

utilizing properties of materials near absolute zero in temperature.

Cybernetics: The theory of control and communication in the machine and the animal. **Cycle:** 1. An interval of space or time in which one set of events or phenomena is completed, 2. Any set of operations that is repeated regularly in the same sequence. The operations may be subject to variations on each repetition. **Cyclic Shift:** A shift in which the data moved out of one end of the storing register are re-entered into the other end, as in a closed loop. **Data:** Any representations such as characters or analog quantities to which meaning might be assigned. **Data Processing:** Any operation or combination of operations on data. **Data Processor:** Any device capable of performing operations on data, e.g., a desk calculator, a tape recorder, an analog computer, a digital computer. **Data Reduction:** The transformation of raw data into more useful form, e.g., smoothing to reduce noise. **DDA:** Digital Differential Analyzer. **Debug:** To detect, locate and remove mistakes from a routine or malfunctions from a computer. Synonymous with troubleshoot. **Decimal:** 1. Pertaining to a characteristic or property involving a selection, choice or condition in which there are ten possibilities. 2. Pertaining to the number representation system with a radix of ten. 3. See binary coded decimal. **Decision:** A determination of future action. **Decision Instruction:** An instruction that effects the selection of a branch of a program, e.g., a conditional jump instruction. **Decision Table:** A table of all contingencies that are to be considered in the description of a problem, together with the actions to be taken. Decision tables are sometimes used in place



A Scout Prayer

First, put my heart in order, God, and fill it with understanding.

Make it a very clean place full of sunshine and cheer, so that people will want to come in and rest there. Then give me a mind that will fashion the right thoughts to send down to this heart of mine where so many of those I love are to be found.

Place a plan before me just the minute that I awake in the morning and help me to faithfully follow it through. Make that plan full of service to be rendered.

Help me to smile at the little worries and petty irritations that seem to creep into every day, and just pass them by. Touch me with the real spirit of courage and tell me all about how a man walks around.

Saturate every desire within me with unselfishness so that I may play the part of the helper and the servant.

And when I get feelings of faintness and lack strength, then take me aside, God, and talk to me until I come back to my big self and can hold my head up and walk straight ahead again.

Pour love into my work, God, and stimulate me with vision.

Make me to be kind and considerate, always overlooking the faults and failings of those about me.

Keep building me, God.

Open my eyes to every ray of light that plays about my way and tell me the meaning of things.

And when the day comes to its end, bring me to those hours honestly tired and ready for sleep and happy dreams.

THE IDEA MAGAZINE OR ALL SCOUTERS
AND ADULT LEADERS OF THE MOVEMENT

CHIEF SCOUT
HIS EXCELLENCY GENERAL
THE RIGHT HONOURABLE
GEORGES P. VANIER, D.S.O., M.C., C.D.
DEPUTY CHIEF SCOUT
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Cover
A Scout and the language of the computer.

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George N. Beers, director of publication services since 1956, resigned last month to become vice-president and general manager of an Ottawa commercial printing firm.

Many Scouters will remember him as the popular director of canteen services at the national Scout jamborees in 1949 and 1953 and at the 8th World Jamboree in 1955.

After joining NHQ in 1950, George served as editor of The Junior Leader and later was editor of The Scout Leader. He guided the development of the pack, troop and crew Scouters' handbooks, other books and pamphlets, and the new Canadian Boy magazine of which he was managing director.

For two years he served as executive commissioner for publications and public relations at Boy Scouts World Bureau.

With his many friends in Scouting and in the publishing field we join in wishing George much happiness and success in his new venture.

bushman's thong camp

by harry mccartney

They broke or at least bent every rule about running a camp, and one of the results was an answer to the problem of Scout troop dropouts.



It all began as do so many plans for Scouting activities – over a cup of coffee.

It was Saturday morning in the Scout office and like most other Saturday mornings, a number of Scouters were standing in small groups discussing problems, ideas and anything else that came to mind.

On hand were a number of district Scoutmasters and the subject soon got around to camping, pioneering and the lack of it done by boys today.

What we need, someone said, is a training camp something like the old Silver Arrow courses. Better still, someone else mentioned, let's instruct the boys on the Bushman's Thong badges. And so evolved the idea of running a training camp for the Bushman's Thong, based largely on the old Silver Arrowhead course formula.

The first thing then to find out was would there be enough boys interested in such a camp? Within a few days we had a questionnaire sent out to Scoutmasters with a rough sketch of what we had in mind. For a

small district such as ours, the response was amazing. It established a minimum requirement of Second Class and it set a fee of \$25.00 for a week's camp.

Within two weeks, the writer had 48 applications on his desk and so we were off to the races.

Now came the difficult part: how to take the requirements for the Bushman's Thong badges and weld them into a week-long course. The district commissioner and the district badge chairman were called in for a conference and it was decided to instruct in the requirements for the Camper, Naturalist, Stalker, Tracker and Pioneer badges. Because of the lengthy period of time required for keeping a log for the Weatherman Badge it was decided not to cover this one. Even at that, we had to be flexible in our approach to all the badges and decided that if a modification had to be made, a substitute of equal challenge would be used in its place.

A pre-camp meeting was called six weeks before the camp and a special course neckerchief with crest was issued to all candidates. At this meeting we had invited our district president and district camping chairman to say a few words and their encouragement did much to set the proper atmosphere right at the beginning.

The boys were then asked to break off into patrols of not less than five and not more than eight boys. After this they had to elect their own patrol leader. A very hurried conference of patrol leaders decided that patrol names should be those of famous people and the boys picked Baden-Powell, McKenzie, Brant, MacDonald, Llewellyn and the Beatle Patrol. The meeting concluded with a question and answer period that certainly justified getting together.

We then put a call out for camp staff and as a result lined up six people who were expert in a particular field. One of the district Scoutmasters and I would be the permanent camp staff with the experts coming in for one or two days as the program called for it. We were determined that this would be a camp for Scouts run by Scouts and other than the periods of instruction, the court of honour would make all decisions pertaining to camp operation; therefore when requests came in for patrols to be permitted out on the Friday evening prior to the camp to set up patrol sites, permission was immediately given.

Each patrol had to be responsible for bringing all its own equipment and prior to the camp, every patrol held at least three meetings to decide who could bring what items. On Saturday, June 27, the camp opened on what was described by one of the boys as being the hardest, most exciting, best Scouting experience he'd ever had. Notebooks were issued, boys changed to camp clothes and the first session of the week started. Here are the sessions given during the week:

- 1-Notebooks, projects and how to use them
- 2-Camp kitchen and camp sites
- 3-Axemanship
- 4-Knotting: practical application and demonstration (7 separate sessions)
- 5-Lashings-4 separate sessions
- 6-Patrol gateways
- 7-Patrol eating-table manners, etc
- 8-Tent pitching and repairing
- 9-Pioneering projects (4 sessions)
- 10-Felling axe
- 11-Camp shelters
- 12-Observation trail
- 13-Patrol gadgets and how to build them
- 14-Mapping
- 15-Stalking
- 16-Tracking
- 17

- Human tracks 18 - Trees (3 separate sessions) 19 - Bird and animal identification 20 - Plaster casts 21 - Life cycle of animals 22 - Hiking equipment and how to pack it.

Each session was a work-and-do session so that everything the boys were taught they had to put into actual use. Each Scout was given a project sheet with 80 projects—all to be completed and then signed by a member of the staff.

Camp Highlights

As part of the pioneering project each patrol had to build a three-man raft and then race it down the Nith River which runs through the campsite. The distance to be covered was just under a mile and the excitement, the splashing and the competition made this an excellent success.

Larger projects were successfully completed: a monkey bridge was built and an aerial runway; a drawbridge and a swing-tower. All the rope for these projects was manufactured by the boys from binder twine, each Scout having to build a rope-making machine and produce at least enough rope for his particular part of the project.

Every morning we made an inspection of the campsite. The best patrol in camp was awarded the 'Camp Chief's Award' which was flown from their flagpole for that day. Standards quickly reached first class ratings and competition was exceedingly keen.

We decided at the beginning of the course that we would teach the boys as many new campfire songs as we could manage. The first three nights our campfires didn't seem to go over too well, but by the fourth and fifth night, the boys had a repertoire which would have done even an old-time Scouter proud.

The last day of the course was the biggest of all. At twelve o'clock, examination papers covering all the subjects were issued to each boy, who was allowed to go anywhere on the campground by himself to write the examination. No time limit was set. Most completed the exams by four in the afternoon. The district ladies auxiliary had been asked to provide a banquet supper, and an hour after they finished the exams, the boys sat down at a very welcome turkey dinner. The night before, the course staff had sat down with each boy's notebook before us and discussed whether or not we felt the boy had gained enough from the course to pass the Bushman's Thong. There was no doubt in our mind about the majority. Approximately eight boys appeared to be borderline. It was for the purpose of grading them in the proper direction that we decided to set an examination. As it turned out, five of the eight boys we were unsure about did well on the examination and at Open House that night, in front of 300 parents and friends, we were able to present forty-five Bushman's Thongs.

Even the three boys who did not get the thong did qualify for a number of proficiency badges and are now well on their way to completing the final requirements.

After the Open House, we held a campfire and here was the opportunity for the Scouts to show their friends and parents just how many new songs they had learned.

It was a rousing success. The boys then took their parents around the campsite and the evening concluded with refreshments.

The camp was an experiment but it was an experiment that exceeded our expectations. When we met some weeks after the camp to plan on next year's program—because we certainly intend to hold another such camp—when the question was asked, 'What can we improve on next year?' we were each amazed to find that we had nothing to say. We strongly recommend that such a project be tried in other districts and would offer the following suggestions:

Be prepared to be flexible when building the program from the badge requirements.

Be certain that nothing is made too easy for the boys, but consider that the best that a 16-year-old can give you is very different from the best that a 14-year-old can do.

Use the guest-lecturer system. These people come into camp for one day—fresh, eager and keen and the boys catch their enthusiasm.

Do let the court of honour run the camp.

Do let the boys do all the cooking, staff and guests being invited to eat with patrols.

One final note that gives us all some satisfaction is that nine of the older boys who attended the course had not planned on going back to Scouting in the fall: high school homework, jobs, etc. being the reasons given. Now, each of these boys intends to go back and we are planning an adventure trip for 1965. ✻

Projects

knots—tenderfoot knots, double sheet bend, timber hitch, overhand loop, bowline on bight, butterfly knot, rolling hitch, marlin spike, catspaw, highwayman hitch, fishermen's bend and fishermen's hitch.

Cut through nine inch log with felling axe appropriate to size.

With two or three other patrol-members, build a lean-to or camp shelter and sleep out overnight in it.

Demonstrate the following lashings: square, diagonal, sheer.

Lash a block to a spar.

Submit a satisfactory menu and list of utensils and kit required for a patrol for a three-day camp.

Be able to name the points of an axe.

In Kim's game, remember and describe twenty-five out of thirty articles.

By smell, recognize eight out of ten assorted liquids.

By hearing, recognize eight of ten sounds.

By touch, recognize twelve of fifteen articles.

Produce six casts of animals or birds, two at least to be wild animals.

Follow nature trail, note and describe 90% of signs.

Describe in writing the nest, lair, den, home, etc. of six wild birds or animals.

Collect and identify a total of twenty trees and shrubs and ten grasses and ferns.

Solve three human-tracking problems.

Know the burning qualities of six kinds of wood.

Know five fire types and what they are best used for.

Build on patrol site, three useful gadgets.

Build a patrol work table.

Build a patrol notice board.

Sketch the basic outline or shape of eight common trees.

Assist in completing one pioneering project.

Build a patrol raft.

Make a detailed map of the camp.

Build a sundial.

Sketch one of the camp buildings.

Make three feet of rope on a ropemaking machine.

Make up a patrol song.

Take part in a skit at campfire.

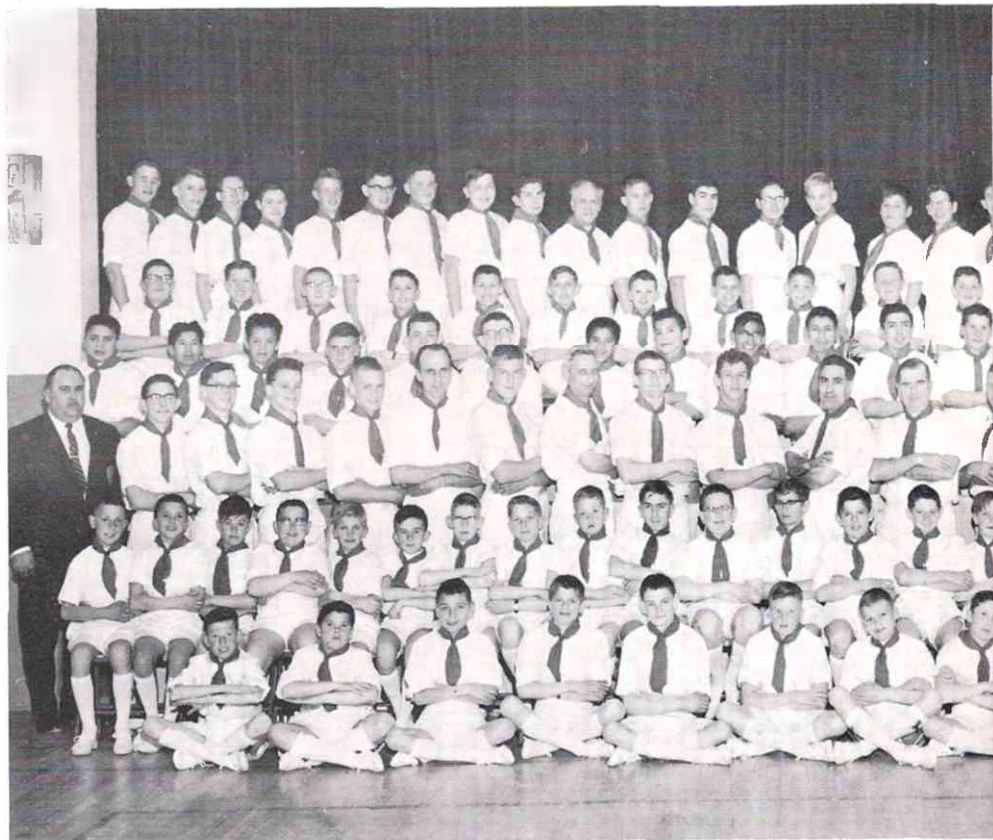
Invite the camp chief for one special meal and have him approve cooking, table setting, table manners, etc. With the Camp Chief's Award.

**THE
BIGGEST
THE BEST**



The 4th Saskatoon GANG SHOW

by Neil Hepburn



To the words and music of 'Who Wants to Say Good-night?' the curtain rang down on another chapter of Saskatoon Scouting. A very successful chapter.

It began on April 27 at 2:00 p.m. when a lone Scout dressed in the traditional Gang Show whites with red neckerchief went out to face more than eleven hundred people. With his cheery 'Hello, folks!' the Gang Show opened in the Capitol Theatre.

For the cast of 130 boys and leaders, this was the culmination of months of hard work. Before the final curtain rang down, approximately 150 parents and friends of Scouting had played supporting roles in the show's production. A volunteer mothers committee made the costumes. Scouts and leaders sold tickets to friends and neighbours.

The Gang Show is a musical or vaudeville type show, originally developed by Ralph Reader, an English Scouter. It is a collection of acts or turns ranging from large production numbers to front-curtain solo fillers—a fast moving type of show without a master of ceremonies to kill time.

Gang Show music has a tempo of its own. The songs are catchy-bouncy, and are inclined to make the audience want to join in. A well produced Gang Show will compare favourably with any musical produced on Broadway, and it is better than most TV shows, for it has the spirit of youth bubbling from the stage to the audience.

Saskatoon Gang Show history goes back to 1955 when Jack Johnstone, who had worked with Ralph Reader, aided by the Scouters' Club put together the first show. In 1956 there was a second show. Then Scouter Johnstone's work took him out of the province

and our Gang Shows were put into mothballs until 1963.

Many changes had taken place in the meantime but some of the gang were still around. Along with Scout executive Ken Moore, they persuaded Jack Johnstone, who was now back in the province, to write another show. The news of it travelled fast. Like old fire horses smelling smoke, out came many of the behind-the-scene people of the 1955 and 1956 shows.

A show starts in the mind of the writer. Once he knows what he wants, the other people get started. First the business committee; then cast selection at audition night. When audition night is over, rehearsals begin. Once a week at first—then almost every night as show time draws near. Behind the scenes other groups are working: advertising and ticket sellers, prop crews and wardrobe crews, make-up people... those workers who are not seen on stage, but without whom the show is impossible.

Rehearsals go on with songs to learn, lines to memorize, dance steps to tangle up feet. In the early stages it is hard to visualize the acts as the writer saw them, but by early April, after two months of rehearsal everything starts fitting together. Costumes appear and props become available at an increasing rate.

In terms of time, mid-April roars by and it's dress rehearsal in the theatre. This is the first time the cast has worked on the stage where the show will take place. More people have joined the gang—stage crew and sound crew, orchestra, dressers.

The completion of dress rehearsal starts the shortest evening of the year: that period of time from last instructions to when the orchestra conductor waves his



hand to start the overture.

Now comes the long-awaited 'Hello folks.' That one voice rang out with the assurance of youth, strengthened by knowing that the full Gang was just behind the curtain, ready and willing to give their all—and give they did. Two shows on Monday and one on Tuesday, playing to a total audience of 1,921. Each performance took slightly over two hours. Some of the acts reached back into the past as the Pearly King and Queen came out. Another act was as new as the next world jamboree. In fact, to the audience it was a world jamboree with Scouts of many countries represented.

A Gang Show is fun, but it also has its serious side. The boys in the cast learn many things—self-confidence to stand up and face an audience; that entertainment is something more than turning a switch on a TV set or record player. As a result of their effort, some of the cast qualify for the Entertainer's Badge.

The Gang Show is a public relations special. Many boys of Scouting age saw the show and were impressed on seeing what Scouts could do.

The Gang Show also brings many adults into the Scouting picture. Several parents who were not interested before have indicated their willingness to help with next year's show and, in some cases, with other phases of Scouting.

The most important point of all, both to the cast and the behind-the-scene workers, is the lesson and training in teamwork. A Gang Show has no stars—just a team. A team on which every player must play his part and play it well.

The applause at the final curtain assured us that they had indeed played it well. ❀

H.R.H. The Duke of

Connaught's Challenge Shield—1965

Under the control of the National Small-bore Rifle Assoc. Direct applications to National Small-bore Rifle Assoc. 113 Southwark St., London S.E. 1, England. Entrance fee is approximately 35¢ per team.

Prizes: Senior section—winning team, Challenge Shield and four Silver Medals; second team, Bronze Medals. Junior section—winning team, Challenge Shield and Silver Medals; second team, Bronze Medals.

Open: to teams of four, from any registered group of Boy Scouts in the British Commonwealth. A group may enter any number of teams in each section. Each competitor must have been a bona-fide member of the group which he is representing for at least one calendar month previous to the date of shooting. No competitor may shoot for more than one team. Entries open on Jan. 1 and overseas teams may shoot their cards on any day from the date of receipt to July 31. Cards must be returned to N.S.R.A. immediately after they are shot, and must reach N.S.R.A. not later than August 31. The shooting by the whole team must take place on the same range and be completed within a period of two consecutive hours.

Witnesses: each of the cards must be shot in the presence of a witness who will be responsible for the conditions of the competition being duly complied with, and who will certify same on the certificate forwarded with the cards. If possible the cards should be witnessed by the secretary or member of the committee of a rifle club affiliated with the N.S.R.A. or if there is no club in the district by either a commissioner, Scoutmaster, or member of a local Scout council other than one connected with the group concerned. The district commissioner should appoint a qualified witness. The witness must sign and date each card after the shoot, with the name and the date of birth of competitor stated on the card. Teams of four Scouts or Rovers not holding warrant rank and under twenty-four years on the day of shoot for the senior competition and under sixteen on day of shoot for the junior are eligible.

Distance: either 15, 20 or 25 yards, to be measured from the front edge of the firing point used by the competitors to the cards. **Number of shots:** 20 shots deliberate each competitor, 10 each at two cards. **Targets:** N.S.R.A. 10 Bull British Indoor Match cards; cards proportionate to the above distances will be sent. Each card has 10 targets and one shot must be fired at each target. **Rifles:** any single-loading .22 breech loading rifle. Magazine rifles may be used, but they must be loaded singly. **Sights**—any sights, including apertures, with or without wind-gauge, but not fitted with telescopes. **Positions**—prone: No artificial rest of any kind allowed. **Slings**—may be used. **Trigger**—trigger pull must not be less than 3 lbs. Triggers must be tested and each team provide a 3 lbs. certified dead weight tester for this. **Coaching and spotting**—allowed. Competitors may also use their own binoculars or telescopes. **Time**—10 minutes only allowed each competitor for firing ten rounds. A competitor may practice before the shoot and between his two cards. Where not otherwise provided for, the shooting regulations of the N.S.R.A. will govern the competition. Ties decided by the use of graduated gauges. Any protest regarding infringement of the rules must be received by the secretary of the N.S.R.A. within seven days of the last day for shooting. The necessary cards and witness' certificates will be sent to competing teams immediately upon entry. ❀

WELCOME, RED CROSS



This is the second in a series of three articles about the three service agencies whose requirements have been adopted for new Scout badges.

The Red Cross Water Safety Service is now twenty years old. It was established to meet the need of individuals for basic knowledge, skills, and attitudes related to aquatic activity. Its courses to date have taught many thousands of people how to protect themselves and others against the hazards associated with all kinds of waterfront activities.

The Red Cross Water Safety Service endeavours to keep its four courses, which the Scouts will be using, up-to-date. Red Cross will keep National Headquarters informed of changes that will be made from time to time, and test content.

Scoutmasters and other staff are encouraged to take the training courses for leaders and instructors. These courses are conducted from time to time and according to demand in every province.

Scoutmasters will be able to learn how the arrangement is to be worked by getting in touch with the provincial offices of the Red Cross, and through these offices Scoutmasters can also make arrangements to get Red Cross trained and certified instructors and to arrange for troop examinations by Red Cross trained examiners.

The Red Cross has been undertaking humanitarian tasks since 1859, the year that Swiss banker Henri Dunant witnessed a battle between Franco-Sardinian forces and the Austrians at Solferino. Dismayed at the lack of medical facilities Dunant organised a group of peasants to comfort the wounded until medical aid could be given. He later wrote an account of the battle, had the book published at his own expense and distributed to the European heads of state. Influenced by the book, fourteen states were signatories to the first Geneva convention 'for the amelioration of the conditions of the wounded in armies in the field.'



above: a Red Cross instructor encourages a youngster to take the plunge. Countless Canadian youngsters will benefit by the new badge scheme.

left: a good part of every swim lesson is devoted to dry-land runs. Here the boys are learning some facts about water safety. ❀

A Forward Step

A most interesting and significant gathering was held recently at Government House. In the presence of His Excellency, Governor General Georges P. Vanier, formal agreements were signed which brought into operation a plan of co-operation which Boy Scouts of Canada had initiated and worked out with three of Canada's largest service organizations, the Canadian Red Cross Society, the Royal Life Saving Society Canada, and the St. John Ambulance Association.

Under the terms of these agreements we now recognize the Canadian Red Cross Society as our authority in the field of swimming, the Royal Life Saving Society Canada as our authority in the field of life saving, and the St. John Ambulance Association as our authority in the field of first aid. In effect, we have adopted the standards of these organizations and will use their requirements as the basis for awarding our own proficiency badges in these fields.

This is an important step forward in our endeavour to work in closer co-operation with other organizations with which we have similar interests and objectives. It is also an important step forward in our efforts to

encourage the recruitment of boys at all levels since the new proficiency badges covering swimming, life saving and first aid are graded multiple stage badges similar to the personal fitness badge which introduced this principle.

The Governor General, who is formally associated with the three organizations and the Boy Scouts of Canada, applauded most warmly the high degree of co-operation which had been achieved and heartily welcomed this tangible evidence of organizations working together in the common interest.

We feel sure all our leaders will also welcome this new plan and will give it their wholehearted support.

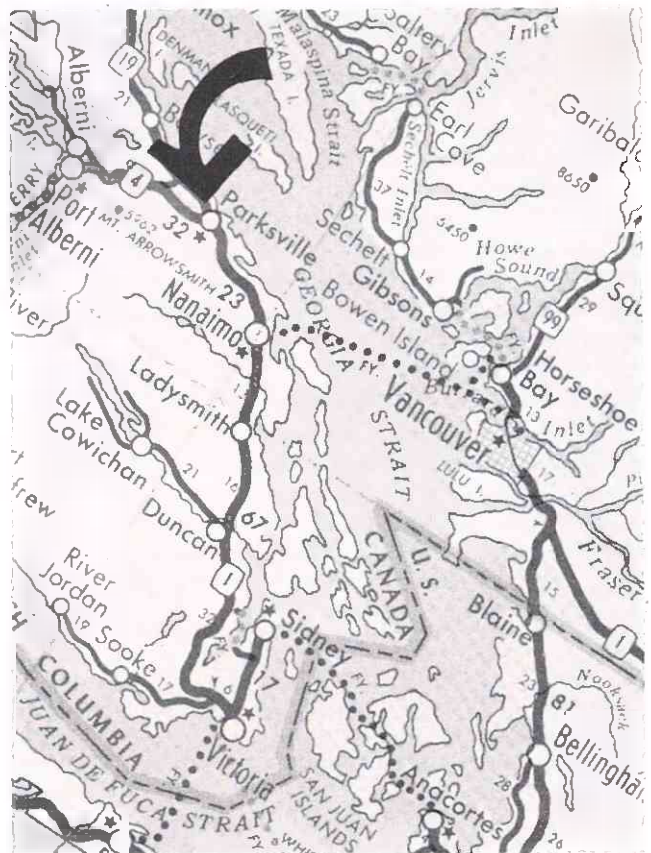
Gresham
Chief Executive



Parksville, British Columbia

August 24-31, 1966
Roger the ready Rover
will be there to
welcome you

THE 5TH CANADIAN ROVER MOOT





GAMES

collected by Lois Leadlay for large groups of Cubs

Stride - Stand - Hustle

Packs in relay formation, standing with feet apart. Instruct the sixer of each team to get the object to be passed and hold it in readiness for the starting signal. At GO, pass the stick or ball between their legs to back and return. If object is dropped it must be retrieved by the dropper.

Variations - Pass overhead, roll between legs, use one hand.

Pass and Turn Relay

Packs in relay formation, as ball is passed down the line, passer turns to face rear of line. When ball reaches end of line, last man turns and passes ball back up line in same manner, with each player again making an half turn, until all face forward again.

Animal Imitation Relays

Relay formation - with the boys running to a line and returning to group as an animal complete with walk and sound: kangaroo hop, lame duck, frog, crab . . .

Obstacle Relays

Involve such natural activities as jumping, skipping, hopping, hurdling, climbing, crawling as well as running.

Dressing and Undressing Relays

The players remove and deposit several articles of their wearing apparel in various places along the outgoing course and don them on the return trip.

Fire on the Mountain

Relay formation. First player runs to line, spots fire and returns for help. He takes second player by hand and they run up to line. First player remains at fire, second player returns for third . . .

Necktie Relay

The players are in relay formation. The first player in each line is given a necktie. When the whistle blows, he turns and ties the necktie around the neck of the player behind. As soon as the bow is tied, the second player unties it, turns and so the game continues.

Variation - use a coat which would be put on, buttoned, unbuttoned and passed on.

Jumping Rope Relay

Pack in relay formation. A rope or smooth stick (4 feet long) is given to the first player in each team. When the signal is given, he hands one end to the player directly behind him. Together they draw the rope or stick back under the feet of all the players, keeping it close to the ground, until the last player has jumped over. The first player stays at the end of the line, while the second takes the rope back to the front where he repeats the performance.

Bundle Relay

Pack in relay formation. The first player in each line is given a ball of cord or tape. When the signal is given, he passes it to his neighbour but holds the end of it. The ball is passed from player to player, unrolling as it goes. When it arrives at the lower end it is passed up the line behind the backs of the players until it reaches the first player again. The team that first wraps itself into a bundle is the winner. The sequel to the race is untying the bundle by passing the ball back and winding it as it goes.

Over and Under

Pack in relay formation. The first player is given a beanbag, ball, etc. When the whistle blows he passes this object over his head to the second player, who passes it between his knees to the third player who hands it over his head to the fourth. Thus the object is alternately overhead and between the knees to the last player, who runs to the head of the line and starts it back over his head. The game proceeds until a line has regained its original order, or until time is called.

Circle Weavers

Form a large circle (100 Cubs). Number off one to ten (suit number to size of circle). At signal, number one will travel around the circle, passing alternately in front of and behind each player in the circle, back to his own place. In this way you will have ten Cubs moving at once, all in the same direction - no passing allowed. Leader will call another number and give signal to 'GO'. Numbers can be in order or mixed. To keep the circle round, have Cubs remain sitting until their number is called.

Kim's Game

Thirty-six objects - can be pictures glued to cardboard are placed on the ground at a certain distance from the boys. Each team sends up one boy at a time to take a look. This boy runs back to pack and tells of an object. Next runner is sent up and so on. Keep runners and to-run boys separate. Number of boys will determine how many objects you will need on the cardboard.

Partner Tag

All the players but two hook arms in couples. Of the two who are separate, one is IT, the other the runner. The runner may save himself by locking arms with either member of any couple he chooses. When the runner has chosen a partner the third member becomes the new runner and the game carries on. For large groups have more than one runner and chaser. Change IT (chaser) from time to time if he does not succeed in tagging the runner.

Barnyard Bedlam

From one to five pounds of shell peanuts are hidden around the area or laid in small piles around the field. The players are divided into teams depending on the size of the group (for example, a pack of 36 might have three teams of 10 boys with two captains for each team). Captains are chosen for each team and each a captain is given a paper bag. Each team is named for some animal and must imitate their cry - cat, dog, turkey . . .

The object of the game is for each team to gather as many peanuts as possible in the time allotted, say ten minutes. Only the captain may touch the nuts and put them in the bag; whenever a team-member finds a peanut he stands by it and gives the call of his team. The captain is supposed to come quickly and gather the nuts pointed to him by this player; as many players call at once, the resulting chorus is very funny. There should be a prize for the team gathering the greatest number of nuts. (This will discourage eating them.)

Guess Your Name

As a pack is registered in an event, give the Cubmaster enough cards for each boy. This card will have the name of a famous person, cartoon character and so on. The player must not see his name and is to learn it only by asking questions of the other players. This is suitable for a coming-in game. There should be a time limit. With a large group the names will be used several times.

Face to Face

Partners stand facing each other in one large circle. One odd player stands in the centre and gives the commands (or they may be given by the Cubmaster): 'Face to face' or 'back to back' and so on, the players taking their positions accordingly. When he calls 'All Change' each person gets a new partner. The odd player tries to get one too. If he succeeds there is a new person in the centre. This game works best with a group not larger than fifty and so several circles could be used at once.

Up and Down Relay

Packs in relay formation, object is for first runner to set cans or sticks upright in the ground, second runner knocks or kicks them down, third sets them back up—and so on.

Note for leaders: The tendency of boys to see how far they can kick the cans can be checked by making them realize that the farther they kick the objects the more they handicap their team mates.



"WILLOUGHBY HASN'T QUITE GRASPED THE MEANING OF JUNGLE ATMOSPHERE."



GAMES

for Scouts

Speed Knots

Equipment: One knotting rope for each Scout.

Method: Line up Scouts by patrols in a single line, each player with a rope. Leader selects a knot and says, for example, 'Ten seconds to tie a sheet bend.' Players tie knot and throw rope to floor. All successfully tying knot correctly in ten seconds advance one step. Game is then run at nine, eight, seven to one second or until no one is able to tie knot in given time. After scoring, run game again using different knot.

Scoring: Player advancing greatest distance is 'Speed Knot King' and earns 20 points for his patrol. Runner-up receives 10 points for his team.

Variation—Instead of each player tying two ends of his own rope together, the Scouts of the patrol tie their rope pieces into one long rope. First patrol finished advances, as a team, if all knots are tied correctly.

Silent Fun

Equipment: None.

Method: Troop leader gives twelve to fifteen silent signals for formations and field work, one after the other: e.g. parallel file formation, open columns, spread out, dismissal, down, attention, and so on. Object is for each patrol to follow each signal as quickly as possible.

Scoring: First patrol to get into a formation or to comply with a field signal scores ten points. Patrol talking or moving with unnecessary noise loses five points.

Variation: Write names of eight silent signals on slips of paper, one set for each patrol to draw from. At the word 'Go' patrol leader gives the signal he has drawn, and his patrol obeys it. Patrol Second gives the next signal, and so on until eight signals have been given and followed. Patrol finishing first is the winner.

First Aid Deduction

Equipment: For each patrol—paper, pencil, neckerchief and improvised equipment.

Method: Each patrol will go to its own corner, pick a victim, decide on an accident, and give victim necessary first aid for it. You have seven minutes for this. When time is up patrols line up. Patrols will move clockwise around the room, study the victims of the other patrols, try to figure out each accident and jot down a short report, including points on which you base your deduction. You'll have three minutes at each victim.

Scoring: Patrol turning in most complete and correct report is the winner. ✿

KNOTS, BENDS AND HITCHES

DRAWINGS AND ARTICLE BY PAT GIBBS-MURRAY

To those of us who handle rope, the making of knots, bends and hitches has an instant appeal, and when we pass from the "learner" stage to the position of having more advanced knowledge, then the subject becomes more and more attractive, and when we have a spare moment, we may practise and show others how it's done.

Here then for your interest are a few of the more useful knots. You will require a six-foot length of 1½ inch Sisal rope, three strand or similar.

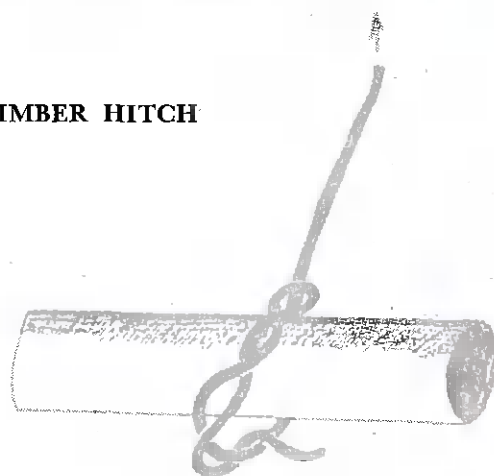
The first knot is a well-known one, the REEF. Quite a number of people think that the reef is the ultimate in knots: for my part it is not, as it constituted the basis on which the famous escapeologist Houdini conducted his show of escapes.

Therefore, to make a secure reef, proceed as follows:

Make the reef in the usual way and haul taut, then carry each short end over the standing part nearest to it, make a half-hitch, and haul taut.

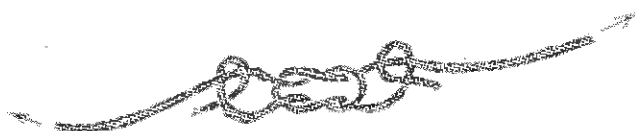
A useful knot in handling logs, bundles of bedding, etc. is the TIMBER HITCH. The dockyard workers

TIMBER HITCH



vision screen makes fast his horse to the hitching-rail. It is an excellent knot, and can be made use of in many ways. It is especially good in making fast two poles, or two ropes together. Start as for the well-known clove-hitch, but having passed the end around for the second time, bring it up and over the second turn and under the first.

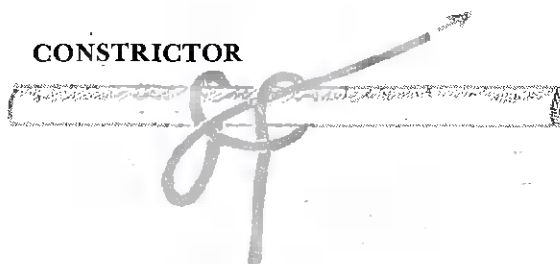
SECURE REEF



are very fond of this particular hitch; its usefulness lies in the fact that it will pull taut on its own, and be easily taken off when slack. Make certain that the frapping turns are taken in the right direction.

Hardly anyone has ever heard of the CONSTRUCTOR knot, yet it is seen everytime the cowboy on the tele-

CONSTRUCTOR

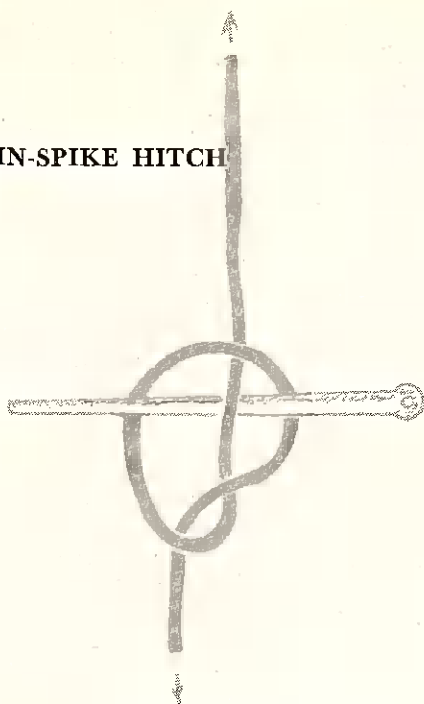


The MARLIN-SPIKE hitch is not really a knot at all, but is very useful indeed where a number of people are hauling on a single rope, and then it becomes a man-harness hitch. To make it, proceed as follows:

Make a bight in the rope, pull it back over the standing part of the rope, insert the spike and haul taut.

Frequently a TERMINATION Knot is called for, and usually for quickness we make a three or four turn

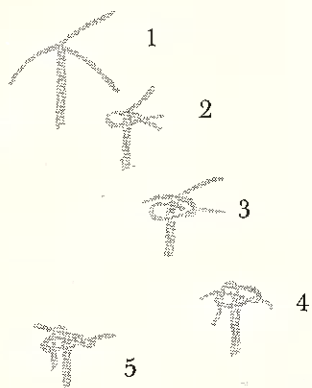
MARLIN-SPIKE HITCH



overhand knot, but where a permanent knot of great beauty is called for, then, without doubt, the MAN-ROPE is the best. It is just a little complicated to make, so follow the directions very carefully, remembering not to make the first part too tight, and that the use of a pair of long-nosed electric pliers is strongly recommended.

The MANROPE knot is a rather good stopper knot. First lay off about three feet of your three-stranded rope. Point the ends with cellulose tape and place a few turns of sailmakers thread on the rope where the strands open out. Now make a 'crown' with the three strands and then a 'wall'. Follow the 'crown' and the 'wall' around three times in all, tighten and the result is a very handsome stopper knot.

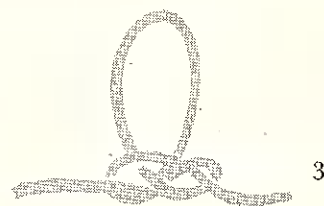
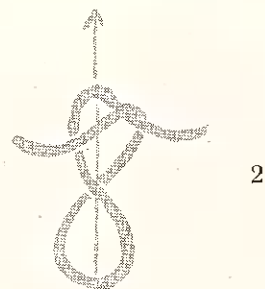
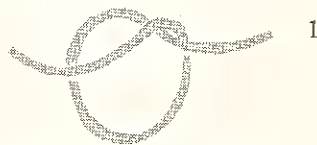
MANROPE



If you have difficulty in making a 'crown' and a 'wall', here is the method, Figures 1, 2, 3, 4 above being the 'crown' and 5 the 'wall'.

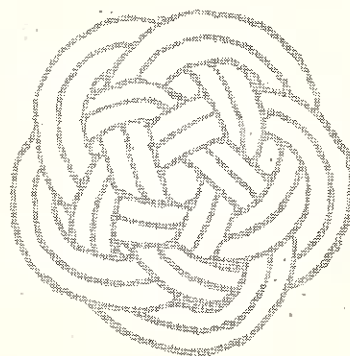
Climbing calls for a good stout rope, and the expert knowledge of how to make a good, safe knot for the men at either end. Usually we rely on the well-known bowline, but the man in the middle of the rope usually has to make do with some form of knot of his own invention.

Here then is the MANHARNESS Knot, a lovely knot for the man-in-the-middle; follow the directions carefully and you will find the knot simple to make and easy to adjust to the size required.



13

As a finale, the OCEAN PLAIT or OCEAN MAT is worth the bother of making, and if made from rope makes an excellent decorative doormat. Now using blind cord begin—with a TURKSHEAD knot and when the end has been passed for the **second** time, flatten the knot on the table. Continue to pass the end right round the knot until you have an equal number of turns, when the result will be as below. ❀





Coral Studio

My Life Among the Savages

by Hazel Goldman

with permission of The Family Herald

Retirement at 35? Unusual I'd admit; but if one is retiring from being a Wolf Cub leader, 35 is a good age to put the old horse, or should I say wolf, out to pasture. For 10 years that's what I was—Akela, the old wolf of the jungle.

I thoroughly enjoyed my years as a Cub leader, though I often arrived home from hikes mud-spattered and disheveled. Those hikes were really the best part of Cubbing. I always spent a few hours the preceding evening studying the necessary books, 'Fossils, and How to Identify Them', 'The Trees of Canada, Pictures and Description,' 'Common Weeds of the Woods and Pasture,' and last but not least, a review of grade 12 geology. Combine the knowledge of 30 boys age 8 to 11 and you have the necessary requirements for college entrance.

At first I tried to keep ahead of the boys, but each group seemed more learned than the last. Finally I relaxed and let them teach me. I explored muddy ponds and learned about the life cycle of a frog from a

grade four student. Because of a boy whose Dad was a 'nut on rocks' I can now tell the difference between feldspar and mica.

Our hikes were active, except for one sedentary game which the pack called 'Sneak-ups.' Akela sat in the centre of an open space and closed her eyes. The boys tried to sneak up without being heard and steal her hat. It was well worth losing a few hairs to have a few minutes of shut-eye.

Two brothers in the pack loved wild life of all sorts, and their greatest passion was my secret abomination—snakes! One memorable spring day we were hiking along the banks of a stream when John and Jamie discovered a snakes' nest. Their rapture was not shared by the other boys. They stood well back while the brothers investigated and brought forth two large grey garter snakes amid cries of 'show them to Akela.' The snakes must have been close to three feet long, a dull grey in color with large heads and the usual beady, unblinking eyes.

The boys approached, Jamie holding a coiling snake in each hand. I stood very still, one white woman among 30 savages. Screaming or running would be fatal; my magic hold on them would be broken. Every pair of eyes, including those of the snakes, were on my ashen face. I stared fascinated into the hypnotic black eyes of our two newest members. I must have spoken calmly and given an order, for the group turned and proceeded home in an orderly fashion. Jamie, draping a snake over each shoulder, followed the rest of the pack and I followed the snakes. Hypnotised by their magnetic eyes I sloshed through mud, climbed barbed wire fences, and stumbled over fallen trees. Sometimes when Jamie came to a sudden halt, my face came within inches of those glistening black orbs. But I never flinched or retreated. I was regarded for many months with great respect.

No one knew that a hypnotised person will do the most unusual things.

I was disconcerted to discover that some of these lads observe their leaders closely. At a costume party given for the district Cubs and leaders, I was sure that my Cubs would never recognise their own 'Old Wolf' in the heavily masked pirate that strode into the room. But I was doomed to disappointment. 'Hi, Akela,' a familiar voice greeted me. He had recognised me by my big feet!

On another occasion a small boy proved to be less observant. One Sunday I greeted one of the boys at church, 'Hello, Tommy, how are you?' He gave me a long steady look, 'Oh, it's you, Akela. I didn't know you with your clothes on.' No use explaining he didn't recognise me out of uniform! The look his Dad gave me was longer and not quite so steady.

I would like to say that the time I devoted to Cubbing did not interfere with my family life, but that would not be true. My long-suffering husband changed diapers, cooked meals and sacrificed the car to us on many occasions. He even ran the pack for three months while I had my baby! My own little boys (who were part of the pack when their time came) spent long hours collecting equipment for games and answering the many phone calls that preceded any outing.

We always closed our pack meeting with an indoor campfire. The dark room, lit only by moonlight (artificial moonlight achieved by covering a light bulb with white canvas), is momentarily silent. The warm red glow of firelight (artificial again) dances. Slowly 30 small boys creep forward and take their places around the fire. Absolute silence is maintained. Well, almost absolute; there are a few giggles, a few thuds and 'wait 'til I get you outside, I'll pound you out,' whispered fiercely one of the larger members.

Akela, tall and proud, stands beside the fire. That is to say, she

would be tall if someone hadn't kicked her in a game. She is stooped over rubbing the sore spot. In a loud voice she recites:

'There is none like me, says the cub in the pride of his earliest kill.'

But the jungle is large, and the cub is small. Let him think and be still.'

These few lines from Kipling's 'Jungle Book' are supposed to have a steadying effect on the young boy and make him think a little. It took me a full year to discover that no one listened to the poetry. But by then the little verse had given me great courage and reassurance so I went on repeating it.

The campfire is supposed to end with Akela reciting another verse from 'The Jungle Book'. My husband loves to tease me about these little ditties. Once when I was memorizing:

'Wood and water, wind and tree
Jungle favour go with thee.'

He came up with some words of his own which were:

'Milk and water, bread and cheese
Stand up straight and have some please.'

One night after a particularly hectic meeting I recited the wrong verse. That was one closing that brought down the house.

And now it's all over. Sometimes, like an old ship's captain longing for the sea, I want to be back in the 'jungle'. On fine days, when streams are swollen and frogs are peeping, I remember the Cub hikes and yearn again to live among the savages. ❀

Cub Scientist

SCIENCE IS FUN

Cub Science should primarily be a field science, a study of life and surroundings, a science of outdoor exploration and personal discovery. As such it can be carried on at any time of day or night.

We have only given a few examples of science projects that could be undertaken by Cubs. Check your local library for books on science projects.

ROCK HOUNDS

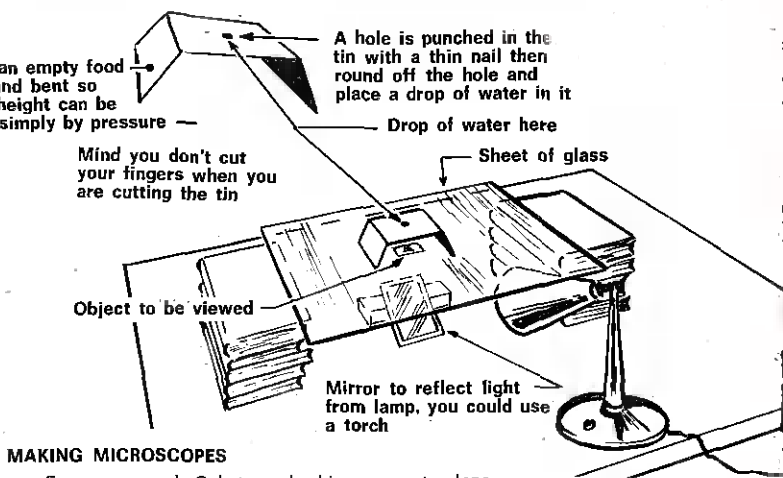
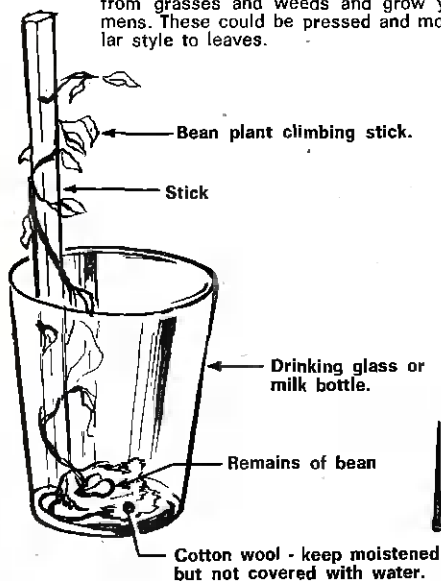
Encourage Cubs to become familiar with the most common minerals and rocks of the area. Provide labeled blanks (if you are not familiar with rocks, call in an expert) and each Cub fills them in.

Run this as a summer project - include rambles and visits to areas where samples are readily available. Specimens should be broken down, washed and cemented into correct blank.

Minerals and Rocks of _____			
Collected by _____		Year _____	
SLATE	QUARTZITE	QUARTZ	CONG.
GRANITE	SANDSTONE	MICA	SCHIST
FELDSPAR	PEGMATITE	SHALE	BASALT

GROWING PLANTS

Many Cubs have grown beans or peas in the style shown below. Why not go further and collect seeds from grasses and weeds and grow your own specimens. These could be pressed and mounted in a similar style to leaves.



MAKING MICROSCOPES

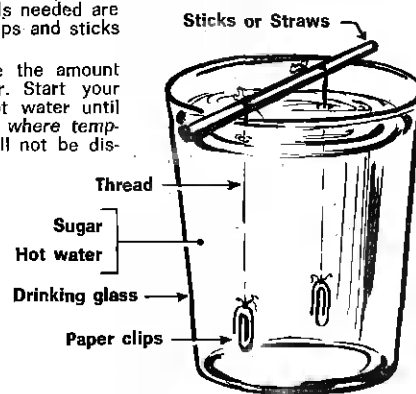
Encourage each Cub to make his own water lens microscope. Materials needed are a sheet of glass, a frozen fruit juice can, a mirror, a source of light and supports. (See illustration above).

Other simple microscopes can be made from inexpensive glass beads. These can give a magnification of 70 or more. Examine pollen, spores, pond water and other samples collected on rambles.

GROWING CRYSTALS

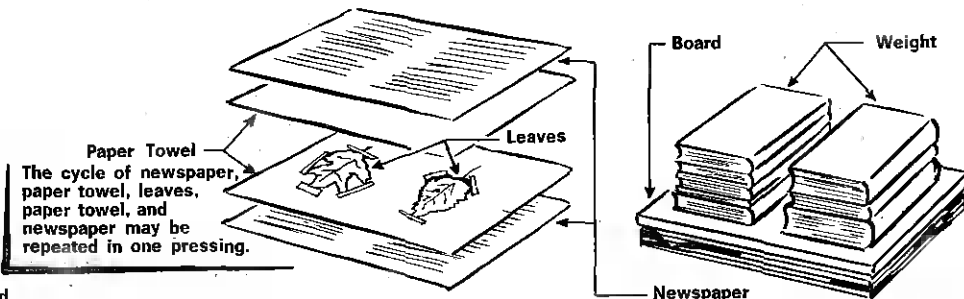
A Crystal is any solid that has geometric shape due to an orderly arrangement of the atoms. Encourage Cubs to grow sugar crystals - the finished product is rock candy and can be eaten. Materials needed are sugar, hot water, glass, thread, paper clips and sticks or straws.

A tip - most people underestimate the amount of sugar which will dissolve in water. Start your solution with sugar and slowly add hot water until all sugar is dissolved. Place in location where temperature is constant, and the solution will not be disturbed.



MAKE A "HERBARIUM"

"Herbarium" - a systematic collection of pressed leaves. Pressing leaves is a simple process but the leaves are fragile. After collecting and pressing (as described above) a dried leaf should be mounted on its own piece of paper. Hold leaf in place with 1/8" wide strips of cloth tape or marking tape. Avoid transparent tape as this will dry in time and the specimen may be lost. Store sheets in a box, with mothballs to discourage insects from making a dinner of the collection.



APRIL

PACK PROGRAM

Venture into Science

Libraries have books about great scientists. Some newspapers have been running syndicated columns on their work. These provide good material for scrap book collections.

Ask individual Cubs or small groups of Cubs or even sixes to learn as much as they can about certain scientists and report to the pack. To make their reports more interesting, they can describe what the scientist is best known for and the other Cubs are to guess the name.

Or the Cub (or group of Cubs) could pantomime the things the scientist has done and let the other Cubs guess the name.

Visit Laboratory

In university towns it may be possible for Cubs to visit a laboratory of one of the various science departments. Part of the visit could include a demonstration of simple scientific experiments. Contact can be made through one of the professors or the Public Relations Officer or department.

Films

Many large business firms have free film libraries; contact their public relations offices. Some of these films deal with fascinating scientific discoveries or activities that would appeal to Cubs.

Some examples: 'Our Mr. Sun!' (all about the sun) and 'The Unchained Goddess' (meteorology) from the Bell Telephone Company.

'The Rival World' (insect control) 'The Fossil Story' (development of life) are available from Shell Oil Company. From Canadian Industries Limited 'Discovering Color' (basic color concepts).

April Showers

Meteorology is a fascinating science. You may be able to arrange for the Cubs to visit a meteorological station usually located at the airport or there may be an amateur meteorologist in the neighbourhood who would visit the pack. Encourage Cubs to make and maintain a rain or wind gauge, and observe and recognize cloud formations that mean possible changes in the weather.

Universe

Here is a game to help your Cubs learn the names and places of the planets. Divide the pack into teams of ten. Allow lots of room for each team. No. 1 Cub becomes the sun, 2-Mercury, 3-Venus, 4-Earth, 5-Mars, 6-Jupiter, 7-Saturn, 8-Uranus, 9-Neptune, 10-Pluto. On 'go' the Sun runs to the centre of the cleared area. As soon as he is there, Mercury runs up, takes his left hand and runs around him once. Then Venus runs up, takes Mercury's right hand (who is still holding on to Sun) and runs about in a circle, and so on till you have the Solar System.

APRIL

TROOP PROGRAM

Venture into Science

Sputnik I, Explorer, Vanguard, Atlas, Allouette, Mariner, launching pads, solid propellants, interplanetary rockets . . . how our vocabulary has increased in the past few years!

As the air has been conquered, so too will the space between the earth and other planets. A Scout of today could be the first to land on Mars, or even more important, be the man who made the flight possible through his knowledge and imagination in the field of science.

Scouting has an obligation to encourage boys in the development of an interest in science.

Badges

Several proficiency badges have direct application in science: Chemist, Electrician, Naturalist, Prospector, Starman, and Weatherman. Start now to recruit outside resource persons to act as instructors for your Scouts.

Science Fair

Encourage Scouts to enter projects in local science fairs, or if there is no local fair, ask your local council office or district Scouter about the prospect of organizing a Scout science fair. Your local science teachers and science fair councils can give help on this project. For details on a science fair see page 22.

Resource Book

700 Science Experiments for Everyone, Doubleday and Co. Inc. should be added to your troop library.

Conservation

Science and conservation go hand in hand.

With the help of conservation authorities or forestry department officials, plan several conservation projects as part of the program to have Scouts earn one of the Forest, Soil, Water and Wildlife Conservationist badges.

12 Conservation Projects

- Visit a tree farm, managed forest, watershed, wood industry or wood processing plant
- Tree planting project
- Clearing fire line in a plantation
- Prune and thin a forest lot
- Visit hydroelectric plant, irrigated farm or similar example of use of water for power or agriculture
- Help to build a stock pond or farm pond
- Stream bank erosion control project
- Visit local filtration plant
- Gully erosion control project
- Grow seeds indoors
- Build and set out nesting boxes for wildlife
- Visit a fish hatchery, commercial fisheries, trapper or game warden

Coming events

Do your boys know about these?

EVENT	PLACE	DATE
Finnish National Jamboree	Camp Hakki, Turku, Finland	Aug. 6-16, '65
Israel National Jamboree	The Shomron	Aug 9-13, 1965
Swedish National Jamboree	South-east coast of Sweden	July 30-Aug. 9, 1965
European Rover Moot	Lake Vanern, Sweden	Aug. 3-20, 1965
National Council Annual Meeting	Ottawa	May 7, 1965
Quebec Provincial Jamboree	nr. Drummondville	July 4-10, 1965
5th National Sailing Regatta	Toronto, Ontario	Aug. 6-14, 1965

Note: This information is published as a service to readers who may wish to attend international, national or provincial Scouting events. Readers should not request additional information from the Editor or from Scout council offices (unless otherwise indicated). Further details will usually appear in this or other Scout publications.



BADGES

DRESS CREST EMBROIDERY CO.

1031 LILIAN STREET - WILLOWDALE, ONTARIO

We would like to take this opportunity to thank you for your patronage. The confidence you have shown us gives us courage to grow and expand. We have recently modernized our plant with fully automatic embroidery machines and auxiliary equipment. This enables us to give faster service and much lower prices in the future. During the next few months we shall give sales promotion discounts. We also submit art work.

FREE SAMPLES
AND QUOTATIONS

**The Longest Lasting and Most Economical
Crests on the Market**

SCOUTING IN ACTION!!

*See
The Biggest
show of its kind
ever held in Canada*

Time: April 22, 23, 24, 1965.

Place: Coliseum, Exhibition Park,
Toronto, Ontario.

Thirty-five thousand Scouts, Cubs and Rovers will demonstrate the many aspects of their program, with hobby shows, badge booths and little theatre. It is anticipated that 3,000 hobbies will be on display. With that many around, you can be sure to see some dandies. Then there will be 150 badge booths illustrating the story of how each badge is earned. The little theatre—a good place to rest your feet after a tour through Cub Land—will be putting on 1 hour musical and variety shows. Bands, swimming competitions, hootenannies, folk and square dancing are extra attractions.

The big show has been written by Ralph Reader of Gang Show fame. Entitled THE PATHFINDER, it has a cast of hundreds. Plan now to take in one of the three evening performances or the Saturday matinee.

You had better plan to come to Toronto to see the show, even if you have to hire an entire train to bring your boys to Exhibition Park. Sounds pretty farfetched? Well, we've heard of one district which is going to do just that.

Note: a special outdoor camp is available for out-of-town groups. It is within easy walking distance of the Exhibition grounds. There are four other camps some distance away. For information write - BOY SCOUTS OF CANADA, GREATER TORONTO REGION, CAMPING DEPARTMENT, 1162 BAY ST., TORONTO 5, ONT.

Why not come and join the fun
... that's the

Scouting in Action Show

APRIL

OLDER BOY PROGRAM

Venture into Science

Automation and cybernetics are two words which are relatively new. In the future, new words will be developed to describe new ideas. To understand them we will have to start with an understanding of the words now being used. We can venture into science by becoming familiar with its vocabulary.

Despite this apparent wealth of information, millions of dollars are spent each year on study and research.

New words are being created to describe this new knowledge.

Science and the Home

From the time that man lived in a cave and found that fire kept him warm we have used many methods of heating our houses.

Oil, gas and electricity are used to provide heat in most homes today. What will the fuel of the future be?

What household appliances are examples of automation in the home? What other examples are there of science in the home?

Science in Business

Gasoline plants are possibly the best examples of automation in industry. Many mills are also good examples. Visit one or more of these and have an engineer assist you and explain the processes involved.

Visit a business which uses data processing equipment. What are the advantages of this equipment? When is it practical in terms of cost and volume?

Science in the Community

Consult your local traffic engineer. See if he has information on traffic lights that are controlled by the volume of traffic.

Freeways—expressways—auto routes. Most of these are built with limited access points. What is the function of this type of road and when are they practical? Consult engineers for the answers.

Projects

With the help of a counsellor study the number of vocations that require a degree in one of the sciences. See Rover guide for definition.

Build a computer; see project in the next column.

It is possible today to get equipment that will turn on lights, close blinds, etc, while people are away on trips. This is used to discourage would-be thieves.

Using the same principles is it possible for you to develop equipment to raise, break and lower the flag? A useful camp item would take in sleeping bags and close the tent when it rains.

What is programmed learning? Could the same principle be developed by your group to help Scouts in the troop pass their tests?

APRIL

CREW PROGRAM

Venture into Science

Science is defined as 'a systematic knowledge—especially of the physical world.' Normally we think of science courses in terms of physics, chemistry or a branch of engineering. However, there are several other sciences—social science and political science to name but two.

This being the case, perhaps 'systematic knowledge' becomes the key to our theme.

The Home

What is your responsibility in home? How well do you understand your parents and vice-versa? If there are barriers to communication, what caused them?

Invite your parents to a special Crew meeting. Have a panel consisting of a father, a mother, a young man of Rover age and a family counsellor and explore the subject.

Business

By quests, tours and explorations build up a file (systematic knowledge) of various vocations. Be sure to include all information pertaining to the job.

Make this file available to any Rover who is searching for a career.

Community

Which 'sciences' are active in your community? Invite representatives from each to sit on a panel. Invite each member of the panel to briefly state the contribution made by their 'science' to the welfare of the community.

Follow up with a question period and discussion groups with panel members acting as resource persons.

Project

Build a simple electric analog computer: see project 102, **Science for Camp and Counsellor**, by W. T. Harty, G. R. Welch Co. Ltd., Toronto.

Science Hop

Plan a council ball for St. George's Day, Friday, April 23.

St. George fought his dragon with a sword! What would today's men and women of science fight their dragon with? Use answers to this as decorations and notice themes.

By sharing the work load among various crews, more interest will be generated and more people will want to attend. ❀

Science Fairs

Consider holding a Scout science fair. Participation in such an event could be your personal venture into science. ❀



Canada's colourful district badges

part 37

left: The badge of the Pic River District, on the north shore of Lake Superior, Ontario, shows the major features of the area. The green and yellow background is divided by the Pic River. Trees are for the pulp industry, the mine head frame for the mining industry and the white line is for the Trans-Canada highway.

centre: Humber West District, Toronto Region, is rich in Indian lore. The design is the work of a district Cub.

The Indian, probably a Huron, is light brown with black and white hair and white and red feather.

right: The badge of the Diocese d'Amos was issued in 1958 to commemorate the 25th anniversary of Scouting in Amos. It is red, yellow and green. The evergreen represents the forest industry; the mine housing, mining; and a sheaf of wheat, agriculture.

Do not write to any Scout office about badges or mailing lists to be used in making a collection of badges because they are unable to handle such requests.

20



Leg braces and a crutch can't keep this lad out of the fun of Scouting. Your Easter Seal contribution puts him in the Cub Pack or Scout Patrol with his buddies.

C R E S T S



EMBROIDERED by the manufacturer of official Boy Scout badges.

Ideal for **TROOPS, DISTRICTS, CAMPS** and **JAMBOREES**—a perfect mate to official uniform insignia.

Custom Made to your design and colours on washable twill using colour fast yarns. Free art work supplied. Send for Samples and Price Lists.

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It All Adds-Up

Mathematics can be compared to keys. A good knowledge of mathematics unlocks the doors to many areas of science. In the various space probes, countless hours were spent by engineers in preparation for each flight. They used mathematics continuously and, where time was of the essence, made great use of computers.

Computers are usually described as being in two main groupings - digital and analog. However, there are computers which are combinations of the two.

BINARY NUMBER CONVERTER AND BINARY ABACUS

The number system taught in school is the decimal system which uses ten numbers from 0 to 9. All other figures are combinations of these.

The Digital computer, however, does all calculation in binary numbers. The binary system uses only two numbers, 1 and 0 and all other figures are combinations of these.

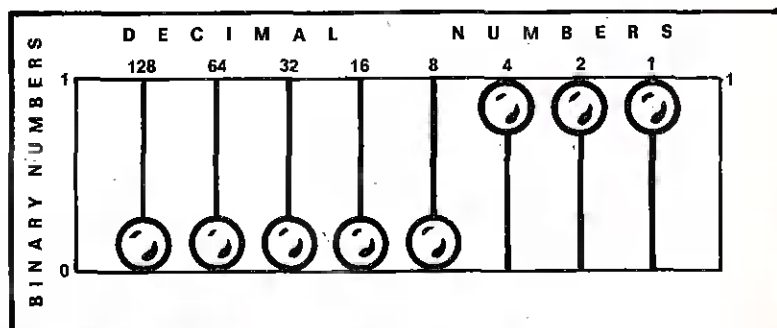
Build the abacus in the diagram. It can also be used to change numbers from decimal to binary and back again. In addition with practice you can add, subtract, multiply and divide.

Take the number 7 in the decimal system. To change it to a binary number, divide by the largest number on the top bar of the abacus that will go into 7, that is 4. Then divide the next largest number into the balance of 3, that is 2, and repeat for 1. For each number that divides into the decimal number, move the bead from 0 up to 1 on the abacus. Thus the binary number for 7 is 111. The binary number for 5 is 101 and the binary number for 10 is 1010. To change binary numbers to decimal numbers set up the binary number on the abacus and add the total of numbers above the beads at 1. e.g. 1011 would be $8+2+1$ or 11.

Try adding binary numbers - remember that when you add 1 and 1 you get 0 and carry 1 to the next column to the left.

Binary	Decimal
1011	11
+1101	+13
11000	24

Note: Where we had 3 ones in the left column, one stayed while others were carried. Now try it on your abacus.



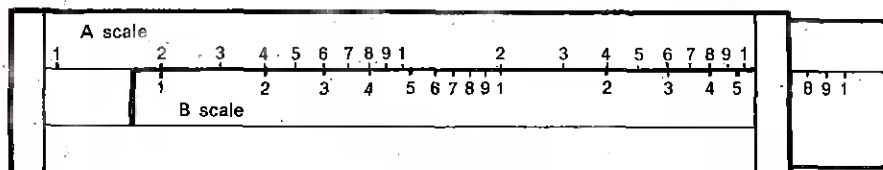
MULTIPLY DIVIDE SLIDE RULE

The multiply - divide slide rule uses logarithms as the base of its scale. Logarithms were developed by John Napier and first published in 1614. Each number has a logarithm equivalent and it is possible to multiply and divide numbers by adding and subtracting their logarithms.

e.g. 4×2	6021	3010	9031	8
Number	Logarithm	Number	Logarithm	
1	.0000	6	.7782	
2	.3010	7	.8451	
3	.4771	8	.9031	
4	.6021	9	.9542	
5	.6990	10	1.0000	

Measure off distances equal to above logarithms on your slide rule in inches or centimeters. 0, 3.0, 4.7, 6.0, etc. Mark both A and B scales at the same time.

To use in multiplying 2×4 . Put 1 on the B scale adjacent to 2 on the A scale. Read letter on A scale above 4 on B, this should be 8. To divide make a fraction. e.g. put 2 on B scale under 8 on A scale and read answer on A scale above 1 on B scale.



STOP PRESS

The Older Boy Subcommittee needs your help.

Cubmaster and *Scoutmaster* are terms used to designate the adult working with a Wolf Cub Pack and Boy Scout Troop.

In the case of Older Boy Units, leadership will come primarily from the members. It is therefore felt that the adults' role in these units should be that of counselling members, and advising the leaders.

The names have been offered as being descriptive of this role (see box on right).

We would ask that you survey youth within the age range 14-17 and record the number of votes each title receives. If possible, obtain the views of youth who do not enjoy participation within the scouting movement.

CLIP OUT AND MAIL TO THE OLDER BOY SUBCOMMITTEE:

c/o THE OLDER BOY SUBCOMMITTEE
P.O. BOX 3520
STATION "C" OTTAWA 3

TOTAL NUMBER VOTING

TITLE PREFERENCE:

ADVISOR

CONSULTANT

COUNSELLOR

OTHER TITLES

SCIENCE FAIR PROJECT

Now is the time for your troop or pack to prepare for a science fair exhibition.

Since 1962, 12 educational and scientific organizations have sponsored a Canada-wide competition. The displays are elaborate and are often of genuine scientific value—the study one American teen-ager made of the effects of sleeplessness on the human body added much to scientists' knowledge of physiology.

The work that Cubs do would not be so intensive but it would be valuable in preparing them for future competition, as well as give these modern science-oriented youngsters many hours of fun.

Troops could organize their work as either a patrol project or an individual effort. Try to get a number of packs and troops in the district interested in the fair, arrange to have local scientists, editors and teachers as judges, and have a science day with the displays on view to parents.

A few pointers

The project should tell a story in orderly progression with the problem clearly stated, and step-by-step de-

tails leading to the conclusion.

Lettering should be neat and visible from a distance of three or four feet.

The whole project should be clearly visible and when necessary, mounted on heavy cardboard.

And some ideas

your teeth and you . . . a weather station . . . air pollution . . . the world of insects . . . identifying rocks . . . the pin hole camera . . . osmosis, nature's life pump.

These are very general topics. The only way they could effectively be covered is to focus on one aspect and explore it thoroughly. For instance, a boy might talk to his dentist and get some help on illustrating what would happen to the jaw when teeth are not properly straightened. Another boy might take the same topic and show the effects of various types of malnutrition on the teeth.

For further information write:

*Canadian Science Fairs Council,
48 Rideau St.,
Ottawa, Ont.*

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FREE BOOKLET FROM COCA-COLA LTD.

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Here's a free booklet that tells you all about preparing tasty campfire treats by using aluminum foil for camp cooking. When to use this foil method—how to build the fire—and how to prepare the food for foil cooking . . . everything from the first course to desserts.

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SCOUTERS BOOKSHELF



Ask for these books at your library or favourite bookstore.

Great Men of Modern Agriculture by Grant G. Cannon. 256 pages. Collier-Macmillan of Canada Ltd. \$5.95.

In the last 250 years, progress in farming has cut the the production time of a bushel of grain from several hours to from three to six minutes.

Mr. Cannon, editor of the outstanding U.S. agricultural journal, **The Farm Quarterly**, tells the stories (in non-technical, easily-understood terms) of fifteen inventors, botanists, bacteriologists, chemists and geneticists who are largely responsible for creating the science of agriculture.

Each story is a well-written account of the man, his background, the prevailing conditions in his sphere of work, his main contribution and other aspects of his life that appeal to the reader.

Scouters, older boys and Rover Scouts will enjoy expanding their horizons through these pages.

Science and the Navigator by Bernard Hogben. 96 pages. The Musson Book Co. Ltd. \$3.15

To get from here to there *and back* is the basic challenge of navigation. Migratory birds, animals and fish deal with the problem in their own special way. Man's progress in navigation is an interesting story, beginning when he understood something of the inter-relationships of night and day, the seasons, the sun and the stars, and developing to a point where he can move around the world while he is far beneath the seas or far out in space.

This friendly little book tells of the early navigators and the development of maps and navigation instruments. It shows young readers how to make simple forms of these instruments.

Air travel calls for its own refinements including the use of radio waves. And now even ships use radio waves and sound waves.

The book is well-illustrated and will be enjoyed by Cubs and Scouts.

Face of North America by Peter Farb. 254 pages. Longmans Canada Ltd. \$4.75.

Anyone who loves the out-of-doors will thoroughly enjoy this young reader's edition of Mr. Farb's book. In the age of a mobile population, when coast-to-coast travel is commonplace and when youngsters have opportunities of going off on cross-country trips with their families, school classes and Scout troops, it is especially interesting to them to know just how and why the countryside developed the way it did.

What formed the Great Lakes, the rocky east coast, the great plains, the mountains, the waterfalls, the caverns and the special features of the great national parks in Canada and the United States?

How does a mangrove tree 'give birth' to a new island? What signs are there (beside earthquakes) that tell us the surface of our solid earth is moving?

The answers to these and other questions in the book provide a broad background for a deep appreciation of the need for good conservation practices.

To older Scouts, Rovers and Scouters whose travels will take them to any part of the continent, Mr. Farb's story will make their travels more enjoyable. They are sure to love the land and to understand and respect the forces of nature more than ever before.

There are 36 photographs, 18 drawings and 28 maps and diagrams used to illustrate the story very attractively.

Great Experimenters by William Bixby. Musson Book Co. Ltd. \$4.75
What kind of men were those great geniuses who changed the world? The

Wright brothers—'Wilbur rarely smiled at all and never in public . . . Orville was seen to smile on several occasions. If, at the time of their young manhood, some prophetic biographer had encountered them and examined every detail of their lives, he would have left without a story.' But this stolid thoroughness of the Wrights' personality carried them through situations which would have daunted more mercurial men. Lister—a maverick among the surgeons of the day: he was pained by others' pain. The visionary Edison who had a passion for experimenting but who made sure he was inventing something for which he could find a buyer.

From Newton who perfected the scientific method, to Fermi, who changed the pattern of war—the reader 'follows the dark path from ignorance to knowledge.' Pictured against the background of their times and directed to success by the force of their own personalities, the experimenters come to life in the pages of the book.

First rate light reading for both adults and children.

Mickey the Beaver and other stories by Kerry Wood. Macmillan of Canada \$2.95.

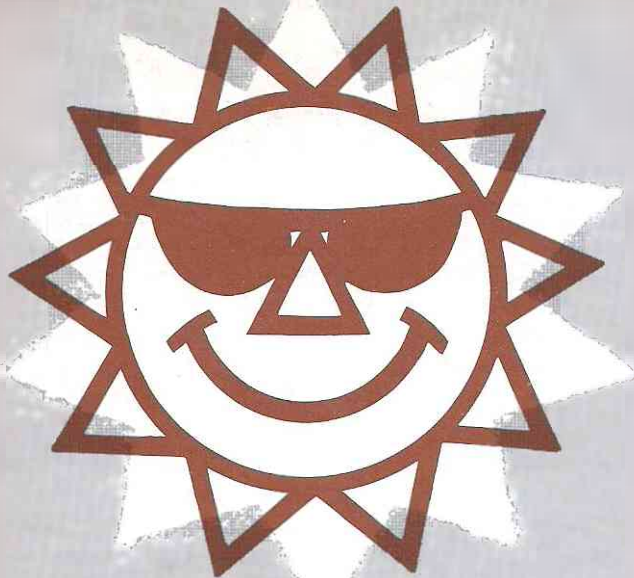
Kerry Wood has won many awards for his writings. In fact, he is one of the finest writers of animal stories to be found anywhere. In his latest book he tells the tender, moving and sometimes funny story of Mickey the beaver, who so enchanted Olave, Lady Baden-Powell that years after her meeting with him she remembered the town of Red Deer because she had 'spent such a happy time . . . with (that) wonderful pet, Mickey the Beaver.'

There are two other stories in the book which glow with that special magic only Kerry Wood can give to animal stories.



CANOE TRIPS
ALGONQUIN PARK
ONTARIO

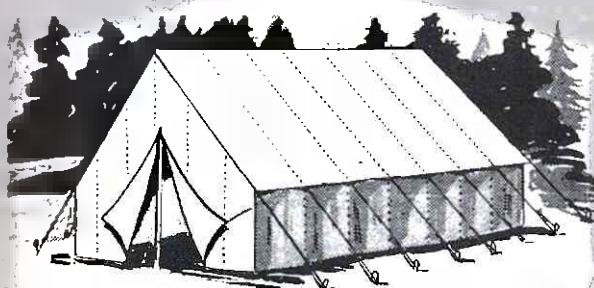
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THE "Jamboree" TENT

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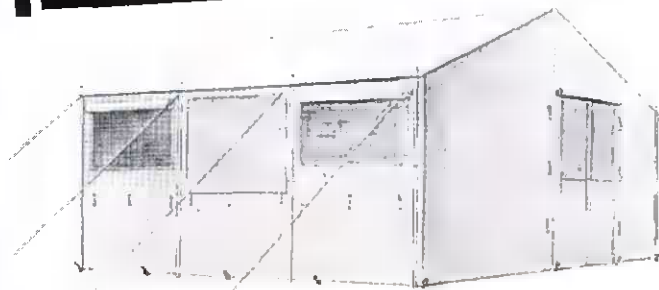
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A good quality tent of heavy tent drill (11 oz. after treatment), well reinforced at points of strain, all seams double stitched, ideal for normal camping requirements. Complete with steel poles and pegs.

Colour—Blue

Size—9' x 9' x 3' x 6½'..... #52-311 \$34.00

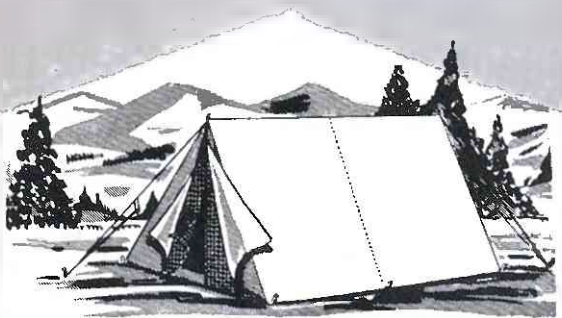
Size—9' x 12' x 3' x 6½'..... #52-312 40.00



Sturdily constructed of blue 10 oz. drill. Will outlast most other tents. Features nylon screening and tie-down storm flaps along full length of both sidewalls. Offset Dutch-type door allows unobstructed entrance, has nylon mesh, storm flap and zipper. Finely woven blue drill roof and walls. Sewn-in waterproofed floor. Complete with steel poles and pegs.

#52-212—12 x 9 x 7½' high, 5½' walls. (Illustrated)

Price..... \$79.95



A LITTLE HIGHER COST A MUCH HIGHER QUALITY THE EVER POPULAR PUP TENT

Made with special heavy treated drill, complete with tubular steel poles and pegs.

Colour—Sky Blue, Wt. 7 lbs. approx.

Size—5' x 6' x 3' high..... #52-316 \$8.40

ENSURE A LONGER LIFE FOR YOUR TENTAGE STORMY WEATHER

A clean, odorless water and mildew, repellent for canvas. One gallon covers approximately 125 to 190 square feet. Increases tensile strength of fabric up to 50% adding greatly to life and appearance.

#52-121—per gallon.. \$6.25

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Ready-mixed liquid makes canvas 100% water-repellent. Applied by brush or spray. 1 gallon can. #52-120..... \$3.95



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