

Junior Sea Cadets

2010 Edition

# GREEN MODULES

Outdoor & Recreation Activities



202 Lambeth Road  
London SE1 7JW  
Telephone  
020 7654 7000  
[www.ms-sc.org](http://www.ms-sc.org)



Patron: HM The Queen  
A charity registered in England and Wales  
313013 and in Scotland SC037808

## **OUTDOOR ACTIVITIES**

### **Module 1 - Map Symbols**

Look at the different symbols on a map, ie embankment, forest, PH, station etc. Make up some cards of the symbols in advance and put them on a board. Get the Juniors to guess what the symbols stand for.

Make up some bingo cards with a variety of symbols and use your cards as the 'numbers'. Play map symbol bingo.

Look at some maps and try to identify the symbols on a map.

Look at different scales of maps, 1:50,000, 1:25,000 and try to find out if the symbols are the same?

### **Module 2 - Grid References**

Look at maps and explain about 'northings' and 'eastings'. Explain that they are numbered to allow specific points to be found on maps.

Draw a number of northings and eastings on a board and number them like on a map. Using your map symbols get the Cadets to give you the 4 figure reference for the square with the symbol you select. Remind them of 'along the corridor and up the stairs' to read a reference.

Explain how to give a six figure grid reference to identify a specific point.

Using the grid provided (JSC map ref pg. 24 green modules), blow it up onto an A3 piece of paper. Give the Cadets a six figure grid reference and get them to identify the letter. Use the letters to spell out a message or word.

### **Module 3- Navigating further afield**

Look at which parts of the country are served by the mainline railways and how to reach the main railway terminals, the main motor coach stations, air terminals and tourist attractions, for example, museums, zoos, castles, etc from the Unit Headquarters.

Show that they understand how to use a map of their district and use it to point out six examples of places of interest. Identify from the map the location of other Units in the District.

Give directions to a person travelling by car or public transport to a place of interest eight kilometres away.

### **Module 4 – Compasses**

Play a game using the walls of the hall as the cardinal points of a compass. Shout out north and get the cadets to run to the north wall. This game is sometimes called 'Captain's Coming' and you can add some other commands during the game. Cadets have to obey the commands:

- North – run to allocated wall
- South– run to allocated wall
- East – run to allocated wall
- West – run to allocated wall
- Captain's Coming – stand to attention and salute
- Scrub the decks – crouch down and pretend to scrub the decks
- Submarines – roll into a ball on the floor
- Freeze – don't move!

You could knock people out of the game if they arrive at the wall last or move from their positions.

Draw a compass shape on the floor or put paper on the floor and draw on the paper. Slowly build up the various points of a compass: north, south, east, west, north east, south east, north north east etc.

Show the Cadets some compasses. Explain about the needle pointing to north. But stress the need to keep the compass: clear of metal which can affect the magnetism. Try making a compass using a needle or pin, some water and a cork.

If you have some grass available, work out using a compass and cadet size paces, a small route to make a basic identifiable shape using basic compass directions. Get the Cadets to follow your directions using the compass and mark out the shape using tent pegs and coloured string.

### **Module 5 – Outdoors**

Teach the Cadets how to 'set a map', ie turning it to north.

Take the Junior Cadets out with a 1:25,000 map of the area. Find a hill from which you can see some map features, like a forest, fields, roads etc. Set the map and point out the various places on the map and what they look like on the ground.

Try to have more than one map available and break the Cadets into small groups.

If you are uncertain about navigation, get someone with an EL qualification to help.

### **Module 6 – Clothes**

Set up a clothes line with a wide variety of clothes on it; make sure you have suitable clothes for a day walk in the hills during the summer. Break Cadets into groups and issue each with a rucksack.

Get them to select the clothes they think they would take on a day walk. Look at what equipment, food, etc should be taken on a simple day walk.

Get the Cadets to plan a simple walk using a map and list all the things they would take with them.

### **Module 7 - Outdoor walks**

Suitably prepare for the day and go on the planned walk. Get the Cadets to take it in turn to navigate on the walk and put into practice what they have learnt.

You might set up some activities or games for the Juniors to do on their walk at various points.

You could set up a first aid stance, pitching a tent stance, games stance etc. This will make the walk more involved and last longer.

You might want to break the Cadets into small groups of up to 6 cadets to one adult.

Ensure you have someone with an EL qualification to help.

## OUTDOOR GAMES

### Module 8 - Scavenge Hunt

Split your cadets into small groups or pairs. Issue each small group with a number of challenges to complete.

#### **Name of Team:**

1. Find a bag or box to put everything in
2. Collect three sweet wrappers
3. Find a newspaper
4. What colour is a first class stamp and how much does it cost
5. Estimate the height of the Unit Commanding Officer
6. Collect 1 shoe lace, a piece of leather, a sock and a piece of plastic
7. Write down 3 registrations of cars, the colour and make
8. Tie a reef knot, round turn and two half hitches and timber hitch
9. Collect three things beginning with the letter P
10. Make a daisy chain necklace
11. Find a rough stone and a smooth stone
12. List 4 pulling orders and describe the action to be taken

***NB:** Safety - ensure this scavenger hunt is done in a safe area and perhaps issue gloves to the cadets. Give points for each activity completed and award a prize to the winning team.*

### Module 9 - Treasure Hunt

Work out a series of treasure hunt clues leading the Cadets to a treasure.

If you wish to make this activity last longer, why not give the Cadets an activity to complete for each clue. This activity could be run over a day and count as up to three modules if it involves a number of challenges on the way.

If run in a park or similar, make sure the Cadets are accompanied by an adult and encourage them to use a map to navigate to different clues.

### Module 10 - Cooking on open fires

Teach the Junior Cadets how to light a fire safely and with consideration for the environment (many places will only allow altar fires off the ground).

Cook some simple food on an open fire, such as: Sausages on a stick. A great favourite, get a green stick and clean the bark off it, sharpening the tip slightly. Stick a sausage lengthways onto the stick and hold it over the embers until it cooks.

Bananas and chocolate. Take a banana and cut a V down one side leaving the skin on. Place some chocolate drops or Smarties in the cut V. Replace the V of the banana and wrap in tin foil. Place in the fire for a few minutes until the chocolate has melted.

Marshmallows on sticks – place a marshmallow on the end of a stick and heat over the fire. Take care as the marshmallows can catch fire and become exceedingly hot. Ensure the Cadets do not burn themselves when eating them!

*Safety: Obviously dealing with an open fire can be dangerous. Ensure the Cadets understand the dangers and are suitably supervised.*

## Module 11 - Survival Fun!

Take the Juniors for a day to a suitable camp site or similar. Build on the previous activity of cooking on an open fire.

Use a theme for the day and, depending on the facilities at the site, arrange a number of activities based on the theme.

Tell the Cadets they have been shipwrecked on an island. The first thing they need to do is build a shelter to protect themselves. Get them to build a 'bivouac' out of natural material. Also provide them with some man made material, such as groundsheets and get them to build a bivouac with man made material.

Next is to collect wood for fire and prepare food with limited cooking utensils. The wood needs to be collected as the fire must be allowed to burn down to embers.

### **Fish in newspaper:**

This is a simple way to cook something without using any utensils. Use a gutted fish, preferably trout. Make up a 'stuffing' of bread crumbs and mixed herbs. Use a mixer to make the bread crumbs from two slices of bread prior to going to the campsite.

Place a handful of bread crumbs inside the fish. Put some water in a bucket or basin and place individual sheets of newspaper in the water and some string. (Don't leave the newspaper in the water too long or the pages will become too soggy to use. Just long enough to make them fully wet.)

Wrap the paper round the fish. Use lots of pages of newspaper to ensure the fish is well protected. Next use the string to tie the newspaper in place. Place the newspaper in the embers of the fire and cover with more embers. Then place more wood on the fire. Leave the fish for about 20/25 minutes.

If the fish is ready when you peel the paper off, the skin of the fish will go with it. Cadets love trying the fish and cooking their own.

**Damper:** Take some flour and water. Mix together to a doughy consistency. Form into a roll shape. You can either place straight into the embers of the fire and cover over with more embers or cover in tin foil and place in the embers. Remember to cover over with more embers and place more wood on. When the damper is ready it will sound hollow when tapped. Be careful not to leave it too long or it will burn. Check regularly. The length of time to cook depends on the amount of dough used.

Once cooked put butter and jam on the warm damper. Again very popular with Cadets! Alternatively take some dough and wrap round a stick. Hold the stick over the embers until it sounds hollow. Break off and eat with jam and butter.

There are many other recipes for cooking on an open fire, such as cake mix inside oranges. Cut the top off the orange and scoop out the inside. Refill about half full with cake mix. Replace the top and hold in place with small sticks. Place in the embers, checking every now and again. The cake mix will cook and have a very orange flavour. Because the heat of a fire cannot be regulated it is difficult to estimate cooking times so therefore practise beforehand to get an idea of timing if you can.

If you have the facilities, get the Cadets to build a raft at the end of the day to escape the island. This will complete your theme with three main activities that will last the majority of the day. Fill in any additional time if necessary with games.

If you have a 'survival' expert who can help or lead this activity then use them. Remember though that the level of the activity should be suitable for 10/11 year olds!

## **ADDITIONAL RECIPES AND IDEAS FOR COOKING ON AN OPEN FIRE:**

**Sausage On Stick:-** Peel the bark off a green stick and slide your sausage along it. If you want you can wrap a slice of streaky bacon round it and if you wish you can cook the sausage first then wrap the twist dough round it to create a sausage roll!

**Eggs In An Orange:-** Cut the top off an orange, eat the centre out of the orange, then crack the egg into the available space, pop the lid back on and secure with small sticks, place on the hot embers for about 10 - 15 minutes til cooked.

**Eggs In A Potato:-** Cut the top off a potato, scoop out the centre of the potato, then crack the egg into the available space, pop the lid back on and secure with small sharp sticks, place on the hot embers for about 15 - 20 minutes til cooked.

**Eggs In An Onion:-** Cut the top off an onion, scoop out the centre of the onion, then crack the egg into the available space, pop the lid back on and secure with small sharp sticks, place on the hot embers for about 10 - 15 minutes till cooked.

**Planking A Fish:-** For this you need a fair sized fish, gut it and remove the head and tail then split along the back bone of the fish so it lays flat then nail it to a plank of wood and place it near a bed of hot embers. The fish will cook slowly and you will get the flavour of the wood smoke. When ready peel off the strips of fish, be careful the odd fish bone may come with the meat you are peeling away.

**Fish In Newspaper:-** Place your gutted fish in newspapers (about 5 layers), really wet the paper through at this point then place on the hot embers. Turn the package every 2 - 3 minutes and continue to wet down the newspaper throughout. The fish will take about 15 minutes to do using this method. For an even more natural method you can use cabbage leaves instead of the newspaper.

**Fish In A "Y" Stick:-** Get a long flexible "Y" green stick then either tie or weave the two ends together to form a circle, lay it on a flat surface then place your gutted fish inside the circle and with further green peeled sticks weave a lattice work around the fish and the "Y" stick. When you have finished, your fish will look like a fish trapped in a tennis racquet ! .... Simply cook over the hot embers.

**Cooking Biscuit Tin:-** Find a biscuit tin, place three pebbles in the bottom of the tin, place a metal plate on the pebbles, then place the item you want to cook on the plate. Place in the fire so that you have twice as many embers on the top of the metal box as on the bottom. Cooking like this is very quick so be warned; check your food regularly, (it has been known to cremate a chicken to its carbon base in 15 minutes!)

**Corn on the Cob:-** Do not remove the sheaves, simply dip in a bucket of water then fling onto the ash, turn occasionally... eat with butter; a meal fit for a king!

**Bonfire Toffee:-** Melt 2 oz of butter, add 2 tablespoons of syrup, a pound of brown sugar, boil quickly for 15 minutes, stirring occasionally. See if it's ready by dropping a few drops in cold water. When crisp pour out into a heavily buttered tin, break when firm.

**Garlic Bread:-** Get your loaf sliced thickly, butter with garlic butter thickly, wrap in foil, place on the ash to heat through. (Best to do an extra loaf as it's bound to be popular!)

**Camp Fire Sandwich:-** Butter the bread, place the buttered side of the bread to the outside and add a filling of your choice, wrap in foil and place on ash, turn once after about a minute.

**Some ' ores:-** Melt a marshmallow, place between two digestive biscuits add a square of chocolate .... truly decadent.

**Choc - o - Mint Oranges:-** Cook an orange in its skin on the ash, remove it from the heat slice it half way through and place 3 wafer mints inside. Place back on the heat for 5 min then eat.

**Shish Kebab:-** Cut any type of meat into cubes, place onto a long, peeled green stick; add onion, mushrooms, pepper, pineapple etc. to taste, cook till ready, turning frequently.

**Fruit Shish Kebab:-** The same method as above using fruits; add a syrup sauce before eating.

**Drop Scones:-** Prepare a batter of 1 pint of milk, 1 egg, 2 oz of castor sugar and 4 oz of self raising flour, mix well and allow to stand for an hour, grease lightly a heavy frying pan, drop enough batter to make a 3 inch scone. Turn when the underside is brown, butter, add jam to taste. (This is enough for about 20 scones but be advised they go like "Hot Cakes")

**Pancakes:-** The same method as above but use plain flour; once made flavour with syrup, dessert dressings, fruit, cream etc.

**Baked Apples:-** Core the apple, fillings can be added, marshmallow, sugar, fruit, cherries, Smarties (M & M's), syrup to name a few. Seal in foil, place on the ash for about 10 -15 minutes.

**Twists:-** Make a dough of self raising flour and water until it is putty-like, then cut into strips. Wrap round a green stick, bake and eat with jam or honey. A variation to this is to wrap around a half cooked sausage then bake to give a sausage roll.

**Stuffed Sausages:-** Mix up a packet of sage and onion stuffing, add some Worcester sauce and a dash of tomato sauce, slice the sausage lengthways, stuff the sausage, wrap in foil and place on the fire for about 10 minutes.

**Stuffed Fruit Loaf:-** Take a plain loaf of bread, cut off the top lengthways, scoop out soft inside, crumble and add to this two apples, finely diced, and one cup of sultanas. Fix the top back on using cocktail sticks. Spread margarine thickly on the outside of the loaf, wrap tightly in a double layer of foil, place on the ash for about 15 minutes turning regularly.

**Potato Soup:-** (For Eight) Peel and grate 1 Lb. of potatoes, peel and chop one large onion; fry this in 2 oz of butter then add this to 2 pints of stock (which is made from two chicken or ham stock cubes), boil, then allow to simmer for 15 minutes; serve with a grated cheese topping.

## **SNACKS**

**Cracker Surprise:-** Ritz crackers, with cheese spread and a square of pineapple on top.

**Ash Toast:-** Simply place a piece of bread directly onto the hot ashes, (Don't worry the heat will sterilise any germs) then using tongs turn over as soon as it's done .... It has a unique flavour. You may want to add cinnamon to taste.

**Toffee Apples:-** Place the apple onto a green stick, hold over glowing ash until the apple is soft (this takes about 15 minutes), peel off the skin then roll in a mixture of syrup and sugar, re-heat until the sugar forms a candy coating.

**Angels on Horseback:-** Cook a slice of bacon then wrap it round a square of cheese, return to the heat until cheese is soft.

**Bac - o - Cheese Dog:-** Cut a sausage long ways, but not all the way through, add cheese to the split then wrap in a slice of bacon. Hold together using tooth picks then cook for about 10 minutes.

## GETTING READY FOR THE OUTDOORS

### Module 12 -Weather

Explain the beaufort scale to cadets. Point out how wind strength affects conditions at sea as well as on land. Get the Cadets to draw their own scale.

Record various forms of weather forecast. Radio, TV, Papers, etc. Make sure you record a shipping forecast as well as normal forecasts. Get the Cadets to listen and watch the different forecasts. How easy are they to understand?

Look at the different forecast areas surrounding the country. Get the Cadets to draw a map showing the different forecast areas around Britain?

If feasible you could even go on-line and look at weather forecasting and weather conditions in different locations.

### Module 13 - Weather

Set up a weather station.

Get the Cadets to record the weather every evening at the Unit.

Look at the different types of clouds. Learn about what weather we can expect from different types of clouds.

### Module 14 - Clothes and weather

What sort of clothes should we wear for different weather conditions?

Get a variety of clothes for all sorts of weather conditions. Pile them in the centre of the room. Break the Cadets into four small groups and give each a weather forecast, sunny day, snowing etc. Get the Cadets to select the clothes they would wear according to the forecast. Once they have selected the clothes get them to explain what they have selected and why.

Then give each group an activity to undertake, such as sailing on a sunny day, sailing on a cold day etc. Get them to select suitable clothing for these activities.

Explain the importance of knowing about wind chill factor and the need to ensure individuals are properly clothed for the weather conditions. Also explain the importance of hats, sunglasses and sun protection during water activities.

### Module 15 - Stoves

Look at the different types of stoves used in Cadets. Trangia with meths or gas, self sealing gas, hexamine etc.

Break into small groups and give the Junior Cadets some ration packs to cook on a stove each.

Get them to list the good things about the stove and any problems with them. Good points and bad. Get them to compare their findings with the other groups.

Give each group exactly one pint of water. See how long it takes to boil the pint on each stove, which is the fastest and which is the slowest?

Decide on which type of stove is the best according to the Cadets findings.

*Ensure each group has an adult who knows how to operate the stove, be especially aware of safety!*

## **Module 16 - Country Code**

Teach the Cadets the Country Code.

Get the Cadets to design a poster each on the Country Code.

Look at other codes such as waterways code etc.

Show they can use at least one of the following codes: Green Cross Code, Water Safety Code, Bathing Code, Firework Code etc.

Make up a safety code of their own choice, e.g. car passenger, train passenger, or playground.

## **Module 17 - Tents**

Try to get a variety of different tents carried when walking. Dome tents, vango tents etc.

Work out some criteria for which tent is the best, ie weight, size, ease of erection. Time to erect etc.

Break the Cadets into small groups and have them put up the tents with as little adult intervention as possible.

Decide, as a group, which tent they think is the best, based on their criteria.

## **Module 18 - Safety Out of doors**

Explain the dangers of playing on or near two of the following: railways, busy roads, building sites, cliffs, canal banks, sand/gravel pits, farmyards, river banks, quarries.

Explain what they must do if a stranger starts to talk to them and what they must tell their parents/carers, if they are going out without them.

Know some of the dangers they may find when visiting one of the following: seaside, large town, countryside, mountainous area, lakeland or moorland.

In small groups get them to perform a TV advert alerting the other Cadets to dangers in the outdoors.

## **KEEPING FIT**

### **Module 19 - Learning to keep fit**

Teach the Cadets the importance of warming up prior to doing physical exercise.

It is essential that you warm up properly prior to physical exercise. Muscles that have been properly warmed and stretched are less prone to injury and ensure your body is ready to perform to its potential.

Stretching exercises are not enough, so move around and get your heart rate up, slowly; Move in between stretching to work the muscles and raise the heart rate slightly and remain still while stretching. (Stretching guide is included - pg25 of Green Modules).

The key muscle groups are the thigh muscle, hamstrings and calves.

It is also important to lubricate the joints you will be using, especially your ankles, hips and knees. Roll your ankles in both directions and flex your feet, lift your knees alternately and use small rotations to lubricate the joints of your knees, hips and ankles.

Try not to leave too long a gap between warming up and the activity you are doing, as this gives the body an opportunity to cool down and undo all the good work you have put in!

Tip: Remember that 'warm-ups' can be 'turn-offs' if they last too long.

Use the guide below to work through your warm ups. When you get to the 1 Pulse Raiser you can either incorporate the stretching in between the moves as they match with the stretching or you can go through the stretches at the end.

## WARM UP GUIDE

### Warm Ups

- Joint mobility
- From head to toe or vice versa
- 1 pulse raiser
- Short stretch

**Joint Mobility:** This can be obtained from Handout Number 07 from the Sea Cadet Physical Training Branch literature.

### Joint Mobility (1 - 2 mins)

Ankle bending forward and back and rotation  
Knee hand on thighs bending down  
Hands on hips, boogie circles  
Twist top half of body  
Arching back  
Shoulders shrugging and rotation  
Elbows  
Wrists  
Finger wiggles  
Neck

### 1 pulse raiser (4 – 5 mins)

Stretch (2 mins) separately or incorporated  
Jogging  
Side stepping  
Sidestepping  
45° knees up  
45° knees back  
Wave arms, full length  
Fast arm, slow legs  
Slow arm, fast legs  
Swimming movements  
Skipping  
Arm punching  
Backward running  
Turning  
Head the ball

*If you are uncertain about these activities or stretches, It would be good to get a PTI to instruct you beforehand or to help run this activity; this list is merely an "aide memoire".*

## Module 20 - Keep fit Challenge

Use simple exercise challenges to improve the Cadet's skill and endurance over four evenings. Gain points on each result and encourage and motivate the Cadet to try to improve each time. There are examples below to follow, or you may wish to create your own.

On each following session, encourage a higher score.

## Example of Score Chart

Test	Reference	1st Session	2nd Session	3rd Session	4th Session
Speed Test	25Metres				
Ball Bounce	10ft away from wall				
Sit ups	Quantity				

**REMEMBER:** Health & Safety; Be aware of the your surroundings and also the individual ability of your Cadets.

### Module 21 - Competitions

Practise for a District Competition then represent your Unit as a member of the team in a physical sporting activity.

This could be an athletics competition, 5 a side football competition, cross country, etc.  
Reference: Sea Cadet Physical Training Handout Number 10 for types of competition.

### Module 22 - Games

Spend an evening playing a wide variety of games.

There are huge numbers of games' handbooks and resources to choose from.

Gamester Handbook 1 & 2

Register with the following site for loads of games and ideas:

<http://www.gamesecretary.com/>

To make your game as enjoyable as possible, take a minute to think about the following:

The lighting – is it clear enough for games?

The space available – is there enough room?

The type of flooring - is it clean enough for movement on?

Your equipment – is it in one piece and safe to use?

Now that you have considered the above, have a look below for some ideas for games; there is a simple layout incorporated to allow you to explain the game you are about to teach.

Many more games can be found on the Web, or from books at your local library.

**NAME—** This is the name that you have given your game.

**AIM —** This is the purpose for playing your game

**RULES —** This is how the game is played.

**POINTS—** This is how you score your game.

**SAFETY —** These rules are explained to keep your game enjoyable and safe.

### GAMES:

#### **N Tunnel Ball**

**A** To get the ball through the tunnel first.

**R** Form a line to create a tunnel, one player outside tunnel.

Ball must be passed between outside player and each consecutive member of line.

Once ball has been passed to all players the last player will run to the front of the line and start the sequence again.

Wait until you have the ball before you run to the front of the line.

Lines must be straight—no curvature.

No stepping forward.

**P** One point for the team that finishes first.  
**S** No over arm throwing.

Do not throw the ball hard.

No kicking overhead.

**N** **Poison Ball**

**A** To be the last person standing.

**R** Roll the ball underarm aiming at players feet.

If a player is hit he becomes a shooter.

Shooter/s to stay outside boundary.

Players to stay inside boundary until caught out.

**P** No points

**S** 1. No throwing the ball above the knees.  
2. No throwing the ball hard.

**N** **Human Chain Game**

**A** To be the last one standing not part of the chain.

**R** One person starts as "IT". When a person is tagged they must join hands and carry on chasing people. The chain becomes longer as more people are tagged. Only those on the end of the chain can tag people. Once there are 6 people in the chain it splits in half. This carries on until everyone is tagged.

**P** No points.

**S** Be careful so as not to pull people around too hard and fast. A person only needs to be touched to be tagged – no need to grab hold of people.

**N** **Bull Rush**

**A** To get from one end of the pitch to the other without being caught.

**R** One player is "IT". Players are called in groups by shirt colour/age/hair colour/all together etc.

One player starts in middle and is to tag a player as they run across.

If a player is tagged they also become "IT" and help catch others coming across.

Last Cadet not tagged is the winner.

**P** No points

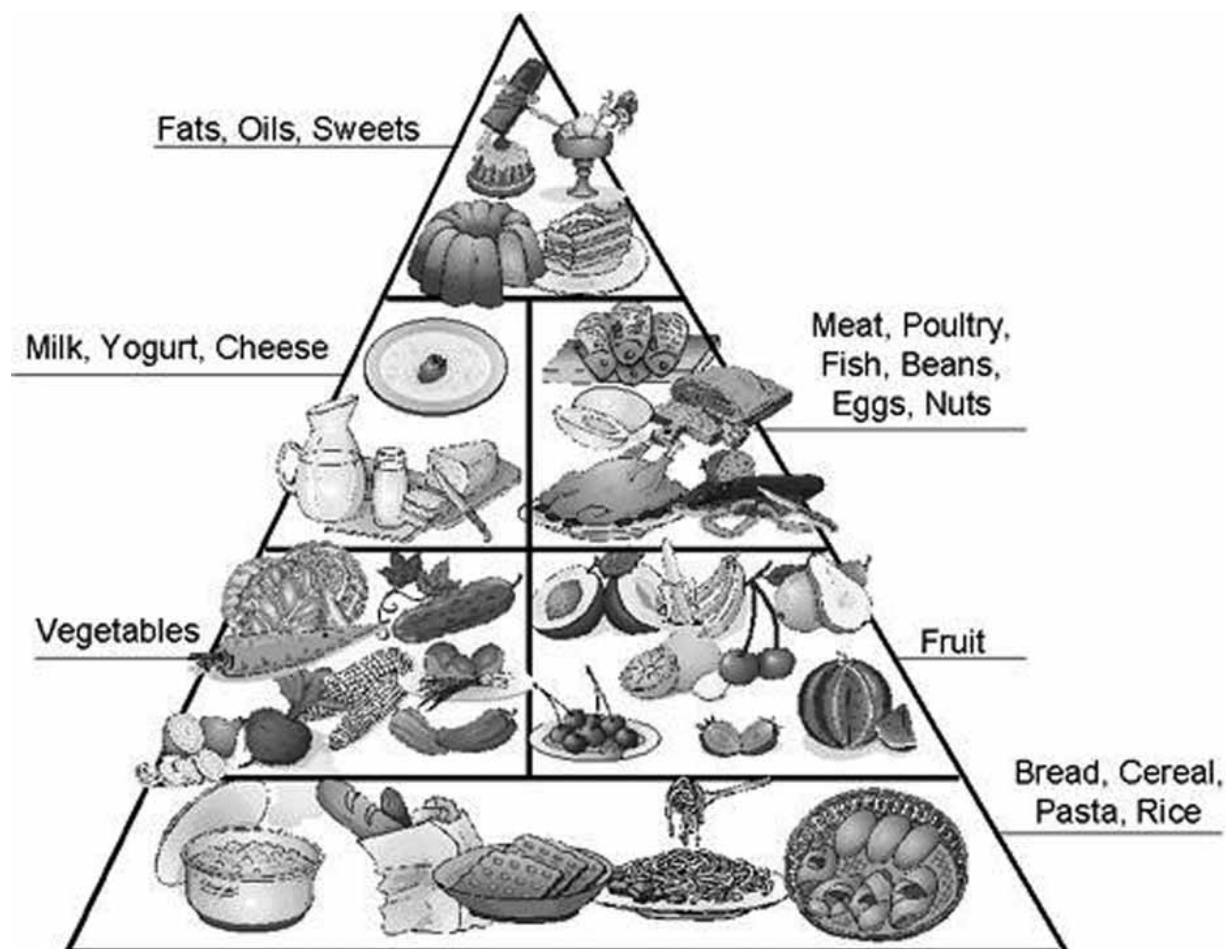
**S** No barging or diving for players  
Take care running across pitch.

**Module 23 - Healthy Eating**

Below is just an introduction into understanding a healthy diet. It is simple and can be delivered to the Cadets at a level they will understand. If you wish to go into greater depth then type in 'Healthy Eating' on the Web.

Nutrition and diet can affect your physical fitness. What you eat and when you eat will affect most components of physical fitness to differing degrees. Basically, if extra demands are made upon the body's energy system and not replenished by a balanced diet then the onset of

fatigue during exercise will be brought forward. Water is also an important requirement during physical activity. The body dehydrates during exercise therefore it is important to drink extra water during this period.



### **Suggest food games;**

Get the Cadets to bring in empty food containers eg. clean margarine tub, cover from a loaf of bread, etc

In a group make a triangle and divide it into sections as above.

Score points for placing the correct type of food on the correct section of the triangle.

[www.nutrition.org.uk](http://www.nutrition.org.uk)

## **RECREATION**

### **Module 24 - Photography For Junior Sea Cadets**

#### **Introduction**

A camera is essentially a light proof box with a lens in order to project an image onto a light sensitive medium inside. To enable it to do this it has a number of features which the photographer must be familiar with.

#### **The Shutter**

The shutter prevents light from entering the camera until activated by pressing the shutter button. The shutter opens for a fraction of a second and closes automatically.

In a simple camera the time of opening is fixed but in more expensive models it is variable and automatically controlled by the camera's electronic brain. On many models the automatic control can be over-ridden to give manual selection of shutter speed.

## **The Aperture**

The aperture, or F-stop as it is sometimes referred to, is a size adjustable hole located behind the camera lens. Its function is to control the amount of light entering the camera. In all but the simplest of cameras the size of the hole is automatically adjusted to give the correct exposure. As with the shutter, on some cameras the aperture can be manually over-ridden. The photographer should be aware that a small F-number means a large hole and a large number a small hole.

Taken together the shutter and the aperture work in combination with one another to give the correct exposure. The photographer should be aware that if a fast shutter speed is selected a larger aperture will be required to maintain correct exposure. The opposite is true for a slow shutter speed.

The correct combination of shutter speed and aperture is usually taken care of automatically. The ability to vary the shutter speed and aperture size over a wide range allows the photographer to take pictures under many different lighting conditions, more so than with a simple camera where shutter speed and aperture size is fixed. As a general rule, with a simple camera the photographer should restrict picture taking to a reasonably bright day within a few hours of sunrise and sunset.

## **The Lens**

The lens is used to focus an image of the subject onto a light sensitive medium inside the camera. With many cameras, especially cheaper budget cameras, the lens is a fixed focus type which means that everything from a short distance in front of the camera to the far distance will be clearly reproduced in the final photograph. More expensive cameras are fitted with adjustable focus in which the lens setting can be altered to vary the distance over which a sharp picture can be obtained. This adjustment can be carried out automatically by the camera sensing the distance to the subject and adjusting the lens accordingly. This feature is known as Auto Focus. Manual control of the focus is also possible with some camera types. A lens having variable focus greatly increases the versatility of the camera.

## **Lens Types**

Lenses are normally classified by their focal length, because it is this characteristic more than any other that determines the kind of image they produce. Focal lengths are always quoted in millimetres. A lens having a short focal length of say 35mm is very useful for taking pictures of groups within a confined space or pictures of buildings for example. A lens with a long focal length, typically 200mm acts like a telescope and brings distant objects nearer. Many cameras, including budget cameras, are fitted with a fixed lens of around 35 to 40 mm. This is useful for most purposes.

More expensive cameras may be fitted with more than one lens, where the focal length can be altered, for example from 35mm through to 200mm. These lenses are known as Zoom Lenses and greatly increase the usefulness of the camera. Many compact cameras are fitted with zoom lenses. On other cameras, generally quite expensive ones, the lens can be changed for different types. These are the most versatile of all cameras.

All the above features will be found to a greater or lesser extent on all cameras, irrespective of whether they are film or digitally based.

## **The Film Camera**

In a film- based camera the image is recorded onto a light sensitive film within the camera. The film is contained inside a cassette and care should be taken when loading the cassette into the camera. (Follow the camera manufacturer's instructions carefully). After the film has been fully exposed, rewind it into the cassette, remove it from the camera and have it processed as soon as possible. Your local photographic shop will do this for you.

Film is available in two forms, reversal for taking colour slides for projection onto a screen and negative for prints. Print film is the one most commonly used. Film also comes in various

speeds, which are marked on the cassette. The higher the speed number the more light sensitive the film. Film speeds of 200 or 400 are suitable for most purposes, the latter being best for simple cameras.

### **The Digital Camera**

A digital camera differs from a film based camera in the method of recording the image formed by the lens. The heart of a digital camera is the CCD chip (charge coupled device) permanently fitted inside the camera. This chip converts light falling on it into a digital signal. This signal is transferred to a storage card inside the camera. The information stored on the card can be extracted and processed in a computer to produce a finished print. This may be done on a home computer or commercially by any photographic shop.

The surface of the chip is divided up into tiny squares called pixels, each of which records one small segment of an image. The more pixels a CCD has the more detail it can record. This is referred to as resolution. The higher the resolution the more expensive the camera and the greater the amount of storage space required on the memory card. It may be that that you don't need the highest quality available. Your choice should be based on what you intend to use the camera for. Good quality post card sized prints require a resolution of 1920000 pixels (1.92MP) so a minimum requirement would be a camera having a resolution in excess of 2MP. For large size prints of the highest quality a camera having a resolution greater than 5MP will be required. The lower the resolution, the greater the number of images which can be stored on the memory card.

The storage capacity of the memory system is referred to as the number of megabytes (MB) it has. The camera's internal memory may only have 1MB storage capacity and can only store a few images. The storage capacity can be increased by using replaceable memory cards plugged into a slot in the camera. These are often referred to as compact flash cards or multimedia cards. Refer to your camera instruction manual to find out which types are suitable for your camera. It is advisable to have as large a storage capacity as possible. For example a 512MB flash card will allow over 1500 images capable of producing good quality post card sized prints to be stored.

The main advantage of a digital camera over a film camera is that the image can be viewed immediately after being taken, deleted if unsatisfactory and if required retaken. Once all the images have been extracted the memory card can be electronically cleaned and re-used. With a film camera the film has to be processed before the images can be seen and the film cannot be used again.

Digital cameras can be purchased with a feature known as Digital Zoom. This is a means of electronically manipulating the image in the camera to give a similar effect as an optical zoom lens. Unfortunately the results are greatly inferior to the optical zoom effect and should be avoided, as far as possible. When choosing a digital camera opt for one with a zoom lens rather than a digital zoom.

### **Flash Photography**

Virtually all cameras come with some sort of electronic flash unit fitted. Flash can be very useful under the right circumstances. In very low light conditions the flash is usually triggered automatically to give the correct exposure. However the range of the flash gun is limited to a distance between about 1 to 4 metres. Beyond this a flash photograph will not be properly exposed. The photographer should be aware of this limitation.

### **Common Errors in Photography**

There are number of common errors that crop up in photography and the photographer should be aware of these and what steps should be taken to avoid them.

- (1) If an image has too much light it becomes over-exposed, and assumes a washed out appearance with a loss of colour. Conversely, too little light will produce a dark image with very dense colours. This is known as under-exposure. Overexposure requires the amount of light entering the camera to be reduced, and similarly increased for under-

exposure. With a fully automatic camera little can be done to correct these faults as they are usually arise from lighting conditions and the ability of the camera's exposure metering system to cope. The tendency for incorrect exposure is greater with simple budget cameras as they generally have no metering system.

- (2) Blurred pictures arise from three possible causes:-
- (a) Moving the camera when taking the picture causes camera shake. This can be avoided by holding the camera steady and pressing the shutter release button gently. If necessary rest the camera on a firm surface.
  - (b) Subject movement during exposure can give rise to a blurred picture. If possible use a faster shutter speed.
  - (c) If the lens is not correctly focused on the subject it will be not be sharply imaged. With a camera having automatic focus ensure that the focus point is on the subject. With a fixed focus lens this fault usually indicates that the camera is too close to the subject. Move further away.
  - d) The lens might be dirty. Never touch your lens.

### **Activity**

Try to get different types of cameras to look at: digital, film, disposable etc. If the Cadets have their own cameras get them to bring them in.

As an exercise the cadet should use his/her photographic skills to take and display a set of 12 photographs on any subject of their choosing.

These could include a holiday, a sea cadet camp or activity, a family outing, animals, people or something of local interest.

The pictures should be arranged in such a way as to tell a simple story and could form part of a display for the RNP.

### **Module 25 - Fun Afloat Photos!**

Enter the Naval Photographers' Competition using the theme 'Fun Afloat'.

Get the Cadets to take pictures using any type of camera they wish on the theme of fun afloat.

Select each Cadet's best/favourite photograph and enter it in the competition. There is an annual prize and trophy to be won.

Contact Communications Department at MSSC HQ for more information or look on the MSSC website.

Module 2 MAP - (JSC Map ref)

	18	19	20	21	22	23	24	25	26
33	O		E	S		J	R		
34			N		A			G	
35		B			M			T	
36		T					Z	Y	
37		A		N		E			
38	S		L		V			X	K
39	Q		F		D				
40			W				I		
		A			U		H		C
			R						
	P			H		Y			
	18	19	20	21	22	23	24	25	26

(JSC map ref) Green Section Module 2



### Calf

Foot alignment should be shoulder width apart, you can confirm this by standing either side of a straight line on the floor. When you take your rear foot back, it should not cross or move away from the midline, your foot should be pointing forward with your heel either flat on the floor, or raised if aiming to develop the stretch.

Your front leg should bend so that when you look down over your knee, you can see the tip of your toes. Lean forward aiming to keep a straight line with your heel, hip and head.

*For best results, push against a wall.*

### Hamstring

Stand with your feet shoulder-width apart, one foot extended half a step forward.

Keeping the front leg straight, bend your rear leg, resting both hands on the bent thigh.

Slowly exhale, aiming to tilt both buttocks upward, keeping the front leg straight, and both feet flat on the floor, pointing forward.

Inhale slowly, and relax from the stretch. Repeat the stretch again, this time beginning with the toes of the front foot raised toward the ceiling, but keeping the heel on the floor.





## Quadriceps

Stand holding onto a secure object, or have one hand raised out to the side for balance.

Raise one heel up toward your buttocks, and grasp hold of your foot, with one hand.

Inhale, slowly pulling your heel to your buttock while gradually pushing your pelvis forward.

Aim to keep both knees together, having a slight bend in the supporting leg.

## Adductors

Stand upright, with both feet facing forward, double shoulder-width apart. Place your hands on your hips, in order to keep your back straight, slowly exhale, taking your bodyweight across to one side.

Avoid leaning forward, or taking the knee of the bent leg over your toes. As you increase the stretch, the foot of the bent leg should point slightly outward.

To increase the stretch, relax upward, slowly sliding your feet out a few inches to the sides.





### **Pectorals**

Stand or sit up right, keeping your back straight, head looking forward.

Place both hands on your lower back, fingers pointing downward, elbows out to your side.

Exhale slowly while gently pulling the elbows back, aiming to get them to touch.

### **Deltoids**

Cross one arm horizontally over your chest, grasping it with either your hand or forearm, just above the elbow joint.

Exhale, slowly pulling your upper arm in toward your chest.

Aim to keep the hips and shoulders facing forward throughout the stretch.



### **Trapezium**

Extend one hand down the centre of your back, fingers pointing downward.

Use the other hand to grasp the elbow.

Exhale slowly, pulling gently downward on your elbow, aiming to take your fingers along your spine.

*Stretching photographs produced with kind permission of Able Cadet Amanda Irwin from Chichester Unit, Southern Area.*