The instructor must satisfy himself that the individual has met all requirements requested in the honour. The leader should forward a list of successful candidates to the local Conference Youth Department, who will issue Honour Certificates. Tokens will not be sent unless specifically requested and payment is enclosed with order. The holder of an Honour Certificate may purchase an Honour Token from the Adventist Book Centre at any time.

Honour requirements correlating with school work, can be credited if the junior obtains a signed agreement from the school that he has met the requirements.

Advanced Requirement

IDENTIFY SIX TRACKS OF ANIMALS OR BIRDS.
MAKE A PLASTER CAST OF THREE TRACKS.

CLASS PERIODS

One

TEACHING METHOD

There are five rules for following footprints:

1. Study one track carefully.
2. Look at the trail as a whole. There may be several places where a footprint is missing, but by looking ahead you can see the trail standing out clearly, especially if the animal went through a field and bent the grass.
3. Use the sun. Tracks stand out much more clearly when the sun casts a shadow along one edge. The best time to track is when the sun is low, making longer shadows. So get out early, when the tracks are fresh and the shadows long. Walk on the side of the track away from the sun.

4. Imagine you are the animal you are tracking. This helps tremendously especially where the track is hard to follow. Ask yourself "Where would I go if I were this animal?" It pays to find out ahead of time all you can about the habits of the animals you want to track. Would it go to the river, up a tree, into a bush, etc.?
5. If you lose the trail, mark the last track and look around. The trail must go somewhere, and it can usually be found. Mark the last track you can see with a stick or a bright piece of cloth so you can find it again. Then walk around in circles, first small, then gradually larger. And look at each part of the ground from several different directions so as to get the advantage of shadows. This is a good time to ask yourself, "Where would I go if I were the animal?"

Tracking Tips

- * Rake a piece of ground. Animals that walk across it in the night will leave clear tracks.
- * Practice following the tracks of your dog or cat.
- * Never walk on the tracks you are trying to follow. You may need to go back and study them again.
- * Teach yourself to see.
- * Know what to look for.
- * Get acquainted with the animals in your area. Don't start off trying to learn the tracks of all the animals in the world. Most of them you'll never see anyway. Find out from an expert what are the half dozen most common animals near your home, and learn them first.

Make a Plaster Cast

When good clear tracks are found, sprinkle the track with talcum powder to prevent dirt from adhering to the plaster. Place a piece of cardboard around the track to serve as a collar. Mix a sufficient amount of plaster and pour into the form. Allow the plaster to harden for several hours. Remove the plaster from the collar. Next day, clean it with water and a toothbrush. If a thin layer of vaseline is spread over this cast, and more plaster applied, a print just like the original track is obtained.

RESOURCE

Pathfinder Field Guide

CAMPING AND SURVIVAL SKILLS

The purpose of this section is to expand the junior's horizons through the development of new interests and skills; to encourage them in active recreational pursuits which they can enjoy for the rest of their lives; and to teach them to live comfortably and safely in the out-of-doors and to appreciate the things of nature.

Seven class periods have been allocated for the basic course, and three for the advanced segment. Out-of-class time will be necessary for the practical activities involved.

Requirement 1 PARTICIPATE IN A TWO-NIGHT CAMPOUT.
REVIEW THE POINTS OF A GOOD CAMPSITE.
PLAN AND COOK TWO CAMP MEALS.

CLASS PERIODS One

OBJECTIVE

To enable the junior to learn to be at ease in the out-of-doors, and to create an atmosphere where he will feel the nearness of God in creation.

TEACHING METHOD

Where there are sufficient numbers it would be well to set up four committees made up of the juniors with a counsellor as advisor. One committee can be responsible for planning the menu. Another should prepare the list of what each child should bring by way of clothing, etc. while the third should be responsible for the selection of a site. The fourth group should be responsible for the program. All four groups should be given opportunity to share with the total membership why they made the choices they did. When the activity is complete, an assessment should be done by the Explorers and leaders to determine if their choices were really the best ones.

RULES FOR CHOOSING A CAMPSITE

1. Choose well-drained level ground.
2. Choose a dry area. Always check the ground carefully, for if it is the least bit damp, the warmth of a body in a sleeping bag will bring the moisture up from the ground and through the bag. Of course, a ground sheet should always be used under a sleeping bag, even if the ground is dry, for there is always a certain amount of moisture in the soil.

3. Stay away from mosquito-infested swamps if at all possible.
4. Never camp under an overhanging ledge or cliff. There is danger of landslides or falling rocks. You may build your campfire near the face of the cliff and take advantage of the reflected heat.
5. In setting up a campsite in a wooded area, be sure the tents are not placed under trees with large dead branches that might break off in the wind.
6. Pick a warm area. Remember that water and cold air both run downhill, and that warm air runs uphill. Because of this law of cold air drainage, where would be the best place to choose a campsite - a hilltop, a hillside, or a basin? A hilltop would be warmer and drier, and it would also have strong breezes to keep away mosquitoes. A hillside would be a little colder, but not too bad, and if very strong winds were blowing, this might be the best spot. In a basin? - never, for here the dampness of fog will lie, and the cold frost crystals will form. Also, in a heavy rain such a campsite would be flooded.
7. Hard, rocky, dusty terrain makes a poor campsite.
8. Pitch your tent toward the southeast so that the morning sun will help keep it dry.
9. If there is a prevailing wind, pitch the tent with the door away from the wind.
10. A plentiful wood supply is important.
11. Pick a camping area where plenty of safe drinking water is available.

SUGGESTED PROGRAM

FRIDAY Set up camp
 Tea
 Open Sabbath
 Sing Time
 Vespers

| | | |
|----------------|-----------------------------|----------------------|
| <u>SABBATH</u> | Rise and personal devotions | Rest |
| | Worship | Afternoon Meeting |
| | Breakfast | Nature Treasure Hunt |
| | Sabbath School | Tea |
| | Service | Closing Sabbath |
| | Lunch | Campfire |

SUNDAY Rise and personal devotions
 Worship
 Breakfast
 Fair Practice
 Campcraft activities
 Classwork requirements
 Lunch
 Pack up
 Games till home time

RESOURCE

Pathfinder Field Guide; Australasian Pathfinder Staff Manual.

METHOD OF TESTING

Participation in the planning and the activities required.

Requirement 2 PASS A TEST IN EXPLORER FIRST AID.

CLASS PERIODS Two

OBJECTIVE

To gain basic knowledge and skills in specific areas of First Aid.

EXPLANATION

The material for teaching the classes is taken from the St. John Ambulance First Aid Manual. The use of professionals to teach the class is not mandatory, but preferred. Do not hesitate to call for help from the community organisations who deal in Health and First Aid.

TEACHING METHODS

Communicating the principles of First Aid is best achieved through:

1. Lecture
2. Observation
3. Demonstration
4. Participation

The instructor could also use films provided by various agencies; quizzes; and mock emergencies. (Public Health Department films)

FIRST AID NOTES

THE EFFECTS OF HEAT ON THE BODY

SUNBURN

Caused by extensive and prolonged exposure to the sun. There is extreme superficial burning and blister formation in severe cases. In bad cases the patient feels ill and medical advice should be sought. In mild cases the treatment should be:

- * Apply cold compress
- * Take cold showers
- * Take ample fluids
- * Do not break blisters

Mild sunburn usually responds to treatment with calomine lotion. Care should always be taken to avoid prolonged exposure.

MORE SEVERE COMPLICATIONS OF HEAT EXPOSURE

Our bodies normally regulate temperature by the evaporation of sweat from the skin. Over exposure to heat conditions will result in cramps, heat exhaustion and heat stroke.

Heat Cramps

| | |
|--------------------|--|
| Signs and Symptoms | Weakness, dizziness and fatigue. Painful muscle spasms. |
| Control | Gently stretch affected muscles. Application of cold packs. Drinking water with added salt (teaspoon to litre) |

Heat Exhaustion

| | |
|--------------------|--|
| Signs and Symptoms | Headaches, cramps and sweating freely. Rapid pulse and breathing. |
| Control | Sponge patient with cold water. Ice packs to affected muscles. Drinking water with added salt. (teaspoon to litre) |

Heat Stroke (near to death)

| | |
|--------------------|--|
| Signs and Symptoms | A very dangerous condition. No sweat. Body completely dehydrates. Temperature rises rapidly. Vomiting and nausea. |
| Control | Remove clothing. Wrap in wet sheet. Cool by all means available. Place in recovery position. |

All these conditions need medical help as quickly as possible.

BURNS

These are caused by extreme heat, dry or moist. The extent of tissue damage is usually indicated by the term first, second or third degree burns.

Burns are often caused by carelessness with fire, chemicals, hot water, or over exposure to sunlight. They can also be caused by friction and electric current.

Damage to the tissues and the surface capillaries as indicated by redness, swelling and blistering. Serum is lost into the blood and shock is severe.

A person suffering from burns is best rescued by smothering the flames. When rescuing a person, keep as low as possible, with the nose and mouth covered with a wet cloth.

The initial treatment of all burns is IRRIGATE WITH COLD WATER.

Do not break the blisters, apply lotions, ointments or oils

Medical help must be sought.

In the case of acids and chemicals: wash off immediately with cold water
remove contaminated clothing

If burn is to the eyes, irrigate with cold water, cover and seek medical aid.

SMOKE IN THE EYES

Bush fire fighters often suffer from smoke in the eyes. Signs: pain, eyes water and redden. Treatment: Irrigate eyes freely with cold water.

SMOKE INHALATION

Inhaled smoke can cause Asphyxia. If possible remove the patient from the cause. Commence Emergency Artificial Respiration immediately.

UNCONSCIOUSNESS

Unconsciousness can vary from simple stupor to coma.

There are numerous causes from the simple faint, head injury, stroke, heart attack, drunkenness, fits, diabetes to drugs.

Because he is incapable of any voluntary action the unconscious person

1. Must have his airway maintained.
2. Must not be given any fluids or anything by mouth.

First place the unconscious person in the recovery position. Make certain you carry out the A.B.C.D. procedure. Try to find the cause of the problem and treat it.

A simple faint can be caused by hunger, fear, emotional shock, injury, or prolonged standing. To treat, lie the patient on the ground and elevate the feet. If the fainting spell lasts longer than a few minutes, treat as an unconscious person. Make certain that the clothing at neck, chest and waist has been loosened.

CONSTRUCTIVE AND RESTRICTIVE BANDAGES

It is now accepted that there is no place in first aid for the Arterial tourniquet. Constrictive and restrictive bandages now take over the place of this bandage in first aid.

Constrictive bandages must only be used in emergencies to control bleeding in amputations and in certain treatments for marine stings. Suitable materials are necktie, strip of cloth and wide rubber tubing. Unsuitable materials are shoe laces, electric flex and cord or rope.

A restrictive bandage is the type now used in snake bite, a bandage placed firmly on the limb to restrict the flow of lymph in the lymph glands. A crepe bandage or elastic bandage 75 or 100 mm wide is most suitable.

SNAKE BITE

It is now known that the venom travels in the lymph glands. The pressure of a restrictive bandage is sufficient to have the effect of slowing down absorption of the poison into the body.

Although it is simple to distinguish between the bite of a venomous and non-venomous snake, it is best to treat all bites as those of venomous snakes. In any case puncture marks may be difficult to discern.

There may be sweating, drowsiness, fainting, headache, nausea and vomiting, diarrhoea and chest and abdominal pains.

- * Keep the casualty as still as possible, splinting the affected limb
- * Apply a broad firm bandage around the entire limb beginning at the bite
- * Leave the bandage in position till full medical facilities are reached
- * Reassure the victim that this treatment will delay the absorption of the venom

Remember DO NOT

- * Incise or excise the bitten area
- * Permit the victim to walk or run
- * Release the bandage

OTHER BITES AND STINGS

Red Back Spider. Usually bites only when touched. Often on the underside of unsewered toilets. Leaves small red mark on hands, feet, genitals or buttocks. Redness spreads to other parts. Perspiration at bitten part and then spreads. Later there may be nausea, vomiting, dizziness, muscular spasm, profuse sweating, faintness. Bite usually felt as sharp sting.

Funnell Web Spider. Bites mostly at night. Very aggressive. Found in burrows, rock crevices, post holes. Pain at site, then spreading. Local muscular twitching. Victim salivates freely within 15 minutes. Profuse sweating. Spasm of larynx with difficulty in breathing.

Treat as for snake bite.

Ticks. Tend to secrete in body crevices. May cause paralysis especially in smaller children. Paralysis affects lower and upper limbs and muscles of respiration, and facial muscles. Apply turpentine to kill tick. If in ear, apply oil. Seek medical aid for serum. If no aid available, remove tick by levering with open scissors or removing with cotton. Do not squeeze the tick.

Leeches. Found in damp spots usually when camping out. Salt or lighted match will help remove leech. May bleed freely. Bathe area with soap and warm water.

Bee, Hornet and Wasp Stings. Remove the sting of bee. Do not squeeze it as more venom is injected. Pull sideways with fingernail. Wipe the area clean and apply cold compress and ice.

Mosquito, Sandfly and Ant Bites. Avoid heat. Use cold water or ice cubes. Ammonia, Bicarb Soda, or Metho, will be helpful. Calomine lotion or zinc cream is recommended.

Plants. (E.G. Stinging Nettle) Area affected to be washed with warm soapy water to rid part of clinging portions. Apply ice cubes and soothing cream.

Heat Rash. Can be relieved by the application of ice-cold normal saline solution.

Jellyfish. Sting resembles whip marks, weals or goose pimples. Mild burning to intense pain. Excessive stinging may result in cardiac or respiratory failure. Minor stings may give backache, chest pains, vomiting and difficulty in breathing.

Bluebottle. Apply vinegar to wash off tentacles.

Other Marine Stings. Marine creatures sting by injection or absorption of venom through the skin. Effects range from discomfort to rapid collapse and death. Sustain life and seek medical aid urgently. Constrictive bandage for blue ringed octopus. Remember A.B.C.D. procedure. When venom is injected through the skin, skin often changes to red, limbs become swollen, profuse bleeding occurs and circulatory and respiratory collapse is common.

SHARK ATTACK. Immediately control haemorrhage by packing wound with clothing or towels. Elevate if possible. Summon urgent medical aid.

EXPLORER FIRST AID

1. Complete the following statements: (14 marks)

- (a) In the case of burns with acids or chemicals that have been spilt on the clothing
- (b) A very tight bandage used only in special cases such as amputations of for certain marine stings is called
- (c) Unconscious persons should be placed in the recovery position. The reason for this is
- (d) The special signs of funnel web spider bite are
- (e) The correct method of treatment is

2. Write what you consider is the best treatment for each of the following: (24 marks)

- (a) Heat rash
- (b) Bluebottle sting
- (c) Leech bite
- (d) Stinging nettle
- (e) Bee sting
- (f) Minor frostbite
- (g) Major frostbite
- (h) Accidental immersion in ice cold water

3. Prolonged exposure to the sun should be avoided. If sunburn occurs then bad cases should be treated by the doctor but mild cases can be treated in the following manner. (8 marks)

- | | |
|---------|---------|
| 1. | 3. |
| 2. | 4. |

4. Prolonged exposure to heat or even short exposure to intense heat can produce violent body reaction. The first simple reaction is heat cramps. The person becomes dizzy, weak and has painful muscle spasms. This is best treated by: (6 marks)

- | | |
|---------|---------|
| 1. | 3. |
| 2. | |

Explorer First Aid - 2

5. Over exposure to heat can lead to heat exhaustion or heat stroke. This is very dangerous. How would you control heat stroke? (6 marks)

1. 3.
2.

6. Complete the following statement: (2 marks)

The initial treatment of all burns is
.....

PRACTICAL

- (a) Demonstrate your treatment of a person who has been bitten on the calf of the leg by a snake. (20 marks)
- (b) You have come across an unconscious person lying on his back. Demonstrate your treatment. (20 marks)

EXPLORER FIRST AID

ANSWER SHEET

QUESTION 1

- (a) Wash the acid off immediately and remove any contaminated clothing.
- (b) A constrictive bandage.
- (c) That they will not be choked with fluid flowing down the throat as this position places the head lower than the rest of the body.
- (d) Severe pain at site of bite, local muscular twitching, victim salivates freely in 15 minutes, profuse sweating, spasm of larynx.
- (e) Treat as for snake bite. Keep casualty still, firm bandage around entire limb, reassure the victim.

QUESTION 2

- (a) Apply ice cold normal saline solution.
- (b) Apply vinegar to wash off tentacles.
- (c) Remove with salt or lighted match. Bathe with warm soapy water.
- (d) Wash with warm soapy water, cool with ice cubes and soothing cream.
- (e) Remove sting carefully, cold compress or ice cubes.
- (f) Warm as quickly as possible by natural means.
- (g) Seek medical attention urgently.
- (h) Warm bath or allow the person to warm slowly in sleeping bag.

QUESTION 3

- | | |
|-------------------------|---------------------------|
| 1. Apply cold compress. | 3. Take plenty of fluids. |
| 2. Take cold showers. | 4. Do not break blisters. |

QUESTION 4

- 1. Gently stretching the affected muscles.
- 2. Application of cold packs.
- 3. Giving fluids with added salt.

QUESTION 5

- 1. Remove clothing. Wrap in wet sheet.
- 2. Cool by every available means.
- 3. Place in the recovery position.

Explorer First Aid - Answer Sheet - 2

QUESTION 6

To irrigate with cold water.

PRACTICAL

- (a) Lying patient down, place a broad bandage around the entire limb.
Splint the affected part, reassure the casualty, transport as
stretcher case.
- (b) Must show knowledge of placing the person in the recovery position.
Must check the airway.

EXPOSURE TO COLD CONDITIONS

If the casualty can remain dry then severe conditions can be tolerated, but when cold, wet and windy conditions are experienced, there is danger.

Exposure to the cold can have the same effect as concussion with all normal activities slowed, slow speech, slow movements, impaired vision, cramps and unreasonable behaviour. The pulse rate increases and the respiration rate increases.

Protect from the cold, and warm by wrapping in dry clothing or sleeping bag, and if necessary seek medical attention.

Hypothermia. Is a dangerous lowering of the body temperature and can be brought on by cold, wet conditions, swimming in water too cold, or going out in cold, wet conditions without an adequate head covering. The elderly and infirm may become unconscious. Treat as for exposure and give warm, sweet drinks if conscious. NEVER USE HOT WATER BOTTLES.

Minor Frostbite. Is when there is superficial damage and pain is severe. Warm the area as quickly as possible by natural means.

Deep Frostbite. Is when there is deep tissue damage. The area is white, waxy and painless. Do not attempt to thaw the area out, except under medical supervision.

Accidental Immersion in Cold Water. Can best be treated by immersion in a warm bath 42° Centigrade, or alternatively allowing the person to warm slowly in a sleeping bag preferably with a warm companion.

RESOURCES

The basic material for teaching First Aid is found in the St. John Ambulance First Aid Manual. Local agencies may be able to provide films.

St. John Ambulance First Aid Manual
Scout Handbook
Youth Leader's Handbook
Holiday Safety and First Aid Hints from Public Health Departments

METHOD OF TESTING

The Conference Youth Department will provide, upon request, an examination based on the material in the Manual. The instructor will give the exam and for juniors who successfully pass the exam, will sign the Explorer's record card indicating completion. Unused exam papers should be returned to the Conference Office, while used papers should be destroyed. Explorer's first aid does not complete the First Aid Honour nor is a certificate awarded.

Requirement 3

COMPLETE ONE RECREATIONAL, OR ARTS AND CRAFTS HONOUR, NOT PREVIOUSLY EARNED.

CLASS PERIODS

Two, plus out-of-class time.

OBJECTIVE

To broaden the Explorer's interests and develop skills for the service of the church and instill a sense of accomplishment.

TEACHING METHOD

The requirements for all honours are found in the honours section of the Australasian Pathfinder Staff Manual. Notes on specific honours are available from the Youth Department of your local Conference.

Make the teaching of these honours as interesting as possible. When possible, visit an actual location or invite a specialist to come and talk to the group.

RESOURCE

Australasian Pathfinder Staff Manual.

METHOD OF TESTING

Completion of the requirements of the honour chosen.

The leader should send a list of names to the Conference Youth Department, requesting certificates for the honour concerned. The felt honour token will only be sent if specifically requested, and payment is enclosed with request. Once a junior has the honour certificate, the token may be purchased at any time from the ABC upon presentation of the certificate.

Honour requirements correlating with school work can be credited if the junior obtains a signed agreement from the school, that he has met the requirements.

Requirement 4

EXPLAIN WHAT A TOPOGRAPHICAL MAP IS, WHAT YOU CAN EXPECT TO FIND ON IT, AND ITS USES. IDENTIFY AT LEAST TWENTY SIGNS AND SYMBOLS USED ON TOPOGRAPHIC MAPS.

CLASS PERIODS

Two

OBJECTIVE

To teach the juniors to read a topographical map so that they can have a mental picture of a given area.

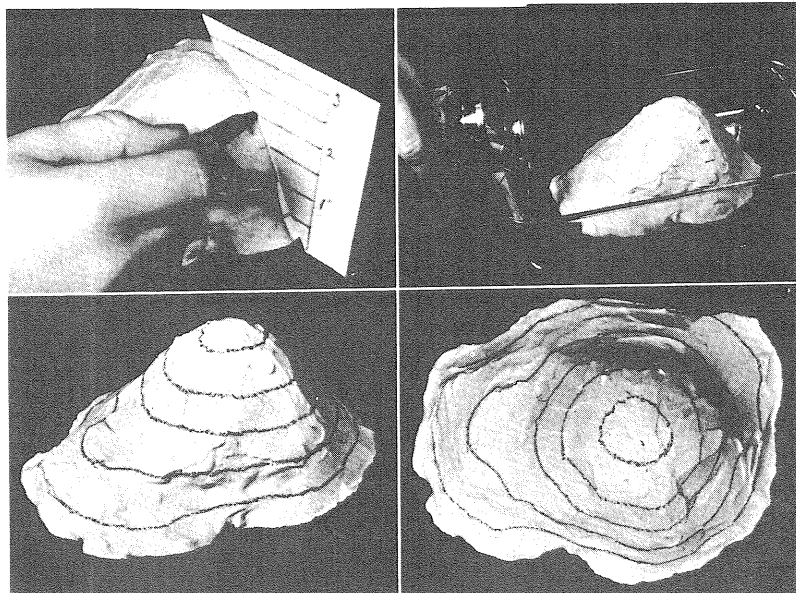
TEACHING METHOD

Part of the fun in mapping is knowing how the map tells its story. This is done in part by symbols that represent certain details. They are known as conventional signs, and on the topographic map they are usually printed in three or more colours.

The works of man, such as cities, towns, roads, bridges, railroads, names, boundary lines, etc, are indicated in black. Blue indicates water - rivers, lakes, swamps, springs. Contour lines for hills and valleys are in brown. On some maps, woodland areas are in green, and main highways in red. These conventional signs form a picture language that indicates landscape features. They are easy to learn.

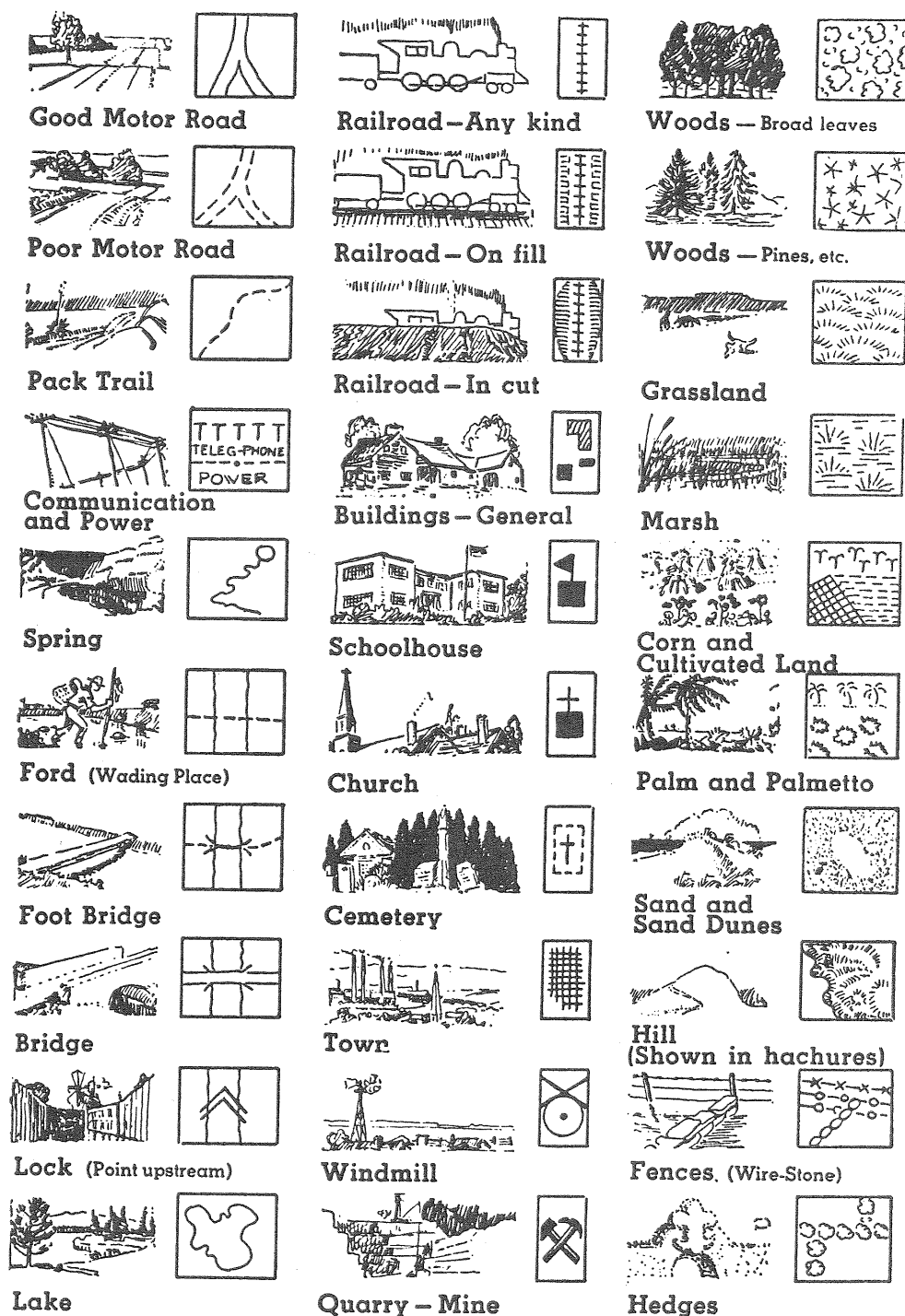
Contour Lines

Contour lines are lines that show elevation above sea level. Looking at them, you can picture hills, mountains and valleys. Each line represents a given height above sea level, and the difference in height between lines is indicated on the map. It may be 5, 10 or 50 metres, depending on the scale. These lines are a very valuable aid when hiking cross country. Where the lines are far apart you know the ground is flat or only gently sloping. But when the lines are close together there is a hill or cliff where hiking might be very difficult if not impossible.



To show how CONTOUR LINES work, make a model mountain by spreading plaster of Paris over crumpled newspaper. Mark it every half inch from base to peak. Set it in a dish and pour water to the first mark. Carefully draw around at the water line, then add water to the next mark and draw another line. Finally, look straight down and you will see contour lines for every half inch of elevation just as they appear on a map.

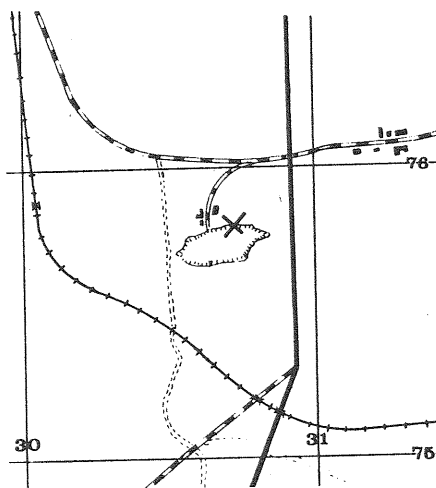
Conventional Signs are an easy way to put a great deal of useful information onto a map so the next person who uses your map can tell where roads, bridges, buildings, and other important objects are located.



Date of Map. It is important to note the date on which the map was made; this is usually printed in the margin. New roads and buildings may have been built since, and these may confuse you when not shown on the map. It is far better to use as landmarks natural features such as creeks, creek junctions, hill-tops and the like which do not change very much with time.

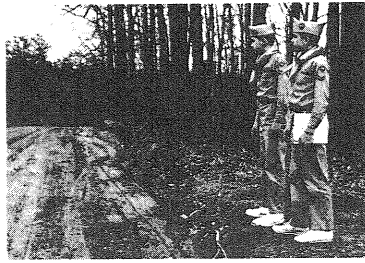
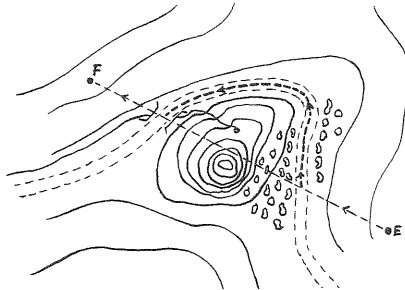
Grid References. Maps are covered with a network of lines forming a grid. These lines are parallel. The grid lines make it easy to give the exact position of a point on the map. Each grid line is identified by a number on the map border.

The position of a point is indicated by a six figure map reference. The first three digits identify its position from west to east (the easting), and the second three locate it from south to north (the northing). Find the number of the vertical grid line lying immediately to the left (or west) of the point then estimate how many tenths of the way the point is to the next vertical line. In the example the point X is just beyond the vertical line 30 and is about seven-tenths of the way to the next line. The first three figures are then 307. The second three figures are obtained in a similar manner working from south to north. In the example the second three figures are 758. The final reference would be 307758. You can remember that the easting is given before the northing, since E comes before N in the alphabet. Or remember that you read as a book - across, then down. The name of the map sheet must always be included in the reference.

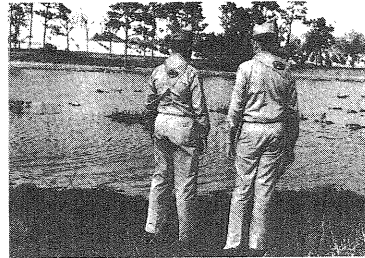
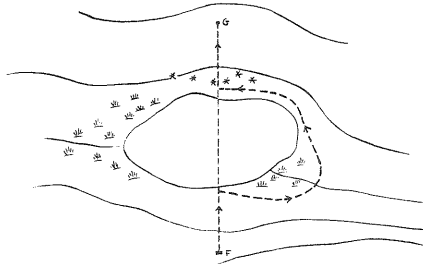


PLAY ORIENTEERING

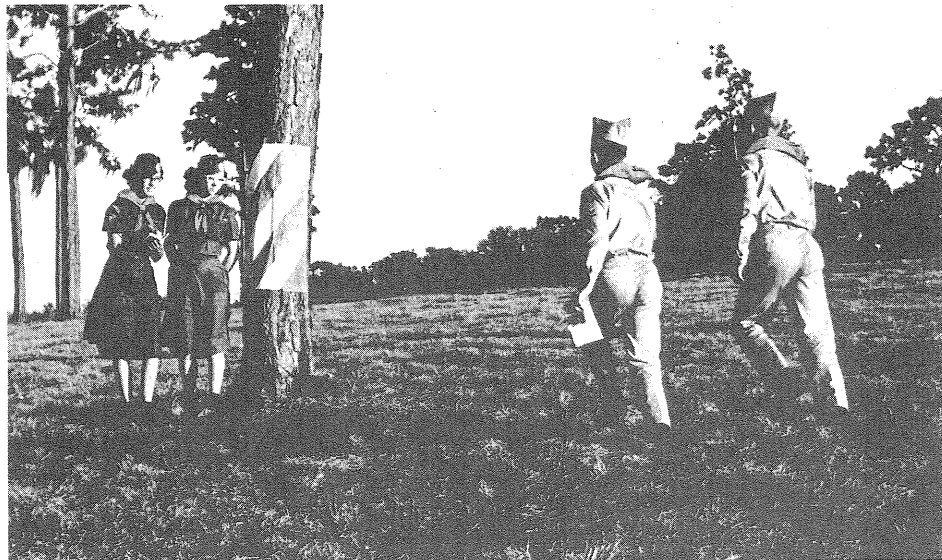
Set up a course with five or six stations. The stations are marked on maps that are given at each station. Have the juniors leave the starting point in twos, at five minute intervals. Have someone at each station write down the time the pairs reach the stations. The couple finishing the complete course in the shortest time win.



Draw a line on your map from station to station. When it crosses a road, it may be quicker to run on road than cross and go uphill through woods.



At the edge of a lake or swamp, pick out a landmark like a tall tree on the far edge and run quickly around to it, then continue on your course.



RESOURCE

Pathfinder Field Guide; Australasian Pathfinder Staff Manual; Scout Handbook.

METHOD OF TESTING

Demonstration of an understanding and knowledge of, and be able to use, a topographical map.

Advanced

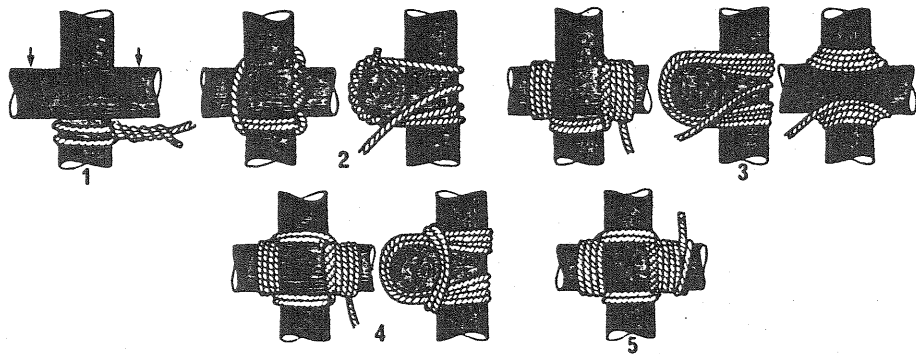
Requirement 1

REVIEW THE BASIC LASHINGS AND BUILD ONE ARTICLE OF CAMP FURNITURE.

CLASS PERIODS

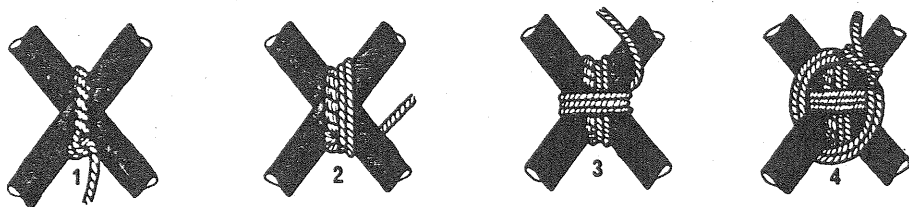
One

SQUARE LASHING. This is used whenever spars cross at an angle, touching each other where they cross. It is started with a clovehitch around the upright spar immediately under the spot where the cross piece is to be. Twist the end of the rope into the standing part then 'wrap' the rope around the cross piece and upright binding them together.

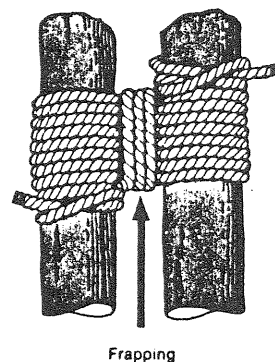


In wrapping, rope goes outside the previous turn around the cross piece and inside the previous turn around the upright. After three or four right wrapping turns make two 'frapping' turns between the timbers. Strain them tightly. Finish with clovehitch around end of cross piece. Remember: 'Start with clove, wrap thrice, frap twice, end with clove'.

DIAGONAL LASHING. This is used to 'spring' two spars together, that is, to lash together two spars which tend to spring apart and which do not touch where they cross. The lashing is started with a timberhitch around both spars. The timberhitch is tightened so as to bring the two spars together. Three or four turns of the lashing are then taken around one fork and three or four turns around the other fork. Two frapping (tightening) turns are taken about the lashing at the point where the spars cross and the lashing is finished off with a clovehitch around the most convenient spar.

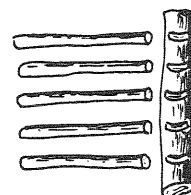
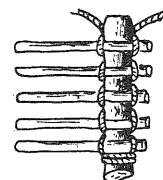
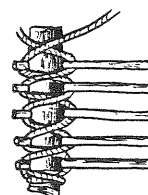


ROUND OR SHEAR LASHING. This lashing is used for binding together parallel spars and for forming 'shear legs' which support bridges and the like. Place the two timbers next to each other. Tie clovehitch around one of them at appropriate place from the top. Bind the two timbers together by laying seven or eight turns of the rope around them, one turn beside the other. Make two frapping turns around the lashing turns between the timbers. Fasten rope with a clovehitch around the second timber. Open out the timbers. NOTE: two shear lashings without frappings are used to lash two timbers into one long one.

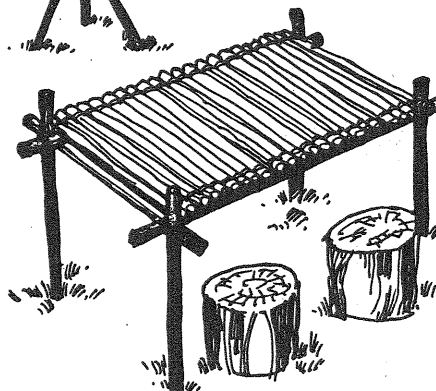
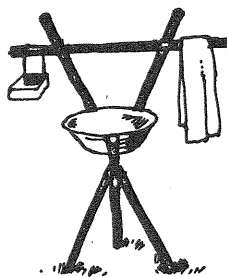
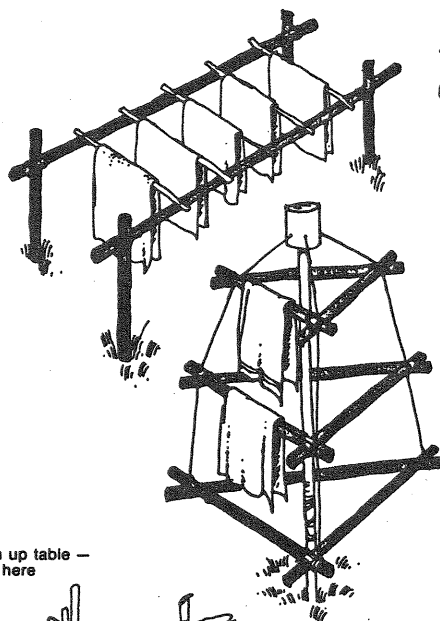


CONTINUOUS LASHING. Continuous lashing holds small sticks at right angles to long sticks and is useful in making table tops, seats, etc. Follow these steps in laying a table top.

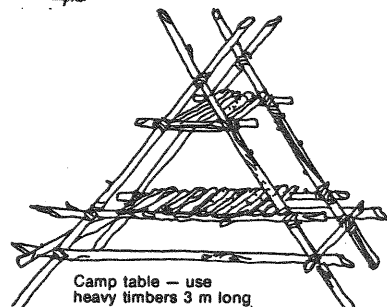
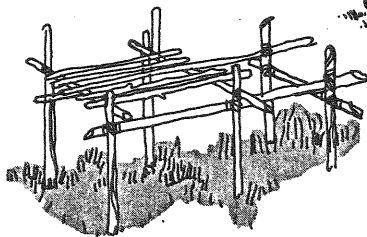
- a. Cut sticks to desired size and trim ends. Next notch the frame and place the cross-pieces in correct position.
- b. Make clove hitch on the frame, in middle of the rope, with knot underneath and ends out to sides. There should be equal lengths of rope on either side of the long stick. The hitch should be placed so that the ends of the rope pull the knot tight as they come up from under the long stick.
- c. With one end in each hand, pull rope over one crosspiece and down under frame.
- d. Cross rope, making an X. Pull rope tight.
- e. Bring up and over second crosspiece. Repeat this procedure until all the crosspieces are lashed.
- f. End with two half hitches or clove hitch and tuck ends of rope under last small stick.



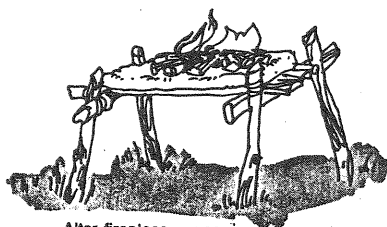
CAMP FURNITURE - With skills you have just learned in lashing, try making some camp furniture. If materials are scarce, these models may be built in miniature to meet the requirement.



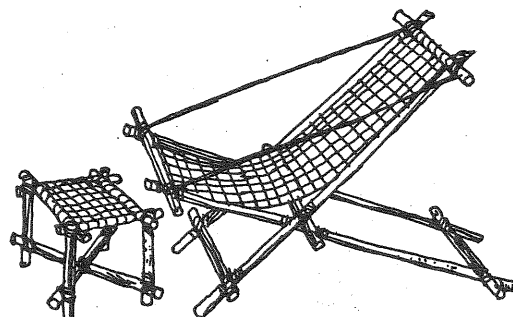
Wash up table —
bowl here



Camp table — use
heavy timbers 3 m long

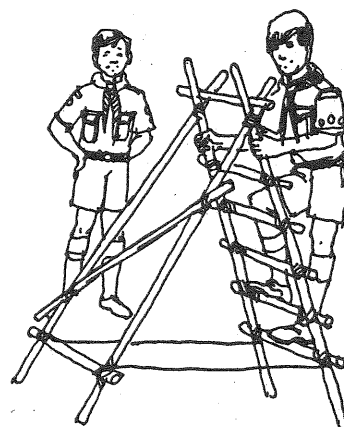


Altar fireplace — use
100 mm mud or clay



Footstool

Deckchair



Step ladder

RESOURCE

Scout Handbook; Australasian Pathfinder Staff Manual.

Requirement 2

PLAN A MENU FOR A THREE DAY CAMPING TRIP FOR FOUR PEOPLE, USING AT LEAST THREE DIFFERENT DEHYDRATED FOODS.

CLASS PERIODS

One

The use of dehydrated food will require some experience. It is a good idea to practice at home, preparing a meal that you would like to use on the camp. There are many types of dehydrated foods available. Some are powdered milk, potatoes, eggs, various vegetables and vegetable mixes, instant foods like soup and quick rice, etc. and the list can go on, even down to complete dehydrated meals - just add water.

In the situation where you have to plan meals for four people for three different days, the obvious place to start would be to determine the number and type of meals required for that trip and then draw up a menu.

For the purpose of this exercise we will plan a menu for a pack camp starting Sunday night and finishing Wednesday afternoon.

Number and Type of Meals

Sunday: Tea

Tuesday: Breakfast
Lunch

Monday: Breakfast
Lunch
Tea

Wednesday: Breakfast
Lunch

From this we can see that we have nine meals of which three are breakfasts, three are lunches and three are teas. We can now go ahead and plan the menu.

Menu

The menu listed below is only a suggestions. You must remember when drawing up a menu for four people, that it is most important that it be done together, to get a menu that is agreeable to all.

Sunday: Tea - Packed tea from home: two sandwiches and an orange and a hot milo.

Monday: Breakfast - 2 Weet-Bix (crushed), sultanas
2 slices toast, butter and honey
Lunch - Salad - 1 tomato, 1 boiled egg, 2 slices of nutmeat,
3 bean mix, cheese, 2 slices of bread, 1 apple
Tea - potato soup, peas and nutmeat
stewed apples and hot milo

Wednesday: Breakfast - 2 Weet-Bix (crushed), sultanas
2 slices toast, butter and jam
lunch - nuts, dried fruit and biscuits

From the menu we can obtain the following food list:

| <u>Item</u> | <u>For 1 Person</u> | <u>For 4 People</u> |
|------------------------|----------------------|---------------------|
| Orange | 1 | 4 |
| Weet-Bix | 4 biscuits | 16 biscuits |
| Sultanas | 75 gms | 300 gms |
| Bread | 8 slices | 32 slices |
| Tomato | 2 medium | 8 medium |
| Boiled Egg | 1 | 4 |
| Cheese | 10 mgs | 40 gms |
| Nutmeat | 4 slices | 16 slices |
| Nutolene | 2 slices | 8 slices |
| Celery | $\frac{1}{2}$ stick | 2 sticks |
| 3 Bean Mix | 50 gms | 200 gms |
| Apple | 1 | 4 |
| Instant Potato + Onion | $\frac{1}{2}$ packet | 2 packets |
| dehydrated peas | $\frac{1}{2}$ packet | 2 packets |
| dehydrated apple | 50 gms | 200 gms |
| granola | 25 gms | 100 gms |
| Individual honey | 4 | 16 |
| Potatoes | 2 small | 8 small |
| Corn on cob | 1 small | 4 small |
| Banana | 2 | 8 |
| Biscuits | $\frac{1}{2}$ packet | 2 packets |
| Quick Fried Rice | $\frac{1}{2}$ packet | 2 packets |
| Nuts & Dried fruit mix | 50 gms | 200 gms |

Miscellaneous food items: salt, butter, sugar, milo, powdered milk, etc.

From this menu, dehydrated food or food used as dehydrated foods are: Weet-Bix, instant potato, peas, apple, granola, quick fried rice, powdered milk.

RESOURCE

Pathfinder Field Guide; Australasian Pathfinder Staff Manual.

Requirement 3

BE ABLE TO SEND AND RECEIVE THE SEMAPHORE ALPHABET, OR, BE ABLE TO SEND AND RECEIVE THE INTERNATIONAL MORSE CODE BY WIGWAG, OR, KNOW THE ALPHABET IN SIGN LANGUAGE FOR THE DEAF, OR, HAVE A BASIC KNOWLEDGE OF PROCEDURES OF TWO-WAY RADIO COMMUNICATION.

CLASS PERIODS

One

Have your units make flags. The cloth should be fairly heavy. A good size is about 45cm square. Halve the square diagonally; one half should be dark and the other white. i.e.


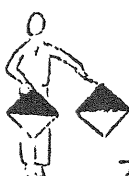

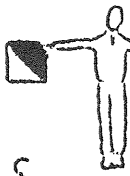

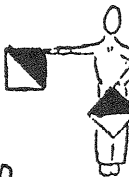










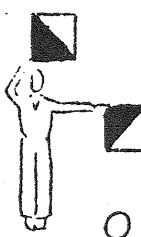
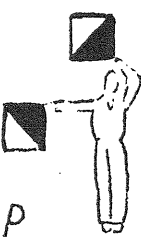




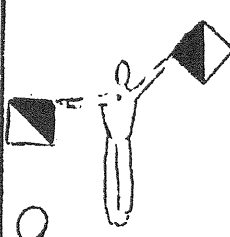

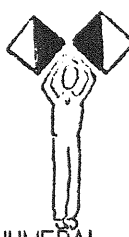
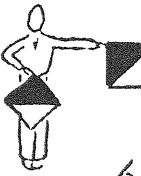
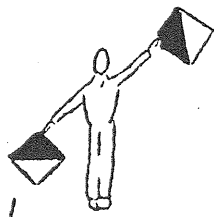
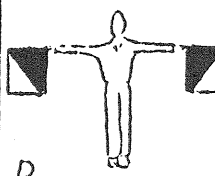



TEACHING SIGNALLING

1. Teach sending and receiving of the alphabet.
2. Practice on speed work. Juniors should be able to do from 30 to 50 letters a minute.
3. Unit signalling games and contests should be used.
4. Juniors should be able to signal from hilltop to hilltop, sending messages with ease and accuracy.

Signal Shopping This contest is one of the most popular. Arrange teams in parallel files. At the opposite end of the room tack papers on the wall, each containing one of the following shop signs: HARDWARE, CHEMIST, GROCERIES, CLOTHING, PETS, DEPARTMENT STORE. The leader signals one of the articles to be purchased from the list below, or from his own list. The first player of each team attempts to read the word, then runs to the shop sign where the article could be purchased or found. The one touching the correct sign first scores one point for his team. ITEMS: toy, beans, ball, bottle, butter, belt, nail, boat, comb, shoes, tie, rabbit, lace, roller, cream, ice, rice, bait, brace, mice, cob corn, oil, Canary, broom, rat, rhubarb, rattle, hammer, rake. etc.

SEMAPHORE SIGNALLING

| | | | | |
|--|--|--|--|---|
|  A 1 |  G 7 |  M |  S |  Y |
|  B 2 |  H 8 |  N |  T |  Z |
|  C 3 |  I 9 |  O |  U |  ATTENTION |
|  D 4 |  J O |  P |  V |  INTERVAL |
|  E 5 |  K |  Q |  W |  NUMERAL |
|  F 6 |  L |  R |  X | |

MORSE'S CODE

Samuel F.B. Morse invented the Morse code, a code of dots and dashes, in 1832. It is the internationally accepted code.

| | | |
|-----------|-----------|-----------|
| A · — | J · — — — | S · · · |
| B — · · · | K — · — | T — |
| C — · — · | L · — · · | U · · — |
| D — · · | M — — | V · · · — |
| E · | N — · | W · — — |
| F · · — · | O — — — | X — · · — |
| G — — · | P · — — · | Y — · — — |
| H · · · · | Q — — · — | Z — — · · |
| I · · | R · — · | |

Learning the Code.

Learn the code by sound, NOT by memorizing the little dots and lines on a code chart. Make yourself a simple buzzer and get your friend to do the same; then sit in different rooms and signal each other. Take your time. Go slowly. Learn to hear the letters. Make each 'dah' the length of three 'dits', and pause between letters the length of a 'dah'. Get it right the first time, speed will come with practice.

The following eleven letters can be learned in a few minutes:

| | | |
|----------------|---------------|--------------|
| E dit | T dah | A di-dah |
| I di-dit | M dah-dah | N dah-dit |
| S di-di-dit | O dah-dah-dah | R di-dah-dit |
| H di-di-di-dit | | K dah-di-dah |

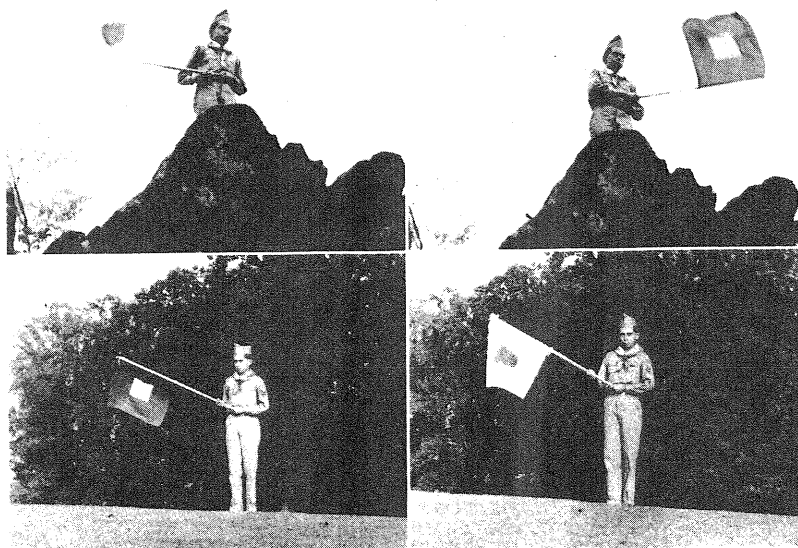
Now practice using them by sending and receiving some of these sentences: THE KIT IS A HIT; TIM IS NOT HERE; HE IS AT HOME; THE MEN ARE NEAR; RENT A TENT TO HIM; THIS TENT HAS A TEAR IN IT.

Make up sentences of your own. You will have a lot of fun sending messages with whatever letters you know. Do not try to learn all the code in one sitting. Add a few letters at a time, and before you realise it you will have learned the whole code and can send and receive with the experts.

WIGWAG SENDING

For wigwagging you need two flags each 60cm square. One is red with a white 20cm square in the middle, the other is white with a red square in the middle. Each is fastened by ties to a pole approximately one metre long. Taller juniors may want a longer pole.

Choose the flag that stands out clearer against your background. White is better in front of trees; red is usually better against the open sky.



The Morse code is used. The flag is dipped to the right for a 'dit' and to the left for a 'dah'. (To help you remember, notice that 'dit' and 'right' sound quite a lot alike).

For the upright position, hold the butt end of the pole in your left hand over your belt buckle. Hold the right hand 30cm above the left, with the pole in front of your nose and leaning forward slightly.

To make a 'dit' keep the left hand where it is and swing the pole down level on the right and up again. Move with a figure-of-eight motion, keeping the pole always leading the way so the flag does not tangle.

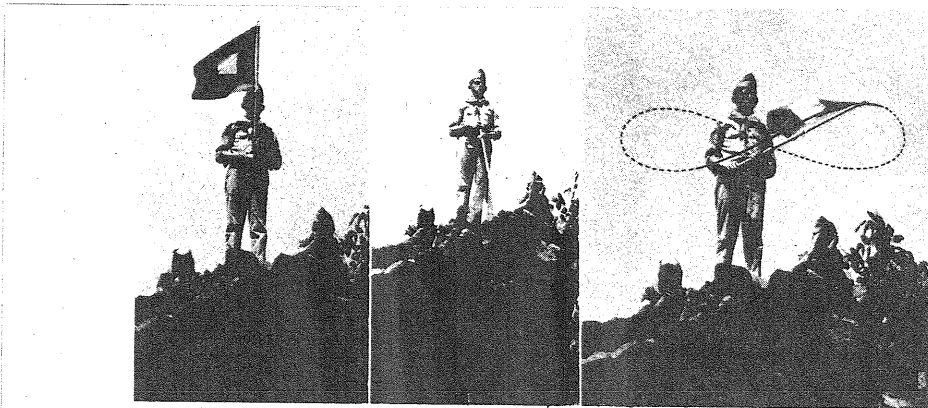
To make a 'dah', make the same motion but to the left. When 'dit' and 'dah' come together, make just one long figure-of-eight motion from low on one side to low on the other and up again.

For a 'front' swing the flag down in front of you.

The signalling team consists of two juniors; the 'signalman' and the 'recorder'. In sending, the recorder dictates the message word by word to the signalman, who sends it. When receiving, the signalman receives the message and dictates it to the recorder, who writes it down. When signalling over long distances where binoculars are necessary, add an 'observer' as third man with binoculars.

To establish contact, the sending team take their positions in an exposed place and choose the flag that makes the better contrast with the background. The signalman begins to send a long series of "A's". When the receiving team notices, they take their position and the receiving signalman waves "K" (klear), meaning he and his recorder are ready to receive.

The sending recorder pronounces the first word, and the signalman sends it. He makes a complete letter, with all its dits and dahs, without stopping. But he comes to the upright position briefly at the end of each letter and makes a front at the end of each word, then stops with the flag down and watches the receiving signalman. If the receivers got the signal clearly, they wave back, "E", and the senders go ahead with the next word.



At the end of a sentence the signalman makes two fronts. At the end of the message he signals AR as one letter. This time he waits until the receivers have checked the message through and wave back R, meaning that they received the whole message clearly. Now, and only now, do the signallers leave - unless they wish a reply, in which case they had better wait.

The signaller may make a mistake. If so, he immediately drops the flag in a front, then makes eight dits and a front and waits for an answering E. Then he starts over on the word he was sending. If the receiver does not understand a word, he signals IMI as one letter, and the sender repeats the last word he sent.

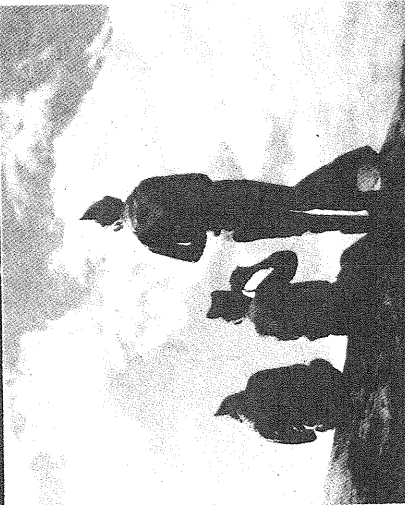
In all signalling, accuracy is more important than speed. Speed will come naturally with practice.



SIGNALING

ATTENTION!

Before sending a message the sender attracts the receiver's attention by sending a series of A's as one letter. As soon . . .



THE MESSAGE

The sender signals the first word, ending each letter with an upright, each word with a front. He pauses after each word for the receiver to signal E, meaning he understood. If the . . .



SIGNING OFF

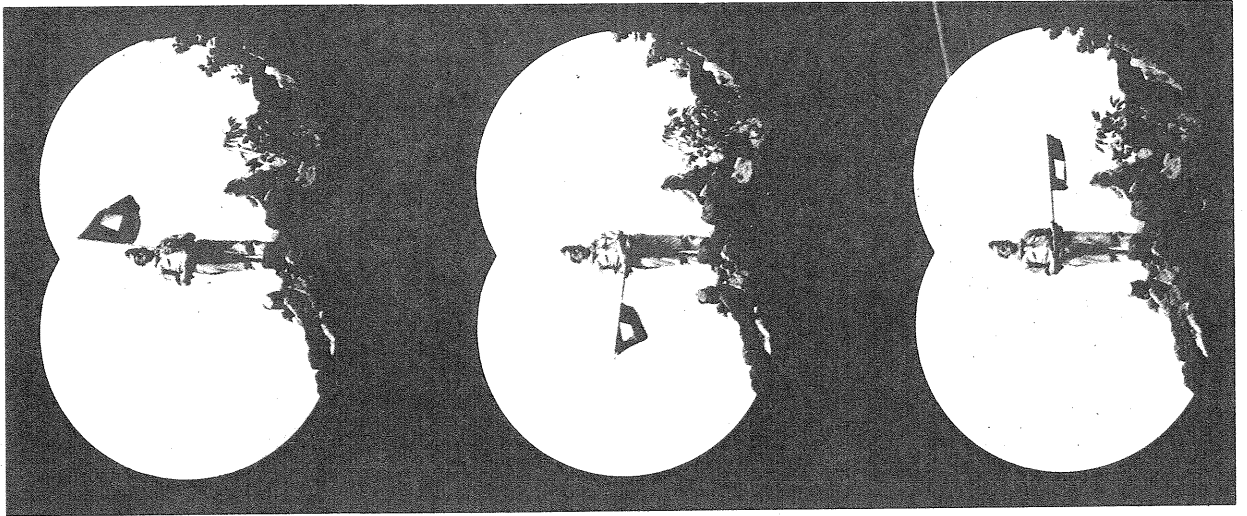
At the end of the message, sender waves AR as one letter and waits for the receiver to signal back R. Only . . .

WITH FLAGS

As receiver notices the signal he stands in a position where he can see the signaler easily, sends K, meaning "All is Klear for receiving."

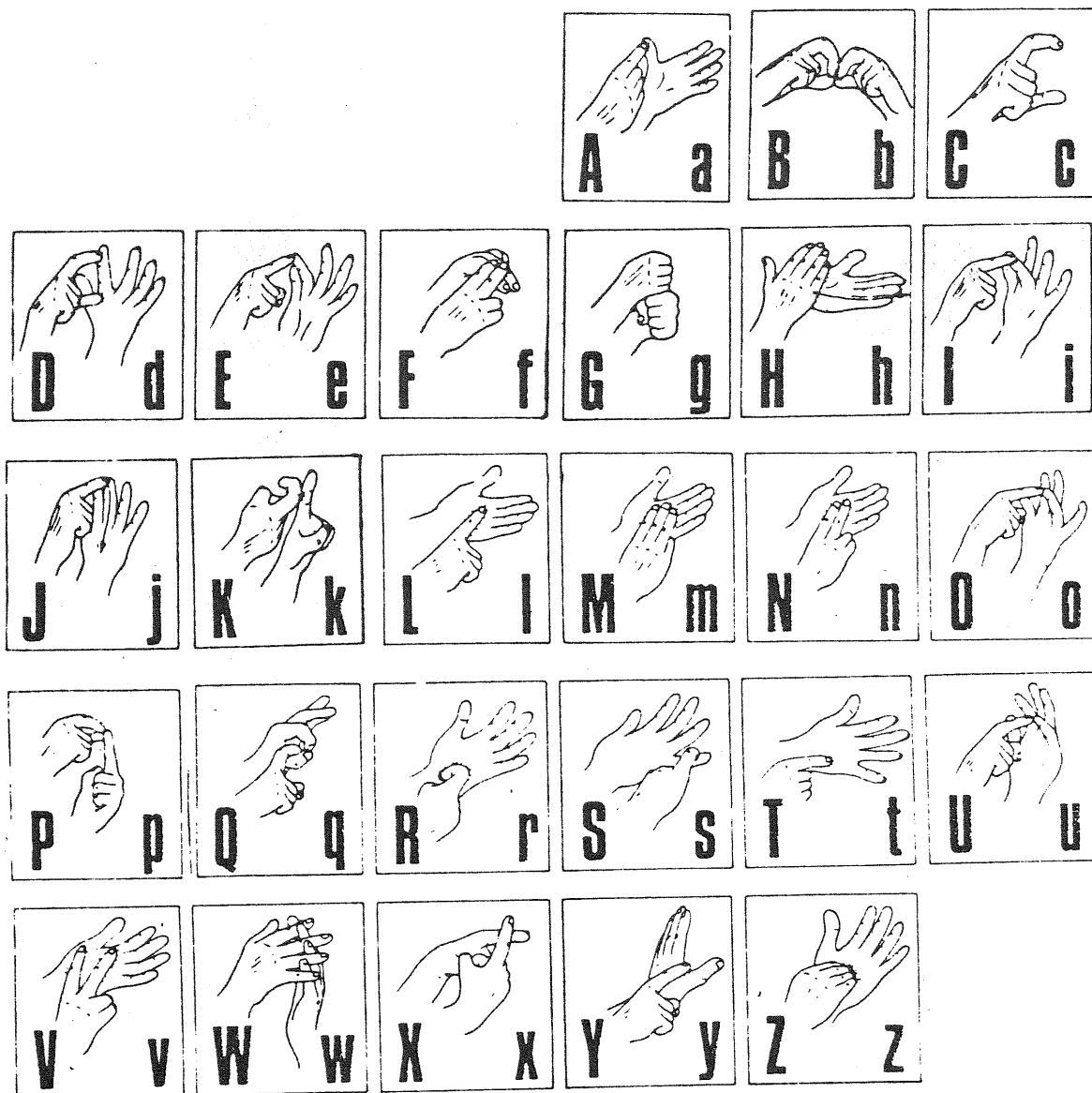
Sender makes a mistake, he stops, signals eight E's as one letter, and then repeats the last word. If receiver does not understand, he signals IMI (I Missed It), and the sender repeats.

After this is the message considered officially received. Sender now waits for a reply if one is expected.



DEAF ALPHABET

For hearing people, our normal means of communication is by talking. For deaf people, the most natural way is by using sign language and finger-spelling. Learn the finger-spelling alphabet printed here and try these activities. Most signalling games can be adapted for use with the deaf alphabet.



SIGNALLING TWILIGHT:

Leader spins a plate calling out first the name of a junior, and then a letter of the alphabet. The junior must give the equivalent of the letter in finger spelling before he can catch the plate. Omission to give the right answer or catch the plate before it stops, is a point against the team.

SIGNALLING TOUCH:

Teams in rows and numbered. Leader signals a letter in finger spelling and then calls a number, and the first of that number to touch something in the room beginning with the letter signalled, wins a point for his team. Once a thing is touched it may not be used again. Never call the number before signalling the letter, as in that case only the juniors concerned will trouble to watch what the letter is to be.

FETCH:

Teams in line facing the leader, who signals the name of some article in finger spelling. The first team to hand that article to the leader wins. Variation: an order is signalled and the first to obey correctly, wins.

SIGNALLING CARDS:

Have a number of small pieces of card and write on one side, a letter of the alphabet in finger-spelling pictures. Complete several alphabets. Place cards face downwards, with teams gathered round. Leader turns up card and first to call out correct name, takes it. Player with most pieces at end wins.

Best played by team leaders with their teams. Can be played as an inter-unit game with selected representatives.

RESOURCES

Scout Handbook; Pathfinder Field Guide.

