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**Congratulations** on choosing a Glenmore Lodge course. As Scotland's National Outdoor Training centre we have been delivering world class training for over 60 years. Our instructors are amongst the most experienced in the country; add to that the quality of the equipment you can borrow, our range of on-site facilities, as well as our food and accommodation and we believe it is clear that not only will a Glenmore Lodge course offer you the best possible learning experience, but that the value for money we offer is second to none.

Glenmore Lodge is a fun and welcoming environment and we take pride in helping you to develop your personal skills, whatever level you might be at. We look forward to seeing you here soon.

## Winter Mountain Leader Assessment & Home Paper

### What paperwork is required?

It is essential that you arrive with the correct and original paperwork in order; we will need to see the following:

- Evidence of having completed a Winter Mountain Leader training course or have a letter of exemption from training from the MLTS secretary
- Completed logbook with:
  - Evidence of an absolute minimum of 40 Winter Quality Mountain Days with at least 20 of them gained in Scotland, distributed over a period of at least three winter seasons. (asterisk or highlighter pen and numbered for ease of reading)
  - Evidence of having completed at least 10 Grade 1 named UK winter climbs
- Original copy of a valid first aid certificate
- **Your completed home paper, which forms part of this document**

### What we cover

You should be familiar with the syllabus and guidance notes contained in the Winter Mountain Leader Award Handbook provided by MLTS.

### Remember the price is all inclusive

We want our customers to easily know what their course will cost, up front and in the open. Accommodation on the night before and the nights during your course, pick up from the train station (Friday and Sunday evenings only), breakfast, lunch, cake break and dinner are all included. All transportation on the course, centre facilities & any equipment you borrow are also part of the package



## Programme

Please note that the programme describe below is provisional. Course and participant needs, weather and snow conditions will necessitate some changes. This programme should be viewed in conjunction with the MLTS Guidance Notes & Prospectus and Syllabus. Although the course is divided, with certain days concentrating on specific aspects, the assessment looks at your overall performance over 5 days. It is not viewed as a modular type of assessment. We will review the home written papers on the Monday evening - otherwise the Monday and Tuesday late evenings are free.

DAY	DAYTIME
1	<p><b>Personal intros</b>  <b>Log books</b>  <b>About the WML scheme</b>  <b>Assessment Process</b>  <b>Personal kit check</b>  <b>Snow-craft</b>            Avalanche Awareness: snow pack analysis            Movement on snow            Use of axe for self belaying/cutting steps (ascent; descent; traverse)            Self arrest and analysis of basic teaching points            Emergency shelters</p> <p><b>Ice-Craft</b>            Movement on ice without crampons (step cutting)            Use of crampons with and without axe in ascent, descent and traverse (French; Front point; Hybrid). Teaching points.            Movement on steep snow/mixed type ground in ascent/descent &amp; traverse</p>
2	<p><b>Security on Steep Ground</b>            Avalanche awareness and snow pack analysis            Snow anchors (buried horizontal axe; reinforced horizontal axe; snow bollard and stomper) Their use in ascent and descent            Group management and personal security on steep ground, both in ascent and descent.</p> <p>Note: Use of axe, sling &amp; krab alone. On a 1:1 basis.</p>
3 & 4	<p><b>Mountain Expedition</b>            Three day snow hole expedition. Looking at navigation skills, party leadership, and personal winter survival skills. May include some navigation at night.</p>
5	<p><b>Expedition</b>            Return approx 14:00 hrs clean up and hand back kit.  <b>1:1 Debriefs &amp; feedback</b>            Participants will receive results and Action Plans (If appropriate).  <b>End 1700 hrs</b></p>



## What will I need?

Glenmore Lodge has a large, comprehensive store of up-to-date clothing and equipment. You are welcome to use your own equipment and pick and choose odd items from the store. Your instructor will want to check that personal equipment is appropriate for the activity. If you are thinking about buying equipment (things like ice axe, boots and crampons) but are not too sure what to get we would advise you to come and try our equipment and then make your purchases after the course.

## What we can supply?

- ✓ Basic waterproof jackets and trousers
- ✓ Plastic Boots
- ✓ Gaiters
- ✓ Crampons
- ✓ Ice Axes
- ✓ Helmets
- ✓ Day Sac
- ✓ Snow holing equipment such as shovel, saw, transceiver & avalanche probe
- ✓ Any technical equipment if applicable such as harness, rope and climbing equipment

## What will you need to bring?

Listed here are the essentials; this is not an exhaustive list.

- ✓ Thermals or suitable under clothing
- ✓ Insulating layers – at least one mid weight and one warm fleece layer
- ✓ General trekking trousers are recommended, not jeans though.
- ✓ Thick socks (several pairs)
- ✓ Spare fleece/insulated jacket
- ✓ Waterproof jacket (with a good hood)
- ✓ Waterproof over-trousers or salopettes
- ✓ Hat & balaclava plus spare
- ✓ Mitts & gloves
- ✓ Ski goggles (should have double lens to avoid misting up)
- ✓ Whistle
- ✓ Compass - Silva type 4 recommended
- ✓ Maps and waterproof map case. 1:50,000 map of the Cairngorms
- ✓ Headtorch
- ✓ Rucksack liner
- ✓ Vacuum Flask & Water Bottle
- ✓ Box or bag for packed lunch.
- ✓ Survival Bag - Plastic type
- ✓ Personal toiletries, medications & personal first aid kit (towels are provided)
- ✓ Suncream
- ✓ We have a small pool, sauna, gym & climbing wall - so any relevant kit (including spare towel)

### For Winter ML's (You are welcome to bring all your own camping gear)

- ✓ Suitable Emergency Hill Rope min length 30m
- ✓ Sleeping bag & liner
- ✓ Goretex Bivi Bag
- ✓ Karrimat
- ✓ Cookers, (Trangias, MSR & primus) we have paraffin and meths only. If you prefer to use your own stove you must bring the fuel for it.
- ✓ Pots and pans
- ✓ Cutlery / plastic mug





## Winter Mountain Leader Assessment Home Paper

Candidates are required to complete this home paper before attending their Winter ML Assessment at Glenmore Lodge. It is hoped that this process will help you focus your preparation and make the assessment a more educational experience. In some cases there is no right or wrong answer but we are interested in your opinion. Bullet point answers are acceptable.

The sections noted below are taken from the MLTS Winter ML Syllabus and Guidance Notes.

You must bring the completed paper with you to your assessment. If you have any difficulty with the home paper in its written format, then please contact us to make other arrangements.

NAME:

DATE:

**SECTION 1 – SNOW AND AVALANCHE**  
**SECTION 2 – SNOWHOLES AND EMERGENCY SHELTERS**  
**SECTION 3 – SNOWCRAFT**  
**SECTION 4 – SECURITY ON STEEP GROUND**  
**SECTION 5 - COLD WEATHER INJURIES**  
**SECTION 6 – WINTER WEATHER**  
**SECTION 7 - EXPEDITION SKILLS**

### SECTION 1 - SNOW AND AVALANCHE

1. What are the three headings associated with the 'Avalanche Triangle'?
2. Name possible sources of information for each of these headings?
3. When referencing the SAIS Snow and Avalanche report if the SAIS avalanche hazard is described as 'Considerable' what is the corresponding avalanche 'probability'?
4. What is the difference between a slab and a loose snow avalanche? Which of the two is more common in the UK?



**Marmot**



teko



5. What slope angle is most commonly associated with slab avalanche releases in the UK?
  
6. How do changing weather conditions affect the stability of the snowpack? Describe an example.
  
7. What observations can you make when heading into the hills that will give you clues to the instability of the snow pack?
  
8. Regarding predictive avalanche techniques describe the technique called 'trenching'? What advantages does it have over a rutsch block or shovel shear test?
  
9. **Scenario:** Referring to the information below. Describe your own forecasted snow stability and avalanche hazard outlook, above 1000m, on Day 2 based on the following information:



### Question 9 Scenario Background Info

#### **Observed Weather for Day 1 i.e. what the weather was actually like.**

*A colder day with persistent snowfall in the morning at all levels, snow showers in the afternoon. Light Northerly winds at first then North- West to West winds gradually increased in strength. Poor visibility.*

#### **Observed snow stability and avalanche hazard for Day 1 i.e. what you actually saw.**

*New soft snow accumulations on all aspects mostly above 400 metres. Additionally weakly bonded accumulations of windslab have formed mainly on Northerly through East to Southerly aspects above 700 metres. Shear tests produced easy failures in the snowpack on an East aspect at 1100 metres. Also surface cracks and blocks underfoot were also noted on Northerly aspects at the same level. The avalanche hazard is Considerable*

#### **Forecasted Weather for Day 2.**

*Overnight the wind will be strong Westerly with snow showers. During the day it will be dry with a freezing level of 800 metres at first, rising to 1000 metres later, the strong Westerly winds will continue.*

10. **Scenario:** In poor visibility and in a remote venue (three hours from the road) one of your group of six is caught in an avalanche and buried. Describe how you would manage this situation?



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## SECTION 2 -SNOWHOLES AND EMERGENCY SHELTERS

11. Describe the factors you would take into account prior to constructing an emergency shelter with your group?
12. List three main hazards associated with staying in a snowhole/emergency shelter?

## SECTION 3 – SNOWCRAFT

13. What length and type of ice axe would you recommend for general winter walking and mountaineering use in the UK? Explain your recommendation please.
14. What are the advantages and disadvantages of a boot, used in winter, that does not have a rigid sole?
15. Describe an ideal teaching progression for developing movement skills on snow for a group of novices?
16. If you only had one hour in your day to cover winter technical skills would you focus on self arrest techniques or movement techniques? Please explain your answer.
17. You have been asked by a novice friend what type of crampons you would recommend for hillwalking use. What advice would you give?

## SECTION 4 – SECURITY ON STEEP GROUND



18. Briefly describe three situations when you may decide to use a rope in winter whilst leading a group?
19. Describe the type of ground you would expect to encounter on Grade I winter ground?
20. **Scenario:** You are walking down a windy ridge at the end of your day heading for an overnight stay at a bothy and stop for a quick break, change gloves, grab a drink etc. A gust of winds blows one of your client's rucsacks (with their overnight kit inside) over the edge where it comes to rest 10m down on steep ground (30 degree hard snow) amongst some boulders. You are still two hours from getting to the bothy and the weather is due to deteriorate. Describe your course of action?
21. **Scenario:** You have just summited your objective for the day, Stob Coire Nan Lochan (in Glen Coe) via the North Ridge (heading up from the col south of Aonach Dubh). You are leading a group of experienced novices (you have been with them for the past four days and this is your final day with them – they are all generally good on their feet using axe and crampons and can do basic self arrest). As you start to descend, retracing your route of ascent, one of your team, who is starting to tire, trips (caught a crampon) and takes a short tumble and slide down some steep ground. They successfully arrest their fall with no physical harm. However they are scared by this incident and are very nervous of descending any more steep ground. Describe your course of action to get your team off the hill and back down to your transport at the carpark near Achnambeithach (to help your route planning the information in the box below outlines the avalanche forecast for the day)?

**Question 21 Scenario Information**

*For your information the avalanche forecast for the day is as follows:*

*New soft snow accumulations on all aspects mostly above 400 metres. Additionally weakly bonded accumulations of windslab have formed mainly on Northerly through East to Southerly aspects above 700 metres. Shear tests produced easy failures in the snowpack on an East aspect at 1100 metres. Also surface cracks and blocks underfoot were also noted on Northerly aspects at the same level. The avalanche hazard is Considerable*



## SECTION 5 – COLD WEATHER INJURIES

22. List four major factors, which can contribute to the onset of hypothermia:
- 1/
  - 2/
  - 3/
  - 4/
23. What is the primary concern when handling a hypothermic and deeply unconscious casualty?
24. Very briefly describe the treatment for Frostnip?
25. What simple steps may give some relief from the discomfort of snow blindness?
26. List your course of action for dealing with a group member, on the hill, who is hypothermic?

## SECTION 6 NAVIGATION

27. Highlight the main points to consider when planning a navigation leg in white out conditions?
28. In a navigation context when and why would you use a rope to safeguard progress in poor conditions?



29. In deep snow conditions which method of measuring distance would you use – pacing or timing or both? Explain your reasoning please.

### SECTION 7 WINTER WEATHER

30. In the Northern Hemisphere which direction does air move around a High pressure system?

31. Is a temperature inversion associated with settled or unsettled conditions?

32. From which of the following air masses would you expect the heaviest snow fall on the west coast of Scotland? Why would you expect this to be the case?

(a) Polar Maritime;

Or (b) Polar Continental

33. Given a temperature of 3°C at sea level, and average humidity, what temperature would you expect at 900 metres? Please show your workings:

34. Given a windspeed of 15kph at sea level, what windspeed would you expect at 900 metres?





35. With reference to the onset of a cold front, briefly describe the changes in wind, temperature and pressure?

## SECTION 7 EXPEDITION SKILLS

36. You plan to lead a small group (four adults, mixed sex) on a three day trip winter walking trip using a remote bothy as your base. How would you organise group and personal hygiene arrangements in a way that minimises the impact on the environment?
37. Name three types of bird you may see in the Cairngorms, above 800m, in winter?
38. What is one of the major environmental factors which causes the change in colour of the Blue or Mountain Hare?
39. How does Scottish mountain flora survive the winter?
40. What are the following features?  
A: Fiacail:  
B: Bealach:  
C: Sgurr:  
D: Allt:
41. What does the name **Beinn an t-Sìth** translate as? What is it's significance in Scottish Gaelic folklore and legend?





# WRITTEN PAPER END

