

CAMPING

PHILOSOPHY

Pathfinders will often be more relaxed in a camping environment. A natural setting gives opportunity for Pathfinders to explore God's second book, nature, and to make a commitment to the Creator. However it is not only the environment that Pathfinders are in that has an influence on them, but also the people they come in contact with. They grow best in the company of someone who has experience and can share specific skills; someone who understands and values them. It is in this setting that Pathfinders will often be more open and relaxed and thus camping provides a powerful tool in shaping their growth.

OBJECTIVES

1. Develop a sense of belonging to the universe and its Creator by an enriched individual experience through contact with the natural world.
2. Give opportunity for Pathfinders to be in close contact with staff who are committed Christians, who give an example of the balance and joy that Jesus Christ brings to a person's life.
3. Provide the opportunity for meaningful Christian fellowship with other Pathfinders.
4. Develop responsibility to think for oneself and to act as a member of a group.
5. Provide opportunities for a new beginning. Every Pathfinder is accepted equally, and new relationships, friendships, challenges and experiences will expose them to God in a unique way.
6. Provide the Pathfinder with an opportunity to search for truth about God and self, using full sensory experiences, and provide time for development, growth and acceptance of new thoughts and ideas, spoken and unspoken.
7. Establish standards of the camp lifestyle based on acceptance, trust, cooperation and conservation of the natural environment.
8. Make available a special time and place apart for a person to experience a broad range of new sensations, facilitating experimentation, and give opportunity to change old ideas and develop a new working model.
9. Build a realistic social setting for the development of relationships based on self-esteem, a sense of honesty and enjoyable activities.
10. Develop skills that broaden the capacity to think, care and overcome unreasonable fears.

CAMP PLANNING & PROGRAMMING

PLANNING

At the local club level there are basically two types of camps that are conducted. These are the full club camp and the unit or class camp. Both of these types of camps need to be conducted in order to allow for the completion of the class and Honour requirements and also for the social needs of the Pathfinders themselves.

When does the planning of campouts commence? Initial planning for all campouts must be made and included on the Pathfinder calendar when it is being prepared, before the beginning of the Pathfinder year. The number of full club and unit/class camps for the entire year should be decided at this time, and specific dates allocated to each. This promotes organisation in club structure, and also for the presentation of class requirements.

Who is responsible for planning the camp? The initial planning involving the number of camps and the Pathfinder calendar is the responsibility of the Pathfinder Executive Committee, including the camping leader, in consultation with the unit/class counsellors. The planning of individual camps in detail is the responsibility of the camp leader as appointed by the local Pathfinder executive. However, ultimate responsibility for the Pathfinders rests upon the club director and the Pathfinder Executive Committee.

CLUB PLANNING CHECK LIST

1. Reason for going.
2. Have a camp program made out.
3. Transport.
4. Tents.
5. General gear.
6. First aid kit.
7. Camp personnel.
8. Food (cut lunch for Friday).
9. Meetings planned around the season.
10. Campsite inspected prior to campout.
11. Hygiene.
12. Safety.
13. Notification of parents and Pathfinders.
14. Permission from owner of land.

UNIT AND INDIVIDUAL CHECK LIST

1. Menu.
2. Correct clothes.
3. Sleeping bag and groundsheet.
4. Personal first aid kit.
5. Backpack packed properly.
6. Cooking utensils.

LOGBOOK

A logbook is used to record pre-expedition preparation, and for field activities while hiking etc. There is a sample Expedition Logbook in the Teen Teacher's Resource Manual before the Silver and Gold Award section.

PROGRAMMING

There are certain activities that are always done on a campout irrespective of the type of camp. These include sleeping, eating, personal hygiene, worships and free time, and they occupy a great deal of the camping time. These activities and those associated with the purpose of the camp form the basis of the program.

There is no basic program that is suitable for all camps. This is because the camp program revolves around the purpose or goals for the camp, which will change from camp to camp. However, a typical basic program from which camp programs can be adapted to suit the camp purpose might be as follows.

7.00 am	Rise
7.00 am - 7.30 am	Wash, dress etc.
7.30 am - 8.30 am	Worship
8.30 am - 9.30 am	Breakfast
9.30 am - 12.00 pm	Activity
12.00 pm - 1.30 pm	Lunch
1.30 pm - 4.00 pm	Activity
4.00 pm - 5.00 pm	Free time
5.00 pm - 7.00 pm	Tea
7.00 pm - 9.30 pm	Activity
9.30 pm - 10.00 pm	Bed time
10.00 pm	Lights out

This basic program will change greatly, depending upon the purpose of the camp. For example, if the purpose of the camp is to complete the 32 km hiking expedition for the AY Silver Award, the five hours of daylight activity per day in the above basic program might not be enough to complete the required distance. Depending upon the terrain, you may need eight to ten hours of activity time per day in order to complete the distance.

When the purpose for the camp has been determined, camp programming becomes easier. Where there is more than one goal, determine how much time should be spent on each goal and develop your program accordingly. It is not always desirable to fill your camp program with requirements or "work" activities. Include some special activities like games, swimming, special skills development (i.e. rock climbing etc.). Remember that young people like to keep active.

Also make your plans known to the camping group. In some cases it is a good idea to give them copies of the program. If they know what is happening they are usually happy to cooperate.

NOTIFICATION TO PARENTS

Make sure that parents have been adequately informed about the camp and its arrangements, and also inform them about the departure and return of their Pathfinders before and after the camp. It is advisable to give the name of a person (staying at home) to the parents whom they can contact in the case of an emergency. This person will be supplied with a copy of the camp program and may be a Pathfinder staff member, such as a deputy director, sponsoring elder or a responsible parent.

It is recommended that the following procedure be adopted for the picking up of Pathfinders after a campout. Tell the parents for example, that the group will be back between three and five on Sunday afternoon, and that they will be contacted during that time with the exact time. Arrange with someone (several people for a large group) to ring the parents with the information. When returning from the camp, stop and phone the selected person/s and give the estimated arrival time at the pick-up place. This person will then contact parents.

SABBATH AND WORSHIP IN A CAMP SETTING

It is important to remember that camping is a ministry to our youth and therefore the spiritual life should not be neglected. Sabbath observance, worships and grace for meals must be encouraged.

There are so many activities that can be used to reveal a loving God. It is not intended to list here which activities are permissible on Sabbath and which are not, however it is expected that the activities conducted would have the approval of the church.

As with all activities, worships and Sabbath activities need to be planned and prepared before the camp. A well-planned Sabbath day, with enjoyable Sabbath activities, is the only way to satisfy the needs of Pathfinders through the sacred hours.

Sabbath school and a worship service should be part of the Sabbath activities. This is to remind the youth of the importance of these services. However it is not necessary to stick to the familiar programs. It is recommended that at 9.30 a.m. on Saturday morning you do NOT get the group together, seated on the pews, with an open hymnbook and commence Sabbath school. With twenty-four hours to fill with activities, use your setting in the outdoors to the best advantage.

Planning the Sabbath hours is the key to a successful, rewarding Sabbath day. Here is a suggested Sabbath-day program.

6.00 am - 6.15 am	Rise (optional time)
6.30 am - 7.30 am	Early morning Inspirational Walk
7.00 am - 7.15 am	Rise (for uninspired)
7.30 am - 8.00 am	Worship
8.00 am - 9.30 am	Breakfast
9.30 am - 10.30 am	Church Activities
10.30 am - 12.00 pm	Sabbath Activities
12.00 pm - 1.30 pm	Lunch
1.30 pm - 2.30 pm	Sabbath Activities
3.30 pm - 4.00 pm	Free Time
4.00 pm - 5.00 pm	Sabbath School Activities
5.00 pm - 6.30 pm	Tea
6.30 pm - 7.00 pm	Close Sabbath

The program should be varied from Sabbath to Sabbath and from camp to camp. For example do not get into the practice of having church activities straight after lunch. Vary the times particularly for the Sabbath services so that the program does not become routine.

SABBATH ACTIVITIES

1. Walks.
2. Games.
3. Object lessons.
4. Nature study.
5. Nature Honours.
6. Class requirements.

The most enjoyable Sabbaths are when Pathfinders are participating and actively involved in the program. Do not just sit with the group around you with an open resource manual on your lap.

On Friday nights, use their energy and adapt some of the activities to night conditions, for example, observation hikes, nature games and requirements such as stars.

WORSHIPS

1. Keep the worship time brief.
2. Present the worship enthusiastically.
3. Adapt according to the occasion
4. Vary the format.
5. Let all join in the Bible reading.
6. Discuss Bible principles and values.
7. Emphasise God's law.
8. Occasionally allow the group members to select the reading.
9. Question to assess retentiveness.
10. Encourage the group members to ask questions.
11. Illustrate the worship time with pictures, puppets, stories etc.
12. Let the members take part in prayer.
13. Learn scripture through song.
14. Adequately plan the worship in advance.
15. Demonstrate discipleship.

Try to avoid just plain long readings of scripture or the Spirit of Prophecy or anything else for worship. The best worships are conducted in small groups (units) in which the entire group can participate with activities based on scripture or the Spirit of Prophecy. Encourage unit leaders to take units away from the camp area into the bush so that there are fewer distractions. Again, plan your worships ahead of time. Select a theme for the worships that can also include opening and closing Sabbath. Worships may involve work sheets, drama etc.

CAMP EQUIPMENT

BACKPACKS

There are four main types of packs - frameless, external framed, internal framed and the closed cell foam support system. The choice is an individual preference that is based upon cost and planned usage. Probably the easiest pack for Pathfinders would be either the external or internal framed pack with a hip belt. A good pack will carry the load on the shoulders and hips.

When packing a pack, arrange the contents in such a way that the heavy items are on the top, the medium weight items are in the middle with the light and soft ones at the bottom. In this way the weight will be distributed over your shoulders. Put the most frequently used items in the outside pockets. Pack as lightly as possible. A pack should not exceed 20 per cent of the Pathfinder's body weight. Ensure that everything is packed into sealed plastic bags before being placed in the pack. The number of items carried will vary according to the duration of the pack camp.

TENTS

There are many types, sizes and shapes of tents. Each camper has his own preference. A good tent is one that has a separate fly. Tents will usually sleep two Pathfinders, and separate sections may be carried by the two hikers.

PITCHING AND STRIKING A TENT

Whatever tent is chosen as the main type for use in your club, it should be the one used to demonstrate pitching and striking. All Pathfinders should know how to pitch and strike a tent.

SHELTERS OF NATURAL MATERIAL

Some times you will want to take the Pathfinders on survival campouts where no shelters will be carried. In this case you and your Pathfinders will need to have a knowledge of finding and/or building shelters. (See Friend class advanced Bible Search requirements.)

CAMP SLEEPING ARRANGEMENTS

The camp leaders should decide on the camp layout and the tent allocation beforehand. Naturally, you will need to consider personalities and temperaments and be prepared to listen to requests from your camping group. Be mindful of the "odd man out." Every one must feel included. It is wise to set a curfew time after which you expect the camp to be quiet and settled.

WHAT TO BRING

1. Hiking clothes, boots and rain gear, suitable to enjoy water, mud, sun and rain, without worry about spoiling them.
2. Clothes as listed in clothing section, including a hat.
3. Food as listed, knife, fork, spoon, cup, bowl, frying pan, billy can, soaped steel wool, filled water-bottle (plastic or aluminium with sufficient capacity for trip), water-purifying tablets, small gas cooker and spare gas.
4. Matches in waterproof container or lighter.
5. Sleeping bag, groundsheet, sleeping mat, tent or fly.
6. Map, compass, torch (and spare batteries and bulbs), candle, whistle.
7. Bible, lesson pamphlet, logbook and pen in waterproof bag.
8. Personal first aid kit and emergency kit (including light coil of rope), small towel, small soap, washer, comb, a small amount of toilet paper, insect repellent, suntan lotion.

WHEN YOU COME BACK

Sort out your pack into:

1. What you actually used.
2. What you could use from your observations.
3. What you now know you will never use, and discard these.

CLOTHING

In summertime the clothing will be light, and in winter it will be heavier.

CLOTHES LIST

1. One set of hiking clothes suitable to the climate.
2. Warm clothing for evenings, such as longs, wool jumper, socks, beanie.
3. Spare emergency clothing.
4. Windproof and waterproof jacket, cape or poncho.
5. Comfortable boots for walking - strong, may get wet, good tread, worn with two pairs of thick woollen socks.

THE FOLLOWING ARE GUIDELINES

1. In the higher altitudes, even in summer, the evenings can be very cold. Warmer clothing should be carried.
2. In winter hiking one of the most common mistakes is to wear too many clothes. Warm clothing should be carried for breaks and for the evening when camping, but for the hike itself the clothes should just keep the person warm. If one perspires in winter and then stops for a break, a chill can develop. Keep good air circulation throughout the clothing, and when stopping for a break, put on a jacket or jumper.
3. Do not allow Pathfinders to go on a hike with improper shoes or boots. Sandals/thongs (jandels) and shoes of this type should never be worn on a hike, nor should new shoes or new boots, for they will cause blisters. There is no set rule for footwear, except that in winter, boots should be waterproofed. For summer hiking some prefer light shoes such as tennis shoes, while others choose low top boots. One rule generally followed in hiking is to wear two pairs of heavy socks to cut down on friction on the feet.
4. It should be remembered that in high altitudes the air is very thin and the ultraviolet rays of the sun are intense. Consequently some type of head covering should be worn.
5. When planning to hike in the snow, it is important to remember to take dark glasses to prevent snow blindness. Also important to the comfort and health of the hiker are warm socks, mittens, and headgear that will cover the ears.

FOOD

When choosing food for your pack trip, consider the following criteria:

1. **Nutritive Value.** This is probably one of the first considerations. It is wise to carry foods with energy value, mostly carbohydrates, with little sugar.
2. **Weight.** All food carried should be light. Dehydrated foods may be used.
3. **Bulk.** Bulk and weight are two different things. A food may be light but very bulky; for example, puffed dried cereals. It would be better to carry flaked biscuits or raw muesli. Canned goods are an example of a heavy and bulky item. Remember that all empty cans need to be carried out with you.
4. **Fragile Quality.** Foods that break up, crush or melt are not ideal items to carry in a pack, unless they are packed very carefully.
5. **Perishable Quality.** Foods that spoil readily should never be carried for more than a day. Avoid all risks of food poisoning.
6. **Vegetarian.** When planning a pack camp it should be remembered that values are being modelled. Plan all meals to be vegetarian.

METHODS OF PACKING FOOD

1. **Top Section.** It is best always to pack the food on the top section of a pack, where it will not get crushed. Eggs should be wrapped in paper and carried in a billy.
2. **Aluminium Foil.** Aluminium foil wraps itself and does not need rubber bands or strings to hold it. It keeps out moisture, air, light and odour. One of the benefits of aluminium foil is the fact that food packed in foil can be cooked in the same package.
3. **Plastic Wrap or Bags.** Here is a good way of packing such items as dried fruits, cheese, powdered milk, bread etc.

MENU AND FOOD PREPARATION

There are several ways in which food can be organised for a campout, and a decision needs to be made on the best method for the purpose of your campout. These methods are:

1. **Individual Pathfinder Preparation and Cooking**

Each Pathfinder plans a menu and prepares and brings all his own food and cooking utensils. On the camp each Pathfinder prepares, cooks and cleans up around a communal fire. It is an ideal method for tramp or mobile camps.

2. **Small Group Preparation and Cooking**

Groups of two or three Pathfinders are formed and they plan a menu for their camp. The menu is then divided up among the group and each person only brings the food and cooking utensils designated. On the campout the group prepares, cooks and cleans up together either on individual or communal fires. This method has the advantage that it does away with the necessity of individuals preparing small amounts of food to bring.

Each person brings enough of the specified food item for the entire group, but does not bring food for the entire menu. With this method make sure that the group is compatible, and that unreliable Pathfinders bring what they are asked. Meals can be spoiled if one Pathfinder forgets to bring one of the food items. However this method does lend itself to creating unity, friendship and a good working reliance and trust among the Pathfinders.

3. **Unit/Class Preparation and Cooking**

If unit/class cooking is desired there are two methods:

- a. A method similar to that of small group cooking is used but on a larger scale. It has the same advantages and disadvantages, but is a little more difficult to organise. Instead of assigning each person specific food items to bring, ask each person to bring the food for one entire meal or part of the meal. It may be that one person brings food for Saturday tea, another Sunday lunch, another the cereal, another the bread etc. Things such as salt, milk, sugar etc are then divided up among the group to bring.
- b. Another method for unit/class cooking is when the group plans a menu and then contributes a sum of money for the purchase of the food. The camp leader purchases the food. On the camp the Pathfinders prepare, cook and clean up around a communal fire.

4. **Club Cooking and Preparing**

As the group gets bigger the more difficult it becomes to organise the menu and food. The only successful way to plan a menu is to have the camp leader formulate a menu and then have the Pathfinders contribute to the cost of purchasing the food. Once this is done there are two methods for preparing the food:

- a. Prepare a roster of unit/class groups to prepare, cook and clean up for each meal.
- b. The second alternative is to persuade someone to come along as cook. This person could also be responsible for the camp menu. Again unit/class groups will need to be assigned for preparation and clean up.

Menus need to be planned well in advance of the camp, and time should be allocated during the club time for camping groups to do this. When menus are being planned by Pathfinders, they will need supervision. When the items on the menu are divided among the group, it is important that the camp leader not only shares with items for the menu, but also brings extra food items for emergencies. Items such as salt, sugar, milk powder, dried fruits and biscuits and a couple of packets of instant meals could mean the difference between a good meal and a bad meal for a hungry Pathfinder.

A SUGGESTED CAMP MENU

Breakfast

A campout breakfast is often earlier in the morning than many Pathfinders have at home. Breakfast should contain one-quarter of the energy supply for the day. It will need to sustain you into the afternoon. Make it a good meal. Protein will stimulate the use of carbohydrate.

1 egg	cooked according to taste.
2 slices	wholegrain bread and butter.
Cereal:	4 Weet-Bix or the equivalent dry weight of cereal, 1/2 cup muesli toasted will change the texture, 1/4 cup sultanas, 1/2 cup soaked dried fruit, milk to taste.
Nuts	and/or carrot to finish.

Lunch

Depending upon the type of camp, lunch may only be for a short period of time. However it must not be missed. Eating triggers the use of reserves and will start to provide energy in the late afternoon.

1 cup soup	(or two) from powder. This is only flavour and water, and may be heated. It helps the rest to go down.
4-6 slices	wholegrain bread with butter, cheese, jam etc.
1/2 cup	soaked dried fruit, nuts and/or raw carrot to finish.

Tea

This is an important meal and time needs to be allowed to prepare it. It will stock the body reserves for the next day, especially for the morning start. There are several suggestions for the evening meal. Remember most lightweight, freeze-dried foods are low in energy.

Stew 1:	Ingredients:	1 potato
		1 carrot
		1 onion
		25 g dehydrated peas
		TVP
		Soup powder
		Cheese (optional)

Method:	Boil. When cooked, add instant soup powder to flavour, and stir in some cheese to melt.
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- Stew 2: Ingredients: Dehydrated vegetables
 Soup powder
 Potatoes in foil
 Cheese and butter
- Method: Boil. When cooked, add instant soup powder for flavour.
 While this is cooking, cook a couple of potatoes in foil in the
 ashes at the side of the fire. Melt some cheese and butter into
 them when cut open.
- Stew 3: Ingredients: 3/4 cup of a 1:1 mixture of white rice and lentils.
 Herbs and maybe some dried mushrooms for flavour.
 Soup powder
- Method: Boil. When cooked, add instant soup powder for flavour.
 The mixture of legume and cereal provides a complete protein.

FOOD FOR ONE HIKER FOR ONE DAY

- 120 g Cereal, dry weight (Weet-Bix, Granola, muesli)
 120 g Raisins, sultanas, dates, mixed fruit
 3/4 cup Powdered milk, full-cream
 1 Egg, fresh or powdered
 6-8 Slices wholemeal bread
 60 g Butter or margarine
 90 g Dried large fruits, apricots, apples
 130 g Shelled nuts
 130 g White rice and lentil mixture, with some TVP or crushed nuts, 1/2 - 3/4 cup
 Vegetarian soup powder, sufficient for a cup
 Salt, Marmite
- 1 cup Self-raising wholemeal flour
 Fresh fruit
 Home cooking, high calorie, high density, as a special
 Glucose barley sugar for emergency use only
 Emergency supply of 130 g rice and lentil mix

If you do not like something on the list, substitute a suitable quantity of something you do like, of equal food value and try to keep the diet balanced.

FIRES

Part of the fun of camping is cooking over open fires. Therefore knowing all about fires is important. How to build a fireplace, how to light a fire, how to control it, how to put it out, which wood burns best, what the regulations say, are things you need to know.

Knowing what the regulations say is probably the most important thing. Find out exactly what the law says you can do, cannot do, and must do. This varies widely from place to place and season to season. Therefore, it is up to you to find out these details for the place where the camp will be held.

BEFORE LIGHTING

Check for total fire ban announcements.

Be aware of any local council fire restrictions.

Choose a fireplace away from dried bush and grass.

Clear a circle several metres in diameter around the fire.

Have water handy in case of accident.

AFTER LIGHTING

Keep the fire as small as possible.

If a strong wind springs up, put the fire out.

Never leave a fire unattended.

AFTER USE

Dig a hole and push the remains of the fire into it.

Extinguish all burning pieces of wood and embers, with water.

Fill in the hole, stamp down firmly and smooth off the surface.

FIREPLACES

Trench fireplaces are the safest. Dig a trench approximately 30 cm deep, 20 cm wide and up to 1 m long. Pile the dirt up in a heap, away from the fire, to refill the trench when you are breaking camp.

A fireplace can be made above ground, using stones to enclose it. Some stones explode, so be careful.

Clear a circle of anything likely to burn, make the fireplace in the centre, gather the firewood and place it in a pile outside the circle.

FIREWOOD

Learn which wood in your area burns best, which ones are poor burners, which ones burn quickly for getting a fire going, and those which burn slowly and make a good bed of coals for slower cooking. Wood from most native trees burns well. Poplars and willows, often found along creeks, are poor burners, tending only to smoulder and smoke. Pines and wattles are usually good for starting, while the eucalypts provide better cooking wood.

FIRE LIGHTING

Starting a fire requires tinder and kindling, and then heavier wood to keep it going. Dry grass, dead leaves, crushed bark and tiny twigs are good for tinder. Kindling can be thin sticks, about as thick as a pencil. Small dead branches are ideal, or split heavier timber if this is all that is available.

Lay the tinder in a loose pile on the ground, then lay the kindling gently on top, thinnest pieces nearest the tinder. Keep it in a loose pile, so that air can circulate through it. With your back to the wind, strike a match. When it is burning well, touch it to the tinder, close to the ground. The tinder will flare up. When the kindling is burning well, gradually place on larger sticks until the fire has built up to the size required.

Flames will boil water quickly; coals or embers are best for all other cooking, and a must for foil cooking. Practise your fire lighting under all conditions. When it is wet and cold is when you need a fire most, and this is when it is hardest to get one going.

If the wood is saturated, peel off the wet bark and trim off the outside wood. Inside the wood is quite dry. Split some other branches to expose the dry centre and you should get a fire going with very little trouble.

TYPES OF CAMPING

HIKING AND BACK PACKING

"LET'S GO HIKING"

These three words can be magic in any Pathfinder club, or they could be words to bring moans and groans. Whether hiking will be a pleasure or a burden to the Pathfinders depends upon the leader. Plan hikes carefully in every detail, so that the day will go off smoothly without any mishap. Make the hike interesting from the very beginning to the very end. The following are guidelines that will make hiking a real pleasure:

1. Plan your hikes so that you will know exactly where you are going. Have a goal in mind that can be reached in the length of time planned for the hike.
2. Start the hike slowly so that everyone can get into the stride, then gradually work up to a moderate, even pace. Try to hold the rhythm and pace throughout the hike.
3. Breathe deeply.
4. Take a ten-minute break at least every fifty minutes of hiking. Make sure that the Pathfinders take a real break. Getting down on the ground with legs up against a stump or rock will rest tired legs and feet.
5. While actually hiking, it is best not to eat.
6. Do not drink large quantities of water while hiking, but merely sip from the water in your container.
7. If hiking along a road, always walk in single file facing the oncoming traffic.
8. Spread out in scrub or where there is danger of falling rocks.
9. Be courteous and keep off private property and all property that is posted "No trespassing." After using gates where you have permission, be sure the gates are closed when all have gone through.
10. Think of the other hikers. Don't push or step on the heels of the one in front of you. Lift your feet so that you do not stir up the dust for those behind.
11. Any information that is given the front of the column is to be passed down through the line, and everyone is responsible for passing the message on to the person behind.
12. Put a strong, experienced person in the rear, who can help with morale and keep the party together.

13. Assign different Pathfinders certain tasks to do, such as hiking leader, and tail ender, first aid person, timekeeper (will keep time for breaks), safety observer, and any other job that is necessary to make the hike a success. It is also a good idea to rotate these tasks so that all Pathfinders gain a variety of experiences.
14. Watch for exhaustion toward the end of the day.
15. Check so that no hiker is left behind.
16. Time your hiking to arrive at suitable campsites (water, shelter, level ground) by Naismith's Rule:

Easy going - 5 km/hour

Easy scrambling - 3 km/hour

Rough country, deep sand, soft snow, thick brush - 1.5 km/hour

Allow 1 hour for every 450 m climb and 900 m descent

For every hour over 5 hours allow 1 hour for fatigue

For very fit and experienced walkers reduce the total time by one-third

WILDERNESS SURVIVAL CAMPING

PHILOSOPHY

One of the greatest challenges of the outdoors awaits the Pathfinder in wilderness camping. This is survival camping, with only the equipment the campers must have.

The objective is to challenge one's inner resources in a strange situation and to overcome fear of the unknown, of hunger, discomfort, inconvenience and delay. By gradually leading the group into situations of increasing difficulty, the leader shows them how to respond successfully to stress and develop self-confidence.

It is suggested that survival training be based on a series of back-packing trips. At first the group may take all the equipment thought necessary for comfort: down sleeping bags and foam pads, insect-proof tents, comfortable packs, and plenty of tasty food. On subsequent trips some items can be left at home, until finally the group takes only those things that are necessary for safe camping.

This philosophy is opposed to the harshness of the "jump in and swim or drown" attitude and has proved successful with people of all ages. The leader makes sure that beginners are not overly frightened and encourages them at every step, thus avoiding the development of complexes that can be lifelong problems. Instead, develop the most important character traits in youth, such as the ability to face problems and solve them, to plan and execute the plan in spite of difficulties. This style of camping can be the most important outdoor experience a young person ever has. Survival camping and pioneering provide unforgettable memories and lifelong friendships.

FIND A CAMPING SPOT

Take a group into a wilderness area, or in a national park (with permission) by hiking in and setting up camp for a day, a weekend or a week. Two or three hours' hike from the cars may be sufficient isolation. By checking the area beforehand, you can choose a spot with good drinking and bathing water, adequate dead wood for fuel, areas for orienteering, a variety of edible wild plants to identify and sample, rocks to climb or whatever your program requires. National and state parks do not permit plant collecting or timber cutting. Therefore, obtain permission from the person in charge, explaining your plan and giving him exact dates so that your group can be contacted in case of emergency. Obtain topographical maps of the area and copies of bush rules for your campers.

OBTAIN EQUIPMENT

If your group is not equipped for pack camping, spend at least one meeting demonstrating good equipment and helping them to obtain what they need before the trip. Have an experienced bushwalker do this, who has good equipment, and knows where to buy or rent suitable gear.

FOOD

The menu for the trip should be carefully planned to assure three nourishing meals per day. See the section on food, for ideas. An experienced person can prepare foods at the campfire in an appetising way, then teach the campers how to prepare some of the foods. Remember, the first impression is important. Make your campers comfortable on their first wilderness trip, with good equipment, good food, and exciting activities well planned in advance. Do not let them carry a pack so heavy that they never want to hear of the wilderness again.

CLOTHING AND MISCELLANEOUS

See that campers bring adequate clothing for any possible weather change: a raincoat, wind jacket, wool shirts and trousers (to prevent chilling in rainy weather), and the best hiking shoes or boots they can obtain. Not having a torch can cause panic in the wilderness, so make sure that each camper has one as well as some sort of survival kit. This should include as many of the following items as possible: knife, waterproof matchbox and matches (or lighter), compass, candle, whistle, signal mirror, water purifying tablets, salt, sewing kit, nylon cord, plastic bags, plastic sheet (small), first aid kit, flares, energy bar, pad and pencil. Such a kit, made up in a waterproof bag and used in a training camp in the wilderness, could help save a life - including your own.

SKILLS TO TEACH

Before the trip, perhaps on one-day outings, the group should have already learned the basic skills of fire building, tent pitching and water purification. Wilderness survival skills taught on the trip may include:

1. Pack carrying (how to organise, load, balance and adjust the pack; how to hike etc.).
2. Orienteering.
3. Edible wild plants.
4. Shelter and fire skills. (Build shelter of boughs, such as an A-frame, campfire oven, food storage etc.).
5. Basic climbing (use of belay rope, free climbing, abseiling etc.).
6. Medical aid (wilderness first aid procedures such as basic stretchers, splint, carries etc.). Be prepared to treat potential cases of hypothermia.
7. Safety (water purification, safe use of tools, campsite and fire safety, hiking rules etc.).

SPECIFIC SKILLS

Wilderness survival can be taught on canoe trips, caving trips and hikes, as well as on bushwalking trips. The trip in itself, without formal instruction, is educational in the highest sense and may meet the needs of the group with a minimum of lecture-demonstrations. But no matter how the instruction is presented, there are important points to remember in connection with teaching wilderness skills.

1. **Water Purification.** Do not skimp here. Laziness can ruin the trip. Purify all drinking water with chlorine tablets or iodine, or by boiling. Have the unit leaders check this constantly and avoid temporary sickness and crippling diseases. Teach each Pathfinder to put a tablet in every container of water so that it becomes habitual.
2. **Edible Plants.** Do not guess. If you do not know a plant, say so. Have someone teach this subject who knows it and who does not try to cover up ignorance; no one knows all plants. Most plants are non-toxic, but a few are deadly. Avoid teaching edible plants resembling poisonous species.

Be absolutely sure before you tell anyone what a plant is and that it is edible; it could be a life-and-death matter!

3. **Climbing.** You must have a qualified instructor. Instruction needs to be given in the safest and best techniques. Climbing clubs can supply instructors who know the proper use of rope; the best ways to tie basic knots; proper belaying, abseiling etc. Helmets and slings should be worn by beginners climbing or abseiling on rocks. Be sure climbers master the skill of belaying before they attempt to climb, and see that all climbers are properly belayed at all times. Good instructors are always alert to dangers and seek to prevent accidents.
4. **Fires.** Be familiar with local fire regulations. Extra caution must be exercised in a wilderness camp to see that all campfire sites are safe. Follow the rules! Never leave a fire unattended, and make sure it is out before leaving.
5. **Safety.** Plan an emergency route for rapid exit from hiking area to medical aid. Have a complete first aid kit. Every camper should be covered by individual accident insurance.

GOALS

Resourcefulness, courage, self-reliance and willingness to serve others are character traits that should be developed. Skills necessary to enable a person to make his way through the wilderness and eventually to lead a group need to be mastered.

SHELTERS OF NATURAL MATERIAL

Many times you will want to take the Pathfinders on survival campouts where no shelters will be carried. In this case a knowledge of finding and/or building shelters is necessary.

THE CANOE TRIP

In most countries there are ample opportunities for canoe trips that can bring a rewarding experience and a lasting impression. Experience, in the final analysis, is the only way to learn canoeing. The first kilometre will teach you more than a volume of literature on the subject. However, canoe camping is quite another thing, and a brief discussion of the fundamentals before you go could help to smooth the way.

THE CANOE

First comes the matter of choosing a canoe. This will largely depend on what type of trip you plan; whether it be a short trip or long; white water or smooth. The Canadian canoe is usually recommended for a touring-type canoe camp, simply due to its size. It can carry a good amount of equipment and comfortably carry two to three people. The kayak is more suited to white water, due to its manoeuvrability. The most popular material today is fibreglass, because of its lightness and durability.

There are many styles of paddle and the choice is largely one of personal preference. The stern paddler, who is the captain of the canoe, should have a paddle that reaches to his nose when standing; the bow paddler should have a paddle slightly shorter (reaching just under his chin) for best results.

EQUIPMENT

Though you may feel you are not confined like the back-packer to minimal weight, do not forget you may have to portage - which means carrying the canoe, paddles, and all the gear through the bush to the next available launching point. Pack as lightly as is conveniently possible. Water in the canoe, insects, canoe damage, wind and rain are very common realities on a canoe trip. Remember, what counts is not what your canoe can carry, but what you can carry. See section on equipment earlier in this chapter.

ON THE TRIP

When you pack your gear in the canoe before you launch out, be sure it is well balanced so the craft does not list. The lower the weight, the better the stability. Tie your equipment to the canoe. A conservative daily stint for a canoe trip is 20 km, depending upon the current, wind, tide, repairs etc. It is always best to allow a generous leeway because of unforeseen difficulties and inclement weather.

SAFETY RULES

A cardinal rule in lake country is to GET OFF the water at the very first warning of a storm. It is definitely dangerous to be caught in wind-lashed waters, even if you are experienced. On river and stream trips an equally firm rule is: NEVER take a stretch of white water without knowing exactly what you are in for. If you do not know the stream, get out and walk along the shore; study out your route and then ride through it. If there is any doubt at all, portage. Never be caught without a map and compass. Countless islands have a strange way of looking alike, and portage trails disappear right before your eyes.

As a prerequisite for canoe trips, each canoeist must be a good swimmer, and familiar with life-saving techniques. Test each crew in a planned upset with the challenge to overturn the canoe, right it, splash out the excess water, make for shore and empty the canoe; being ready to go, a little wetter but experienced in the unexpected.

BIKE HIKE

A bike hike must include practices that will result in improved physical fitness, self-reliance, individual initiative and cooperative outdoor living.

When planning for this activity, ensure that all details have been cared for, such as rendezvous and departure; route to be travelled; points of interest to visit; length of bike hike; backup plans, environmental conditions etc. Provide each Pathfinder or staff member with a checklist of clothing, equipment, personal property and food needed.

SAFETY RULES

1. Obey traffic laws and regulations including:
 - a. Stop lights and signs.
 - b. One-way streets.
2. Ride on the left side of the road.
3. Travel single file.
4. Use the standard hand signals when stopping or turning.
5. No weaving in or out of traffic.
6. No swerving from side to side.
7. No stunt racing.
8. No riding double.

BIKE INSPECTION

All bikes must be in good mechanical condition and have all the standard safety features, such as lights on the front and/or reflector on the rear, good brakes and a horn.

Pathfinders should be able to carry out basic repairs and maintenance to their bike.

MAINTENANCE CHECK LIST

1. Puncture and tube replacement.
2. Back wheel removal and adjustment.
3. Brake adjustment.
4. Brake cable replacement.
5. Derailleur adjustment (geared bikes).
6. Gear cable replacement (geared bikes).
7. Handle bar and front fork adjustment.
8. Bearings.
9. Pedal adjustment.
10. Correct seat adjustment.

NATURE

Nature is filled with wonders that are of interest to the Pathfinders. The informed leader can guide the Pathfinders in a variety of ways that will help them discover these fascinating wonders and help them to understand both the wisdom and love of the Creator.

This outline will help you understand how to build nature activities into your Pathfinder club's yearly program. While only one month's program is outlined here, you will want to plan a year in advance. Work toward establishing nature activities as a permanent part of the overall club program.

Nature objective for the year: To create an interest in and an appreciation for the world that God has created for us to live in.

Main objective for month: Starting a nature Honour.

Subsequent objective for month: A nature campout.

Before starting to plan toward the main objective there are a number of questions that the leader should ask. In the case of a nature Honour, these questions might cover such things as:

1. Preparing for the Honour.
 - a. How can the Honour requirements be achieved?
 - b. How much time will be involved?
2. Field work.
 - a. Where will the nature campout be located?
 - b. What pre-camp training will be needed?
3. Classifying specimens.
 - a. What books will be needed?
 - b. Will there be any expert help on the subject?

FIELD TRIPS

Field trips are always popular with Pathfinders. The nature leader will need to plan the trip well in advance to assure success. Here are important points to keep in mind:

1. **Information.** It will be essential for the nature leader to first impart some knowledge on a given nature subject before the Pathfinders can be taken on a successful field trip. For example, before a bird field trip is taken the class should know something about the feeding habits of the different bird families. The Pathfinder will also need to know something about the way different birds fly. Facts about nesting habits, migration etc. will make the trip much more interesting. Consult libraries and specialists for information on the specific subjects.
2. **The season of the year.** Always consider the time of year when planning an observation or collection field trip. Budding branches would need to be collected in the spring and summer, while seed pods could be studied during autumn and winter.
3. **The habitat.** This is where various plants and animals live. A trip to a cave to study bats could be planned. The nature leader would need to know where birds might be seen before conducting a bird trip.
4. **Equipment.** If specimens are to be observed or collected, study must be given to the proper kind of equipment, such as nets, killing jars, cages, binoculars, cameras etc.
5. **Dress.** Proper wearing apparel is important. If the group is to collect shells, they would dress differently than if they are to collect insects or rocks, or observe birds.

WHERE TO GO

A year-round nature program is possible, including field trips. These trips will allow the instructor to create an interest in other nature classes. For example, while the class is studying birds on a field trip, insects and flowers may also be pointed out and an interest sparked for future Honours. Perhaps the following suggestions will aid in sparking ideas.

Museums and zoos. Almost every area has a good museum or zoo that would afford good opportunity to stimulate interest.

Parks. Most city, town or state governments have provided parks. These places will give wonderful opportunities to study plant, insect, bird and animal life.

Forestry service. Federal and state forestry and agriculture services provide many wonderful field-trip possibilities. Through them Pathfinders may learn what insect pests threaten crops and forests. They will also learn what native plants and animals can be seen in their area. Many clubs could visit forestry service headquarters to learn how forests are protected from fire.

Nurseries. These would also afford good field trip choices for any group studying flowers or trees. How plants are grown, their care, and choice of certain plants for various living conditions would all add interest.

Mountains and forests. These are ideal for field trips. Here the instructor has opportunity to point out the various plants, insects and other life that live together to benefit one another. The group can walk and sit, quietly watching the wildlife about them.

Farms. The group may learn much from a trip to a farm or a nearby dairy. Many youth would learn about the contribution that animals make to human comfort and needs. The planting, growing and harvesting of various crops would remind the youth of the Creator's love in providing for man's needs.

Valleys. Here the nature instructor could find much to interest the Pathfinder. Frogs, snakes, turtles, insects, flowers and many other forms of life may be found.

Streams and lakes. An abundance of life awaits the seeker at these places. Man-made dams also provide good field-trip possibilities.

Beaches and shores. Water attracts many forms of life, and fortunate is the nature leader who has access to such places for nature study.

Quarries. Nature study possibilities at old rock quarries include minerals, fossils, animal life etc.

National parks and sanctuaries. There are many public and private sanctuaries and national parks across the country, which provide excellent nature study. These sanctuaries often have wild animals that have become tame, and they may provide close-up study of animals usually seen in the field at great distances only.

HINTS ON LEADING A NATURE FIELD TRIP

1. Why have a field trip?

- a. To promote love of God through nature.
- b. To experience the sights and sounds of nature.
- c. To gain a deeper respect for living things and learn to care for the outdoors.
- d. To develop lifelong outdoor interests, and a wholesome use of leisure time.

2. Before the trip.

Know the area and route thoroughly. Inquire about tourist and other detailed information.

3. Conducting the trip.

- a. Begin on time.
- b. Start off briskly.
- c. Stop where there is something to see.
- d. Make sure everyone sees what you are looking at.
- e. Encourage participation.
- f. Help improve powers of observation.
- g. Be alert.
- h. Be enthusiastic.
- i. Keep the group together.
- j. Treat stops like episodes in a serial story.
- k. Make use of quiet periods.

4. After the trip.

- a. Show slides or videos taken on trip.
- b. Use films on topics suggested by the trip.
- c. Get reports from various individuals on points of interest seen on trip.

DISCOVERY

All nature study should be an adventure - and there should always be in it the **thrill of discovery**. One never forgets the thrill of that first glimpse into a new realm of created things.

A good leader will be on the lookout for high points in the lives of small creatures, and will inspire those with him to share the same spirit of expectancy. On one hike many of these things could be discovered by sharp eyes:

Ants fostering aphids.
An insect caught in a spider web.
Swallows collecting mud for their nests.
Courtship antics of birds.
"Hibernating" ladybird beetles.
Cast-off skins of cicadas, snakes, or lizards.
Hermit crabs too big for their shells.

No two nature walks could ever be the same, for Nature does not announce plans nor arrange schedules at our command. Ideally, the leader of the "expedition" should be armed with as wide an array of information as possible covering all things - from seaweeds to insects. But a willing heart and an enthusiastic, active mind can cover a multitude of omissions in specific knowledge, and leaders and Pathfinders can discover and learn together. Do not be content in merely finding - follow it, as Professor H.W. Clark has said, "from the cradle to the grave." Find out something of the life history of the animal, how it lives, and how it is suited to its environment. A wealth of information is now available on all phases of natural history.

DEVELOPING THE SENSES

One way to develop the thrill of discovery is to practise appreciating nature with the five senses. Just as reverence is needed in a church service, and careful discipline is needed in a class recitation, so also the proper mental, physical and spiritual discipline must be brought about to appreciate nature through the senses.

Go on walks varying in length from a half hour to two hours, and on each walk concentrate on developing only one sense. Later concentrate upon all the senses combined, but only after dealing with each one at a time. The following guidelines will be helpful in developing the senses:

1. Tune out all cluttering thoughts and tune in on nature.
2. Give every sense full play by concentrating on each one.
3. See nature through the eyes and ears of an artist, poet and musician.

Seeing. (Walk slowly, pause, look.) Reflections in water, sun and shadow play among trees, dew-covered spider webs, moonlight, starlight, rugged landscapes, rolling landscapes, various types of vegetation and the varied effects they bring to the landscapes, gardens on top of old stumps, lichens hanging from trees, personality of various tree species, and various trees under different growing conditions (windswept pine, for example) etc.

Hearing. (Don't talk-just walk, pause, listen.) Rain falling on leaves and ground, sounds of running water, waterfalls, wind in varied moods, bird calls and songs, crackle of a campfire - use various types of wood, also needles and scales from evergreen trees etc.

Tasting. (Just nibble and taste, don't swallow. Beware of skin irritants such as stinging nettle.) Berries of various kinds (even poison berries simply tasted lightly and not swallowed will do no harm), tree buds of various kinds, plant stems, various barks, leaves of the eucalyptus family. Climax by brewing fir needles or mint tea over a campfire.

Smelling. Various members of the eucalyptus family, wild ginger, wild sage, pitch blisters on bark, crushed evergreen needles and scales, crushed buds of various trees, smoke from various types of wood (birch, cedar etc.), smoke from various types of evergreen leaves and scales. Climax by smelling various kinds of teas brewed from eucalyptus, evergreen needles etc.

Touching. (Again watch out for skin-irritating plants such as poison ivy and nettles.) Moss, leaves of various degrees of roughness or smoothness rubbed against the face or lips, rough bark, smooth bark, slimy plants, wind, rain, snow, sun.

Inner feeling. (This above all requires complete self-discipline for best results.) Silence in spots of beauty, complete rest on carpet of moss, quiet meditation and silent prayer, complete and reverent alertness of every sense, singing softly along the trail, reading with deep feeling appropriate poetry or prose etc. A wonderful climax to such an experience is to have each Pathfinder go off alone and sit down in complete silence for ten minutes.

The leader should be constantly watching for object lessons. State the key thought, and the intelligent minds of the Pathfinders will make the application.

Even mud puddles reflect heaven.
All living branches seek for light.
Plants are most fragrant when crushed.
Great trees have small beginnings.

When you are tempted to say that there is no time to follow such a plan as just outlined, remember that the Master Teacher followed just such a plan with Himself and with His students. He is our example.

NATURE GAMES

Most Pathfinders like to play games. The wise nature leader will use this desire to cultivate an interest in nature. For the nature leader with a creative mind there are many different games that can be developed. The Pathfinder club nature leader will have many possibilities on the Sabbath to present much to the club members about nature. Many nature games are either suitable for Sabbath or can easily be adapted to a Sabbath setting.

ALPHABET NATURE TREASURE HUNT

Each unit reports on objects found and observed according to the letters of the alphabet. For instance: A - ant; B - bee; C - crow.

BIBLE NATURE HUNT

Equipment: Bible with concordance, pencil and sheet of paper.

Procedure: Using Bible and concordance each student tries to find as many nature objects mentioned by name in the Bible as possible. Lists of the different groups such as trees, stones, animals, birds, stars etc. should be kept. The name of the item should be written down with the text beside it. Later, during an afternoon nature walk these lists can be used as a checklist to see how many objects mentioned in the Bible can be located.

BIBLE SCENES

Divide group into smaller groups of six to ten. Each group is given a piece of heavy cardboard about 30 x 38 cm, and a length of aluminium foil. Groups are then instructed to depict a Bible scene using the cardboard as base, the aluminium foil for lakes or rivers and items in nature such as moss, ferns, flowers, rocks, bark etc. For example, the Bible scene portraying Israel's encampment by the water issuing from the smitten rock was used on one occasion. A layer of sand covered the cardboard. A pile of rocks filled one corner. From under one rock near the top of the pile issued the strip of crumpled aluminium foil to descend in a widening stream and cross diagonally to the opposite corner. Three or four small thistle tops served as cacti in the wilderness, and a few dead twigs to decorate the rock pile and sandy banks. Two live twigs along the bank brightened the desert scene. On the opposite bank, tents 3 cm long, made from dead tree leaves, were standing in rows. Stick people had come to the water and farther downstream tiny, white, round pebbles represented the sheep drinking from the stream.

BRING-'EM-BACK-ALIVE SAFARI

A trip during which the Pathfinders look for, find, and collect single specimens of small, living things, such as beetles, ants, worms, insects, caterpillars, and the like. Back at camp these are looked at carefully (using a magnifying glass if possible), looked up, studied and identified. If frogs, toads and turtles are included, suitable living quarters should be provided and the specimens kept only for a day or two. Respect for the lives of small things should be a part of any learning activity.

BIBLE TREASURE HUNT

(Maximum time-one hour) First, look up all references (King James Version) and write the name of the article you are to find directly opposite the reference. When you have completed the list of articles, start to look for them, but be back within the allotted time. The person or team to find the most articles before or in the time specified is the winner.

(Whenever the references are in the plural, it is necessary to find only one of a kind. Where several articles are mentioned in a verse and you are to find only one of them, the initial of the article wanted is shown. If two articles are to be found, this is indicated.)

Psalm 103:5	E_____	Psalm 78:46	C_____
Job 39:26	H_____	Psalm 105:30	F_____
Deuteronomy 14:18	H_____	Job 8:11	F_____
Deuteronomy 14:15	N_____	Isaiah 50:9	M_____
1 Kings 4:23	D_____	Proverbs 30:28	S_____
Isaiah 2:20	M_____	Isaiah 2:13	O_____
Leviticus 11:22	B_____	Psalm 91:4	F_____
Isaiah 35:1	R_____	Matthew 7:26	S_____
Job 2:8	A_____	Job 40:22	W_____
Isaiah 34:11	S_____	Job 8:14	S_____
Proverbs 11:28	B_____	Isaiah 55:10	S_____
Hosea 8:7	B_____	Amos 8:1	F_____
Proverbs 6:6	A_____	Psalm 90:5	G_____
Micah 7:17	W_____	Ecclesiastes 12:5	G_____
Psalm 84:3	S_____ and		S_____
Psalm 118:12	B_____ and		T_____
Isaiah 60:13	P_____ and		F_____
Hosea 4:13	P_____ and		E_____
Song of Solomon 2:12	F_____ and		T_____

CREATION WEEK

This game is played by dividing the players into six groups, each group representing one of the days of Creation. At a given signal the groups go out and collect items that were created on the day they are representing. At a given time the groups all return, and beginning with the group representing the first day of Creation each group shows its samples, telling as much as possible about them and how they fit into the week of Creation. For such days as the fourth day of Creation, where one cannot bring the sun, moon and stars, the group will have to bring in some of the things that are affected by the sun, moon and stars; for instance, the sun is responsible for green grass. So that everyone has a part in the game, it is better if everyone in the group has a chance to speak and not one spokesman only.

"GEOLOGICAL SURVEY"

Pathfinders may enjoy studying a geological survey map of an area. Choose a course, follow a trail, and mark it on the map as you go along. On the map mark places of interest; mineral deposits, flower fields, small ponds or marshy areas where frogs, toads and tadpoles in various stages of development may be found. A pool is a nature explorer's paradise. Here you may find, in addition to amphibians, nymphs of dragon flies with huge trap door jaws, thread-like worms, water spiders and snails attached to submerged water plants, large predatory water beetles, water boatmen, little back-swimmers, mosquito larvae; and above are the gauze-winged dragon flies that had their birth in the pond below.

HELEN KELLER

Tell the story of Helen Keller, who lacked two of the five senses, yet overcame all handicaps and lived a happy, useful, inspirational life.

Blindfold and plug the ears of a Pathfinder, then let the Pathfinder try to identify common natural objects. Blindfold the Pathfinders and divide them into two groups. By touch ask them to classify objects as mineral, plant, animal, and then ask them to identify the objects exactly. Flowers, seeds, rocks, shells, leaves may also be used. Lead a blindfolded person to a tree, and let them identify it by texture of the bark, leaves, seeds, twigs, buds, odour, taste etc.

Finish the exercise by identifying and analysing the uses and beauty of objects when we have full use of our faculties. We appreciate our senses if we are deprived of them even for a short time.

MATCHING GAME

To play this game the leader must first go out into the game area and collect specimens such as: leaves, branches, flowers, seeds etc. With these specimens hidden from view of the players (a paper bag is good for this purpose), the game is ready to begin. To play the game, take one of the items and show it to the group, then ask them to match it to the plant, tree, shrub etc. that it came from. The first one to match it is given one point. Repeat this by showing the second item and having them match it also. This is continued until all the items have been matched. The player or team with the most points is the winner.

NATURE HIKES

1. **Disaster.** Look for an object struck by lightning, a rock split by a tree, fire damage, partly eaten leaf, bird or plant life damaged by hikers or campers. There are many other possibilities.
2. **Discarded Objects.** Find skins shed by snakes or insects, bird feathers, or fallen leaves.
3. **First One Up.** The group on the trail is stopped at convenient places where the leader directs their attention to some nature object. Then the Pathfinder in the front of the line is asked a question. If the answer is known the Pathfinder may stay up the front, but if not known goes to the back of the line. The group should not number more than fifteen.
4. **Pitfalls.** Find spider webs, ant traps, flytraps etc.
5. **Sight and Sound.** How many colours can your group find? How many separate distinct sounds, such as a cricket, frog, bird, wind, can they hear?
6. **Signs of the Seasons.** Look for signs of the season, such as changes in plants and animals, migration.
7. **Ten Stones.** Each Pathfinder is given ten stones. As the group hikes along, the leader points out an object and asks a question regarding it. Each one who knows the correct answer may discard one stone. The winners are those who are the first to discard all their stones. This can also provide opportunity to teach honesty, for each must judge whether the correct answer is actually in mind.
8. **Transportation.** Discover how plants and animals get around. In addition to walking, crawling, flying, some ride in the wind or on "host animals."

NATURE HUNTING

Participants may number fifteen to sixty. Make a map of the hunting area and designate several points about equally distant from each other. Arrange the participants into groups of four or five and send each group on a hunting trip to a definite point. Fifteen or twenty minutes may be allowed for the trip and return. When the groups have returned, call for reports on what was seen. The report may become very interesting when the groups report in detail on the various objects discovered on the hunting trip. The leader should be one who is familiar with the interesting objects in the area. It may become necessary for him to explain some of the unusual things seen.

NATURE MEMORY GAME

For this activity a table or a board of about one square metre is prepared beforehand by the leader, who places on it some fifteen to twenty common nature items. These are covered with a cloth and left until the time for the activity. The group is divided by individuals, partners, or small groups of three to five. They are all arranged so that they may have convenient sight of the table or board and are provided with pencil and paper. At a signal they are all silenced and then the cloth is taken off the table or board for exactly thirty seconds. During this time they must not write, talk or do anything except silently observe. At the close of the thirty seconds the cloth is replaced and they are given five minutes to make a list of the names of the nature articles that were on the table or board. If this activity is engaged in by small groups or partners, then they should be scattered so that they do not interfere with the other groups in compiling their list. Unless the group is unusually skilled, general names should be accepted such as pine cone rather than cone from the sugar pine etc. Or, each unit is challenged to display a tray that has the same objects on it as the first one. The unit goes out and finds all the nature objects that they remember seeing.

PROGRESSIVE HIKE

A hike is taken with periodic stopping places for group activities suitable for the Sabbath hours. A typical progressive hike is as follows:

Stop 1. Bible Twenty Questions. The Pathfinder who is "it" states that he or she is thinking of something in the Bible that is in the animal, vegetable, or mineral kingdom. The other Pathfinders have twenty questions to guess the object. If they do not guess within twenty questions the person who was it starts another game. Questions must be answered with "yes" or "no".

Stop 2. Sand Pictures. Divide the group into twos or more and have each small group build a sand picture. Each group will pick out an area on the ground or in some sandy place. The Pathfinders search about the area finding natural objects with which to build a little Chinese garden, model park or illustrate a Bible story. They could use dry flowers and weeds, bits of bark, rocks, sticks, mud, reeds, pods, insect galls, bird feathers etc. As they collect and handle the various nature objects, they become curious as to what certain things are.

Stop 3. Stories. A nature or some outdoor story can be told while the children are resting on a hill side.

Stop 4. Guess My Name. First, the leader will state what he is, as "I am a bird," or "I am a mammal," or "I am a tree" etc. He will then give clue #7 in the game and if no one can give the answer, he will go to the next clue. He continues until someone gives the correct answer. The clue number is given as a score to the person who answers correctly.

Example: "I am a bird".

7. I undertake long journeys at night to escape the winter.
6. I am smaller than a sparrow.
5. Insects, seeds, nectar and fruit I eagerly seek.
4. I have a brush-tipped tongue for feeding on nectar.
3. I am found in both Australia and New Zealand.
2. I am olive green with a white front.
1. I have a distinctive white ring around my eyes.

- I AM A SILVEREYE!

SABBATH SONG NATURE HIKE

1. Divide the group into two to four sections, depending on number participating.
2. Have each section appoint a leader and a scribe.
3. Designate the length of time to be taken for hike.
4. Upon a signal each group then takes a leisurely stroll leading out in various directions from the starting point.
5. On this hike all the members of the section are to look about them for nature items that remind them of a hymn or chorus. The scribe jots it down. (Nature item and hymn or chorus.) No song books are to be taken along!
6. Upon returning to starting point at agreed time, see which group listed the most hymns and choruses properly supported by a nature item.
7. Now have a good "sing-a-long" using the songs listed. Each section has an opportunity in rotation to name the song to be sung.

Variation 1. Have a song leader and a naturalist go over the route of the hike some time in advance of the group picking out songs suggested by nature items observed. On the hike itself the naturalist and the song leader point out the nature items and sing the song suggested by it.

Variation 2. At the conclusion of the hike compare listing of the Bible texts and the objects in nature that brought the text to mind. Before starting this hike, be certain the sections have agreed on whether Bibles are to be used or not.

SECRET NUMBERS

This is one of the favourite nature games. The nature leader lays out a trail in advance with as many stations as desired. Simple objects should be used for the beginners to make it easier for them to follow the game. A secret number will be determined at each station. At the end of the game the nature leader gives the total of the secret numbers. Those who have the correct answers from each station should end up with the same total. It is good to recount the various stations with the group, and perhaps an opportunity can then be taken to instruct them regarding some of the objects they saw on the trail. The following are suggested directions:

- a. Trail begins here. This tree is a white pine. The secret number is the most common number of needles in each bundle on this tree. The next note will be found at the base of the largest tree you can see to the south of this point.
- b. Each ring on a stump indicates one year of growth. If this tree was more than fifty years old when cut, the number is twenty. If the tree was less than fifty years old when cut, the secret number is ten. Continue along the trail and look for the next note in the first drainage pipe under the trail.

Variation. A trained instructor should go out first and blaze the trail, marking the various types of nature objects along the way. At each station there should be a question that gives certain points for the correct answer. For instance, if this is a black pine, add seven; if this is a white pine, add four. Another example: if this is a wren nest, subtract four; if this is an eagle nest, subtract two. At the end of the trail the mathematical total based on correct answers will be the secret number in the possession of the instructor.

SECRET NUMBERS COMPASS HIKE

1. You may make as many trails as you like, all starting from some common central point so that the leader can give instructions to each group as it starts one of the new trails. The groups can rotate in doing all of the trails.
2. Plot the hike and plan nature quiz questions well in advance of the hike.
3. When setting up the compass trail, where possible spot specific objects in the distance on which a compass reading can be made as a guide toward the designated spot.
4. Make directions brief and clear on each "guide" card to the next "guide" card.
5. When the group arrives at each "nature quiz" spot and finds the card, it answers the number evaluation questions. Someone designated as scribe should note the number evaluation questions. Another designated as group leader then reads the directions at the bottom of the card stating how to get the next nature quiz question card; and so on until the last one is reached, answered, and directions given to return to the starting point.
6. Sample set of card clues:

Trail A Beginning

35° NE	20 paces
124° SE	15 paces
98° ESE	3 paces

Trail A #1

If this tree is a grey gum, give yourself 6 points

If it is a scribble gum - 4 points.

335° NNW	46 paces
5° NNE	12 paces

Trail A #2

If the shell in this bottle is a keyhole limpet - 3 points

If a slipper limpet - 4 points.

168° SSE	80 paces
230° SW	11 paces
270° W	5 paces

Trail A #3

This plant blooms once a year - 8 points

It blooms more frequently - 4 points

Return to starting point for further instructions.

You will note that the first portion of the card has the nature quiz while the last portion gives the directions to the next spot. You can make as many spots on the trail with quiz questions as you desire. Be certain that the last card on a trail gives the group instructions to return to the starting point.

Instruct each group to replace the cards in the exact spot they found them in if another group is to take the trail later. Designate the cards on each trail as "Trail A," "Trail B" etc. Instruct the last group taking a trail to bring the cards in with them.

When all groups have completed the trails, gather the groups together and have a general discussion of the points brought out. This type of hike can be done anywhere. If the spot lacks enough natural items, various nature items can be "planted," as articles in a bottle, wrong flowers, or leaves on a tree or bush etc.

STAKE A CLAIM

For this activity each unit or class picks a spot in the immediate vicinity and "stakes a claim" of an agreed-upon size. The size of the claim should depend somewhat upon the size of the group, with small groups of five or six staking claims about five square metres; larger groups staking claims up to fifteen square metres; such a large claim would require much work in completely surveying the nature items contained in it.

The first item of business in staking a claim is to properly mark its four corners so that it can be identified by other groups later. Begin gathering and naming all available nature items. The leader should permit the Pathfinders to do this. There should be a secretary of the group appointed, whose job it is to list and keep samples of each item that is found and named. This list should be divided into such sections as trees, plants, insects, signs left by passing animals, odd or curious items etc.

After at least half an hour the groups should meet again and bring with them their list and specimens. A naturalist should be available to identify unknown objects and to draw lessons from the items found.

The groups can also exchange claims and lists, locate another group's claim by the directions given and check the list presented to see if those items listed are there.

TRAILING

One person from the group takes a watch and goes off alone, making no effort to walk carefully, for about fifteen minutes, then sits down and waits to be found. After waiting the full fifteen minutes, the rest of the group then tries to trail the "lost" member by footprints, broken twigs, scuffed leaves, and other clues. The first person to find the "lost" member sets the next trail.

TREASURE HUNTS

1. **Envelope Hike.** Pathfinders are given envelopes at the beginning of the hike, with a list of twenty articles to bring back. If there are few hikers, each should have a list, differing as much as possible. If the group is large, several can work on one list. Suggested items:

- a. Gum nuts from three different kinds of eucalypts.
- b. Seeds that depend on wind for dispersal.
- c. Seeds that depend on "hitchhiking" for their dispersal.
- d. Lichens.
- e. Three different members of the sunflower family.
- f. A sedge or a rush.
- g. Three kinds of grass.
- h. An igneous rock (formed by great heat and pressure) and/or a sedimentary rock (formed by laying down of sediment during and after the Flood).
- i. A plant used for seasoning.
- j. A plant having square stems.
- k. A plant used for food or medicine.
- l. A plant showing specific adaptation to a certain environment.
- m. Two plants that reproduce by spores instead of seeds.

2. **Nature Treasure Hunt.** This game can prove both interesting and informative. A list of specific leaves, insects and other nature objects is presented to individuals, or small groups if there is a large club. Those participating are to go out into the field and find the objects listed. There may be some items to be collected, some to be heard, and some to be observed. A point system may be worked out, giving more points for objects more difficult to find. This game can often consume two to four hours. A sample list follows:

To be collected:

- | | |
|-------------------------|------------------------------|
| fish | wasp's nest (paper or mud) |
| three kinds of leaves | snake or snake skin |
| lichen | aromatic herb |
| birch bark | Bible parable plant |
| spider web | leaves of two kinds of trees |
| fungus | goldenrod |
| cricket | triangular-stem plant |
| round-hollow stem plant | beetle |
| edible wild fruit | |

To be observed:

- | | |
|---------------------|--------------|
| insect burrow | animal track |
| bird track | possum |
| rabbit | bird nest |
| kangaroo | peewee |
| lizard | dragonfly |
| two kinds of clouds | hawk |
| honeybee | |

3. Nature Treasure Hunt.

Check each item when you have found it.

- ___1. Note a Bible parable plant. Name it. _____
- ___2. Find a fungus of any kind. Give its colour, location, and shape.

- ___3. Find a plant with a hollow stem and give the name if you can.

- ___4. If there are clouds in the sky, identify them. _____
- ___5. Identify 5 birds. 1. _____ 2. _____ 3. _____ 4. _____
5. _____
- ___6. Name one wild flower you have found. _____
- ___7. Note a wild flower with perfume. _____
- ___8. Find a seed with hooks or barbs and name it. _____
- ___9. Locate one kind of fern. Name if you can. _____
- ___10. Note 3 butterflies. Give colour or names. 1. _____ 2. _____
3. _____
- ___11. Note a leaf that is very smooth and sleek on both sides. Name the tree.

- ___12. Find a spider web with insect victims.
- ___13. Locate some moss. On which side of the object is it?

- ___14. Note a beetle. Give colour _____ and behaviour _____
- ___15. Observe a possum. What is he doing? _____
- ___16. Find a quartz stone. Colour _____
- ___17. Note a caterpillar.
- ___18. Locate a bird's nest. What kind of bird? _____
- ___19. Observe a rabbit.
- ___20. Find a feather. What kind of bird? _____
- ___21. Stop and listen. Identify 2 bird calls. _____
- ___22. Observe a snail or land shell.
- ___23. Observe water skippers or any water bug. Name if you can _____
- ___24. Observe a frog or toad.
- ___25. Locate a bird's nest built on the ground.
- ___26. Observe a wild animal or bird tracks.
- ___27. Observe a wild herb that is edible. Name _____
- ___28. Name the state/national flower. _____
- ___29. Observe any kind of gull. Name if you can. _____
- ___30. Observe the sky - any object soaring? Name it. _____
- ___31. Name the mammal that flies like a bird. _____
- ___32. What bird does your unit name as our national bird? _____
- ___33. Does a bee die after it stings? _____
- ___34. What do possums do with their food? _____
- ___35. Observe a rodent.
- ___36. Locate a cocoon.
- ___37. Observe a honeybee or bumblebee.

- ___38. Observe ants at work. Name one lesson learned from them.

- ___39. Observe a fish or minnow.
- ___40. Observe a snake.
- ___41. If there are two classes of trees in the park, answer "yes," if not, answer "no."

- ___42. Name one constellation that can always be observed in the sky if not cloudy. _

- ___43. Name the largest mammal observed. _____ Smallest mammal observed.

- ___44. Observe one object in nature and give the spiritual lesson to be learned from it.
Object _____ Lesson _____

TREE TAG

Four to twenty may play. One person is "it." A certain kind of tree is designated as "safe" and participants cannot be tagged when touching it. To make the game more interesting, the leader may from time to time change the tree that is "safe." In this way Pathfinders learn to identify the trees rapidly.

WHO AM I?

Ten or more may participate in this game. Pin a picture of an animal or plant on the back of each participant without them knowing what the picture is. By asking other people questions, participants attempt to identify themselves. The game may also be played with partners, half of the picture being pinned on each partner. In this case a player must not only find out what they are, but also find their partner.

QUIZZES

ASSOCIATION

Identify the person or incident associated with each of the following:

1. A crown of thorns. (Matt. 27:29)
2. A rooster. (Matt. 26:74)
3. A bush not burned. (Gen. 3:2)
4. A dog licking blood in the street. (1 Kings 21:19)
5. Locust and wild honey. (Matt. 3:4)
6. A raven and a dove. (Gen. 8:6-10)
7. A firebrand between two tails. (Judges 15:4,5)
8. A fleece wet with dew. (Judges 6:37)
9. A beast rising from the sea. (Rev. 13:1)
10. A colt tied. (Matt. 21:2)
11. Bees and honey in a dead lion. (Judges 14:8)
12. A worm-eaten gourd. (Jonah 4:7)

BIBLE NATURE TREASURE HUNT

On a rainy day this plan may be followed for an indoor nature treasure hunt. List the names of trees found in the Bible. Or the leader may have done some research and have a printed sheet headed "Plants in the Bible."

The references may be omitted on the printed sheet, which will send the Pathfinders to the Bible or concordance to find the word that fits in the blank space.

1. "Purge me with _____, and I shall be clean: wash me, and I shall be whiter than snow." (Ps. 51:7)
2. Moses' mother hid him in the _____ to save his life. (Ex. 2:3)
3. Zacchaeus climbed a _____ tree in order to see Jesus. (Luke 19:4)
4. "Consider the _____ of the field, how they grow; they toil not, neither do they spin." (Matt. 4:28)
5. Deborah was buried under an _____ tree. (Gen. 35:8)
6. The prodigal wanted to eat _____ in the far country. (Luke 15:16)
7. The disciples plucked ears of _____ on the Sabbath. (Matt. 12:1)
8. The Lord said that faith as a grain of _____ seed could accomplish miracles. (Luke 17:6)
9. Christ cursed a _____ tree because it had no fruit. (Matt. 21:19)
10. A _____ served as a shelter to Jonah at Nineveh. (Jonah 4:6)
11. A crown of _____ was placed on Jesus' head before His crucifixion. (Mark 15:17)
12. "I am the _____, ye are the _____." (John 15:5)
13. The multitudes spread _____ branches in the way when Jesus rode into Jerusalem. (Matt. 21:8; John 12:13)
14. Grapes, figs, and _____ were brought back from the land of Canaan by the spies. (Num. 13:23)
15. "I am the _____ of Sharon, and the _____ of the valleys." (S. of Sol. 2:1)

BIBLICAL ZOO

In the following quotations from the Bible, names of animal life have been omitted. Can you supply the right ones? Score five for each correct answer. 75 is fair; 90 or above, excellent.

1. "Let a _____ robbed of her whelps meet a man, rather than a fool in his folly." (Prov. 17:12)
2. "A living dog is better than a dead _____." (Eccl. 9:4)
3. "Beware of false prophets, which come to you in sheep's clothing, but inwardly are ravening _____." (Matt. 7:15)
4. "The _____ have holes, and the birds of the air have nests." (Matt. 8:20)
5. "And she came to Jerusalem with a very great train, with _____ that bare spices, and very much gold, and precious stones. (I Kings 10:2)
6. "Asahel was as light of foot as a wild _____." (2 Sam. 2:18)
7. "Once in three years came the navy of Tarshish, bringing gold, and silver, ivory, and _____ and peacocks." (1 Kings 10:22)
8. "The high hills are a refuge for the wild _____." (Ps. 104:18)
9. "The _____ are but a feeble flock, yet make they their houses in the rocks." (Prov. 30:26)
10. "The _____ shall lie down with the kid." (Isa. 11:6)
11. "And the sucking child shall play on the hole of the _____." (Isa. 11:8)
12. "And when Paul had gathered a bundle of sticks, and laid them on the fire, there came a _____ out of the heat, and fastened on his hand." (Acts 28:3)
13. "Barley also and straw for the horses and _____ brought they unto the place where the officers were, every man according to his charge." (1 Kings 4:28)
14. "As for the _____, the fir trees are her house." (Ps. 104:17)
15. "There shall the great _____ make her nest, and lay, and hatch, and gather under her shadow." (Isa. 34:15)
16. "There shall the _____ also be gathered, every one with her mate." (Isa. 34:15)
17. "I am like a _____ of the wilderness." (Ps. 102:6)
18. "Gavest thou the goodly wings unto the _____?" (Job 39:13)
19. "At the last it biteth like a serpent, and stingeth like an _____." (Prov. 23:32)
20. "And the _____ brought him bread and flesh in the morning, and bread and flesh in the evening; and he drank of the brook." (1 Kings 17:6)

NAMES OF JESUS

1. "I am the _____ of _____ and the _____ of the valleys." (S. of Sol. 2:1)
2. "The next day John seeth Jesus coming unto him, and saith, Behold the _____ of _____, which taketh away the sin of the world." (John 1:29)
3. "One of the elders saith unto me, Weep not: behold, the _____ of the tribe of Judah, . . . hath prevailed to open the book." (Rev. 5:5)
4. "I am the _____, ye are the branches." (John 15:5)
5. "There shall come forth a _____ out of the stem of Jesse, and a _____ shall grow out of his roots." (Isa. 11:1)
6. "In that day there shall be a _____ of Jesse, which shall stand for an ensign of the people." (Isa. 11:10)
7. "I am the _____ and the offspring of David." (Rev. 22:16)
8. "I am . . . the bright and _____." (Rev. 22:16)
9. "For the Lord God is a _____ and a shield." (Ps. 84:11)

PROJECTS AND CRAFTS

Many Pathfinders have a fear of snakes, spiders and other interesting natural life. It is important to introduce the Pathfinders to something in nature that they are already familiar with and have accepted as fun. Activities in which Pathfinders can make objects with their hands will often be a good way to spark a lasting interest in nature.

While on a hike, driving along through a woodland, or touring a desert the alert nature leader will spot things that will capture the imagination of a group of Pathfinders. Looking for "pine puzzles" (pieces of bark that fall at the base of the tree) will often open a new world to the beginner. Dried twigs, seed pods, or branches of autumn leaves make beautiful table arrangements, and thus Pathfinders discover that nature is filled with interest and beauty, that it opens a new horizon for budding imagination. (The instructor might have materials for demonstration.)

Nature crafts afford golden opportunities for the adult leader to use creative ability and to encourage the Pathfinders to express what they feel and think as they use natural materials.

BIRD CALLERS

Bird callers are amazing things - and they work! Each Pathfinder can make their own. Each caller requires a piece of hard wood, about 5 cm long and 2.5 cm wide. A piece of hammer handle will do. Buy a screw-eye. Drill a hole in one end of the wood slightly smaller than the threads of the screw-eye. Turn the screw-eye into the wood, take it out, and put some powdered resin in the hole.

When the screw-eye is turned back and forth it will make a squeaky sound that attracts birds. (They won't come to the owner, but they'll come nearer, particularly in the spring and early summer when they're raising their young.)

CASTING ANIMAL TRACKS

A good way to interest Pathfinders in mammals is to take them on a trip to cast animal tracks. 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 form. Mix a sufficient amount of plaster and pour into the form. Allow the plaster to harden for several hours. When the plaster is taken from the form the Pathfinder has a perfect reproduction of the animal's track.

CLAY POTTERY

Most Pathfinders still like to get their hands into mud. Encourage them to gather some of the grey clay from the bank of a stream and fashion it into a clay plate, vase or animal. With sticks and twigs they might even put a design on this "masterpiece."

LEAF PRINTING

Roll a piece of clay (or plaster) out flat with a rolling pin. Place a leaf on the clay with the veins down. Press the leaf into the clay with the rolling pin, then carefully lift the leaf off.

The clay can then be cut into the desired shape and size. A paper clip can be placed in the back of the clay and the leaf hung as a wall plaque.

A leaf print can also be made by placing the leaf on a piece of art paper. With a toothbrush, wire screen and ink, a print of interest and beauty can be produced. Dip the toothbrush into the ink and rub on the screen, which is held over the leaf lying on the paper. The ink will spray onto the leaf and paper; when the leaf is removed the print of the leaf is left on the paper.

MUSHROOM PICTURE

When on a walk through the damp forest collect some mature mushrooms. Depending on the colour of the mushroom, cut the stems off and place the mushrooms, gills down, on either black or white paper. Place a tin can over the mushrooms for 10-20 minutes. The mushrooms will drop their spores during this time. Remove the can carefully, take the mushrooms off the paper, and observe the spore pattern. This can be permanently preserved by spraying with a clear plastic.

PLASTER MOUNTS

Make a cardboard form 2.5 cm deep. Into this pour mixed plaster of Paris and carefully press in shells, rocks, minerals, or other items you may wish to mount. If the mounts are kept the same size, the collection will be much more striking and easier to store or exhibit.

PICTURE FRAME, PAPERWEIGHT, OR NAMEPLATE

From a tree limb about 7 cm in diameter saw slabs 1 cm thick by cutting directly across the limb, or at a severe angle. Sand these slabs, then varnish them to bring out the beauty of the grain. Upon these the Pathfinder can glue pictures or, before varnishing, can burn names or designs into the wood. They can be hung on the wall or placed on a base.

SAND PAINTING

While on a walk along the shore or beach suggest to the Pathfinders that they do some sand painting. They might take a stick and sketch a simple design in the sand. Others might develop more complicated and beautiful drawings, using different coloured sand and stones. A supply of pieces of sandpaper can also be taken on a hike. Suggest that the Pathfinders find stones or pebbles from the stream with which they can scratch a scene on the sandpaper. Various coloured pieces of sandstone can add colour and interest to the project.

SPIDER WEB PRINT

Take the Pathfinders on an early morning walk. Take along some white flour and a few sheets of black construction paper. With the web still wet with dew, sprinkle a bit of the white flour on it. Then place the black paper under it and detach the web. The print can become permanent if the web and paper are sprayed with clear plastic.

LIVING STONES

Collect stones from a river and glue them together. Then paint them to represent rock choir, rock garden etc.

NATURE COLLAGES

Make pictures from different things of nature. Glue them on cardboard and spray with clear plastic.

SEED PICTURES

Collect different seeds and make pictures on cardboard. Spray with clear plastic.

NATURE HANGERS

Use natural things, e.g. leaves, seeds, shells and arrange them hanging from a coat hanger.

BARK PICTURES

Using different coloured barks to create pictures, glue them to cardboard.

COLLECTIONS AND DISPLAYS

CLUB NATURE DISPLAY

Most Pathfinders have a natural desire to collect things. A display can become a tool to interest Pathfinders in different nature subjects. It becomes a showplace for others to see what the Pathfinders are learning about nature.

The size of the display and the ambition of the nature instructor govern the types of exhibits that can be included.

1. **Pictures.** Have a large bulletin board on which you can put nature sketches, paintings and photographs, as well as clippings from newspapers and magazines. Develop nature maps of the surrounding area, showing location of important trees, animals' homes, bird nests and so on. Develop any talent for drawing or painting that you may discover among the Pathfinders.
2. **Non-live Exhibits.** Bird houses, bird nests, mounted feathers, contents of pellets, plaster casts of animal tracts, animal-gnawed things, snake skins, preserved snakes, shells, insect collections, fungi collections, spore prints, pressed flowers, leaf prints, wood samples, twig and seed collections, pressed ferns, algae collection, moss collection, lichen collection.
3. **Video and Cassette Players.** Have available records of bird songs and the call of frogs and toads, and nature videos.
4. **Bookshelf.** Field books for identification, reference books, nature magazines.
6. **"What Is It?" Shelf.** On a small shelf, have an exhibit of an unidentified object, preferably an object found in the area where the club is located. Or place on it some special items to be brought to the Pathfinders' attention.
7. **Electrified Chart.** In its simplest form, this consists of a large chart with a number of unnamed pictures of animals, birds, or plants. The names appear in a special panel at the bottom or on the side of the chart. At each picture and at each name is a metal knob. Attached to the chart on long wires are two brass rods. When one rod is touched to the knob under a picture and the other to the correct, corresponding name, a bulb lights up or a buzzer sounds.

The chart itself may be made of plywood, wall board or heavy cardboard if protected from the weather. The knobs can be brass paper fasteners. On the back of the chart, the prongs of the fasteners are connected in pairs - picture and name - with bell wires. The wires from the two rods run to a number of doorbell batteries or torch batteries, and to the buzzer or a torch bulb.

ANT HOUSE

An ant house can be made out of a shallow wooden box about 30 cm x 35 cm x 7 cm, with two rooms 10 cm x 10 cm, in the centre of the box, approximately half a centimetre deep and with one external opening. Two pieces of glass should be provided, one to cover the entire box and one to cover the two rooms. The glass covering the rooms should be glued in place. The glass covering the box should be ant-tight and kept in place with adhesive tape, which may be removed when necessary. A piece of cardboard or three-ply wood the size of the rooms should be prepared. It should be attached to a 1 cm piece of dowel wood about 30 cm long. The dowel should fit freely into a hole drilled in the side of the box. Through the use of this device the cardboard may be kept on the rooms except when you wish to observe the ants, when the cardboard may be removed by pulling the dowel without opening the ant house. Ants will perform normal nest functions only in the dark. It is said, however, that orange or red glass will give the same effect as darkness.

Several openings on the sides of the box, covered with fine carburettor screen, should be provided for ventilation. A piece of sponge tacked in the corner of the ant house and kept moist will prevent the air from becoming too dry.

Bits of meat, sweets, banana, and other food should be placed in the box. Holes drilled in the box and fitted with plugs can be opened for the placing of food and water within the ant house, so that ants will not be lost in opening the lid.

Occupants for the house should be collected with a small amount of dirt and dumped into the tray outside the rooms. The covers, cardboard, and glass should be placed on at once. The ants will find the dark cells and carry the immature ants into them. Ground-nesting ants, larvae, pupae, eggs and a queen ant (if possible) should be collected. The dirt may be removed after the ants have set up housekeeping.

AQUARIUMS

Frogs, toads and other amphibians often require a damp habitat, such as a woodland marsh or pond. These animals may be successfully kept in an aquarium. Displays can be made from aquariums purchased at a pet store, or pieces of glass can be purchased and secured together. Care must be taken, however, that the joints do not leak. The use of a wood or metal frame with the glass mounted in putty is ideal. A large jar will also provide a good aquarium. In order to keep the aquarium damp, a piece of glass over the wire top will hold the moisture and provide the conditions needed.

Tadpoles, water beetles, dragonfly larvae, and many animals also make interesting exhibits in a nature display. These animals should have their habitat reproduced. This can be accomplished by taking water from the pond or lake along with the native plants growing in the water as well as on the surface and along the shores. The plants will help maintain the proper balance in the aquarium.

TERRARIUMS

Live animal displays are always of interest. These can also be built permanently into a nature display, or a less expensive way would be to use terrariums and aquariums on a shelf. Terrariums are usually made of wood with glass fronts. They can also be made of cardboard boxes with glass or plastic fronts. The tops should have wire or screen to keep the animals from getting out. A terrarium is used to reproduce the habitat of various amphibians. Each terrarium should re-create the actual habitat in which the animal lived. Include twigs, rocks, mosses, ferns, or cacti of the area from which the animal was taken. This will provide a more realistic touch. The terrarium should include some provision for water, and creating a natural-appearing water source is desirable. The use of blue paper and glass partially covered on the edges with sand can often be made into a realistic-appearing pond or lake.

DISPLAY CABINETS

Proper cabinets, drawers and boxes to display the items are essential. A study of the nature Honours may provide suggestions on collecting and displaying specimens.

Attractive drawers for display and compact arrangement of various nature specimens can be provided without a great deal of expense. A cabinet with glass-topped drawers is the ideal way to keep various collections. Shells, rocks and fossils can be kept in these drawers and displayed when desired without too much danger of having the display damaged by fingers of viewers.

OUTREACH

God has invited us to share the good news concerning His Son, Jesus Christ. The story of His life, death and resurrection and the news of His soon coming needs to be told. Pathfinders can play an important part in taking this gospel to the world.

The Pathfinder classwork curriculum includes a wide variety of Bible-based material, which will allow the Pathfinder to discover and develop an interest in things that pertain to God; His love, care, mercy and kindness. Special class activities have been designed to help them share this growing appreciation for their Saviour.

Make times available with the Pathfinder club executive committee and staff committee to plan outstanding witnessing programs for your club. Remember that witnessing should be a part of the Pathfinders lifestyle - not just a program!

A variety of witnessing programs in which the entire club can participate together may be available through the local church personal ministries committee. The following is provided as a list of suggestions.

COMMUNITY PROJECTS

1. Visit hospitals, handicapped or isolated children with toys, stories, parties, games, crafts, colouring and scrapbooks, Christmas or birthday gifts or flowers, magazines, pictures for walls.
2. Ask about your local hospital volunteer program.
3. Ask about how to help handicapped people.
4. Help people with simple jobs in their home or hospital.
5. Sing Christmas carols.
6. Distribute food baskets.
7. Give books and literature on health, drugs or religion to city officials, doctors surgeries, libraries, motels and hotels, laundromats, barber shops.
8. Participate in roadside clean up, tree planting, bird and native animal feeding stations, animal rescue, checking soil erosion.
9. Assist in Quit Now, health and temperance programs run by your church.
10. Collect for organisations such as Red Cross, Red Shield etc.

Individual projects need not be undertaken by the whole club. While some projects may lend themselves to entire club participation, large clubs often find that unit participation in a varied program of projects works well. An interesting follow-up would be to hold a reporting and discussion session, giving each unit an opportunity to share its activities and experiences with other club members.

WITNESSING PROJECTS

1. **Junior Voice of Youth.** A special booklet containing organisational plans, talks, visual aids etc. is available from the local conference youth ministries office to help Pathfinder clubs organise such an evangelistic outreach.
2. **Vacation Bible School.** The Sabbath school and Pathfinders can team together to sponsor a Vacation Bible School. The Pathfinders can distribute invitations. During the actual Vacation Bible School, the Pathfinders can help with refreshments, teaching classes, crafts and assisting with games.

On graduation night two Pathfinders in uniform may raise the flag, and tell what Pathfinders do and how much they enjoy the club. Pathfinders, neatly dressed in their uniforms, can also be used for ushering on graduation night. Pathfinding is a wonderful follow-up for any Vacation Bible School. After graduation have the Pathfinders, with a counsellor, visit the homes of those who came to Vacation Bible School.

3. **Branch Sabbath Schools or Story Hour.** With counsellors acting as guides, Pathfinders can carry on a strong branch Sabbath school. They can give out invitations, provide music, lead the song service, tell stories and help teach classes.
4. **Small Cell Groups.** Small cell groups meet in the comfort of a home, to study the Bible or videotaped Bible studies.
5. **District Show Display.** A camping scene, an Honour or craft may be displayed.
6. **Marching in Local Parades.** Arrange for Pathfinders to march in full uniform, with their club flags, in local parades, such as Anzac day.
7. **Clown and Puppet Ministry.** Pathfinders may dress up as a clown or use puppets in streets and malls, retirement homes, hospitals etc.
8. **Newspaper Watch.** Find names of people who have experienced tragedies or who have special needs. Food, clothing or lodging could be provided.
9. **Revelation Seminars.** Contact the conference personal ministries office for prepared lessons.

HOBBIES AND CRAFTS

Leisure time is a factor in our everyday lives. This used to be the privilege of only the wealthy, but now with the shorter working week, leisure has become a part of everyone's existence. Many people are turning to hobbies and crafts as a means of relaxing the mind and muscles. A well-balanced program will make life more meaningful. In addition to a person's regular vocation, there should be other interests that give relaxation but at the same time help to build character.

The Pathfinder age is a good time to bring juniors and teens into contact with a variety of crafts and hobbies. It is the privilege and responsibility of leaders to introduce to them activities that they can learn well and take with them throughout their lives. Pathfinders need to learn how to use their time wisely, to get the most out of every minute. The proper or improper use of hours of leisure will affect both the home and society. If a child is left unguided in the use of leisure time, boredom will result, because there is no direction as to what to do. Often those who are bored group together and form gangs, from which may come potential delinquents.

Through the medium of the club, Pathfinders can engage in various crafts and hobbies. The Pathfinders should be urged by both parents and leaders to participate in these. Such a program gives each Pathfinder continuing achievement goals that will carry over into home life and solve many leisure-time problems.

Crafts and hobbies cover a broad area, including the following:

Woodworking, carving, photography, sketching, ceramics, weaving, astronomy, scientific accomplishments, writing, language study, gardening, playing a musical instrument, nature crafts (bird watching, raising tropical fish), swimming, collecting rocks and minerals, shells, coins, stamps and autographs.

OBJECTIVES

1. To satisfy the desire to create.
2. To develop honest and efficient work habits.
3. To demonstrate and teach resourcefulness, coordination, dexterity and versatility in the creative use of materials and tools.
4. To provide a stimulating, self-assuring experience through achievement.
5. To foster a purposeful leisure-time activity that might lead into a vocation.
6. To develop interests and skills that will add zest to daily living.
7. Above all, to develop character traits that will strengthen spiritual life.

QUALITIES OF AN INSTRUCTOR

The instructor should demonstrate an ability to:

1. Awaken, challenge and guide the Pathfinders by offering suggestions and ideas.
2. Know the limitations imposed by one's own abilities and environment to ascertain what opportunities, resources and time are available.
3. Explore with the Pathfinders, fields that are not always familiar: new crafts, new mediums, new skills, new tools; and help the Pathfinder overcome any timidity about new experiments.
4. See to it that a spirit of enjoyment prevails throughout.
5. Recognise that the Pathfinder's attitudes are as important as the degree of skill attained.
6. Find a way to help the Pathfinder discover the possibility of excelling. Suggestions as to subject matter and how to begin, should be provided to avoid leaving the club member feeling helpless. The Pathfinder should be encouraged to try and try, and then try again. Ultimately success should be expected.
7. Delegate appropriate parts of the work to a Pathfinder as this helps to develop a sense of responsibility.
8. Recognise that there are variations in ability. A Pathfinder should be commended for work when it represents the best, honest effort within the Pathfinder's capability.
9. Make use of audiovisuals.
10. Maintain a personal file where helpful materials, such as patterns, designs, interesting and useful ideas, and items concerning fields of interest are available.
11. Display enthusiasm, ability to organise, perseverance, patience, and skill to integrate the activity into home and community life.

STEPS IN BUILDING A SUCCESSFUL PROGRAM

1. The instructor should first become thoroughly acquainted with the craft or hobby. This may be done by attending classes sponsored by the conference, through private instruction, or even do-it-yourself kits available at hobby and craft stores.
2. The instructor should complete the project first (before the meeting) and have samples finished to present to the class.
3. The craft or hobby selected should be within the ability and attention span of Pathfinders.

4. The cost should not be in excess of what Pathfinders can afford.
5. Projects should have a definite completion date.
6. Time could be allotted in the club program for each instructor to give a working demonstration on the activity to be taught.
7. While elaborate equipment or a spacious room is not necessary for conducting a successful craft or hobby class, adequate room should be given for each Pathfinder to work. Individual lockers or cabinets are helpful in storing unfinished work.
8. Enough tools or other equipment should be provided for the class to keep each Pathfinder busy at all times. Ideal classes contain not more than ten Pathfinders.
9. Whenever possible, crafts or hobbies completed should be those which will result in the Pathfinder's qualifying for an Honour.
10. As interest stimulators, hobby fairs, open-house exhibits, and participation in the conference-sponsored yearly Pathfinder Fair should be planned in the Pathfinder club program.
11. Hobby and craft books, magazines, and supply catalogues should be included in the Pathfinder club library.

SUMMARY

1. Don't continue one activity too long. Interest span of Pathfinders can be short.
2. Try to stimulate interest in various projects.
3. Have occasional fairs, when parents are invited to see accomplishments.
4. Strive toward perfection, but do not discourage. Keep complimenting attainments and efforts.
5. Ask many questions. Help Pathfinders to make their own decisions with instructor's guidance.
6. Show good samples of what can be done; analyse the samples.
7. Encourage Pathfinders to help one another.
8. Craft and hobby class periods should rarely exceed one hour.

GAMES

Pathfinders like action! Indoor and outdoor activities are very popular pastimes. They appeal to a group because of the opportunity to enjoy good times of fellowship with friends.

Games should be fun. In them we can relax, unite, unwind, cheer, compete and learn to win and lose. When properly supervised and directed, games can be important in developing sportsmanship, teamwork, coordination, physical strength and personal achievement.

HINTS ON RUNNING A SUCCESSFUL GAMES PROGRAM

1. **Many learning experiences can be creatively turned into fun times.** A game carefully planned may be used as a teaching device to fulfil a class requirement. Young people will not only learn more quickly this way, but they will enjoy the experience as well. The learning experience will be remembered in association with the game.
2. **There should always be a great variety in the games used.** No matter how good a game is it can be overused and Pathfinders will grow tired of it. It is essential that new games be found continually.
3. **Games help build relationships and team spirit.** An important task in life is learning how to work with different types of people. Games offer an opportunity for Pathfinders, who may otherwise not be associated, to work together. People can get to know each other better and function more like a team, rather than a group of individuals.
4. **Give the Pathfinders a chance to choose some games and lead the program.** A few games may become favourites of the group, and this will become evident when requests for games are offered. Remember that what is popular with the club members at the moment may not always be popular. Tastes change and so does the composition of a club. Provision needs to be made for groups and individuals. Games should be within the capability of the participants. It is necessary to have some geared toward the teen age group as well as others for the junior age group.
5. **Select games carefully to fit into your meeting.** Balance the type of games offered by sequencing quiet games to follow a period of high activity, whereas active games could follow a period of classwork. By having both quiet and active games you are catering for those who prefer these. Some games should focus on individuals as participants, while others should build a team spirit.
6. **Remember time and place.** Plan the games in view of how long they will take to finish and where they will be conducted. Some are more suited for open spaces, for instance, when camping. Others are more suited for indoors at regular club meetings.

7. **Don't forget the rules.** You cannot have a game without rules. In fact, it is the rules that actually make the game. Like the game of life, it is when you play by the rules that fun, excitement and challenge come alive.
8. **Check what resources are available.** Most games require little or no equipment. Libraries, bookshops and schools will have a large collection of books from which to draw a good list of fun games.