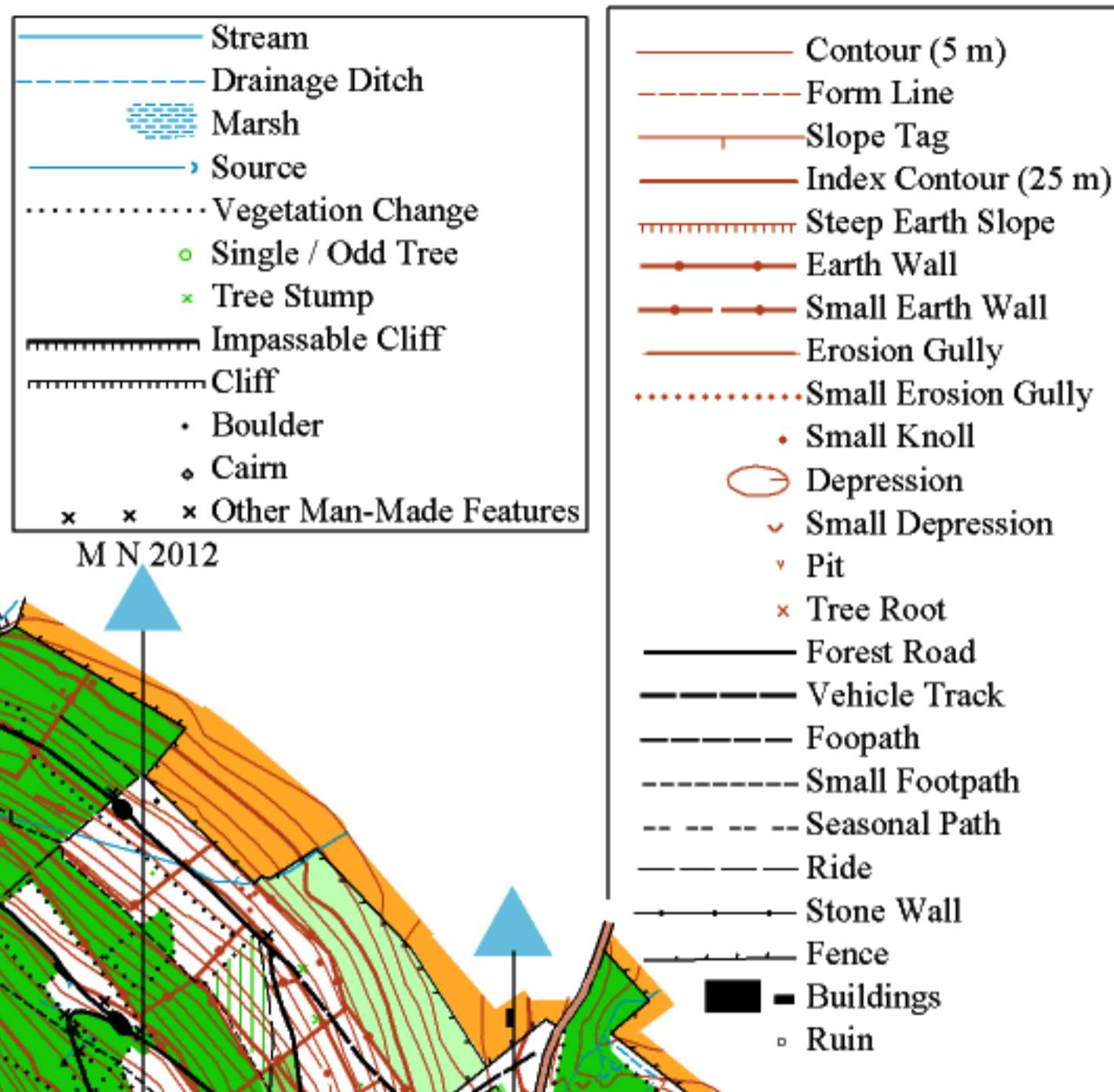


GREEN WOOD

Ardpatrick

0 500 m

CONTOUR INTERVAL: 5 m



M N 2012

Surveyed and drawn 1986 by Sean Cotter & Diarmuid O'Leary.

Updated 1992 and 2012 by SC & DO'L.

Bishopstown Orienteering Club

Bishopstown Hillwalking Club

Schools Orienteering Associations

Tel 021-4546194

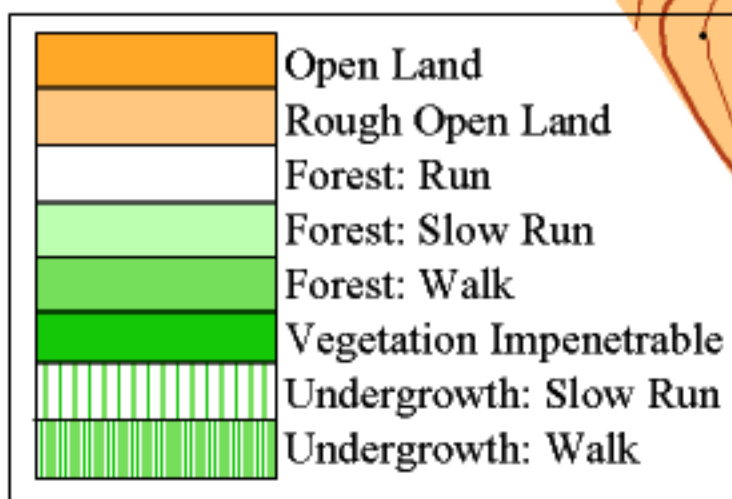
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Google BISHOPSTOWN

Ballyhoura Failte



MEDIUM COURSE
Green Wood
 4.5 km, 150 m, 12 c

CASTLE PHILIPS

BLACK ROCK

SEEFIN MOUNTAIN

Ballyhoura Forest Orienteering Secondary School Level

Your Name

Today's Date

There are 13 Control Points for you to find on this Adventure Challenge.

You will need a Medium Course Map to complete this workbook.



coilce
OUTDOORS

 Ballyhoura
Development
Limited

 Simply Different
Visit Ballyhoura

Control Point 1 – Ballyhoura Forest & Coillte

Coillte is the biggest landowner in the country, managing over one million acres of land or approximately 7% of the total land area in Ireland. Over 800,000 acres of this is planted with forests. Ballyhoura Forest itself is a block of nearly 15,000 acres. This control point is located in a conifer stand. A stand is 'the growing trees, or those of a particular species or grade, in a given area'.

Look around you now - can you identify the trees from the photos below?



Sitka spruce has short cones



Norway spruce has long cones



Larch has needles arranged in clusters.
(Did you know that Larch is a deciduous conifer?)

Name 3 other tree species that are found in Irish forests?

Answer 1: _____

Answer 2: _____

Answer 3: _____

Each correct answer scores 5 points

Control Point 2 – Leave No Trace

Have you heard of the seven principles of Leave No Trace? They are listed below. Think of a reason for each principle that shows why it is important to practice Leave No Trace.



1. Plan Ahead and Prepare
2. Be considerate of others
3. Respect Farm Animals and Wildlife
4. Travel and Camp on Durable Ground
5. Leave What you Find
6. Dispose of Waste Properly
7. Minimise the Effects of Fire

Each correct answer scores 2 points

Control Point 3 – Nutrient Cycle

Dead leaves form a thick litter (a top layer of slightly decayed material) on the ground. Inside it, a rich community of invertebrates – worms, mites and springtails chew the leaves into tiny pieces. Microscopic bacteria and fungi continue to break the leaves down so their nutrients are released back to the soil for the trees to use again.

Match where the energy flows:

Sun	Plant	Fungi	Bacteria	Worms
Soil	Mites	Butterfly	Deadwood	Bird

A red arrow points from the 'Plant' cell in the top row to the 'Butterfly' cell in the bottom row.

Each correct answer scores 2 points



Control Point 4 – Extraction of natural resources

Most of county Limerick is a flat limestone plain with low hills and the two mountain ranges – the Ballyhouras and the Galtees are made of old red sandstone. When ice covered Ireland during the last glacial maximum 13,000 years ago, the grinding action of the moving ice mixed limestone and sandstone together to produce gravel. This gravel also contained some large boulders. When the ice melted, the gravel was deposited across the landscape. At this control point you can see evidence of extraction. There are many gravel quarries in the Ballyhoura area.

What are the main uses people have for gravel?

Answer 1: _____

Answer 2: _____

Answer 3: _____

Each correct answer scores 5 points



Control Point 5 – Acid Oak Woodland

The wooded area beside the stream is a biodiversity area. The features of acid oak woodland typically consists of species able to cope with acidic conditions, such as bilberry, heather, wavy hair-grass, creeping soft-grass, heath bedstraw together with acid loving mosses. The threats to this habitat include deer eating new shoots and seedlings, introduced species such as rhododendron, sycamore & cherry laurel which replace native oak & birch over time. Also a lack of interest, expertise and incentives amongst some landowners such that much oak woodland is left unmanaged, or managed unsympathetically. Fragmentation of the habitat as a result of development is also a threat.

Name three ways to encourage people to preserve this habitat.

Answer 1: _____

Answer 2: _____

Answer 3: _____

Each correct answer scores 5 points

Control Point 6 – Sounds of the forest

Take a rest by the cascading stream and listen quietly to the sounds of the forest.

List 5 sounds that you can hear around you.

Answer 1: _____

Answer 2: _____

Answer 3: _____

Answer 4: _____

Answer 5: _____

Each correct answer scores 3 points



Control Point 7 – Forest Recreation

Outdoor recreation is very popular in Ireland. More and more people are realising the benefits of exercising out in nature. Ballyhoura Forest is synonymous with both mountain biking and walking. There are over 90km of biking trails to choose from and many kilometres of walking trail to explore.

Can you name one of the waymarked walking trails in this forest?

Answer 1: _____

Name the 3 advantages to exercising in the outdoors.

Answer 2: _____

Answer 3: _____

Answer 4: _____

Name 2 other non-motorised recreation pursuits that you may find in Ireland's forests.

Answer 5: _____

Answer 6: _____

Each correct answer scores 2 points



Control Point 8 – Contested Environments

Look towards the hills opposite with Castle Oliver mansion and the Folly on the slopes. A wind turbine is seen on the top. Wind energy is a renewable source of energy.

“Wind energy can be harnessed to provide a clean competitive reliable and predictable electricity source to power Ireland into the 21st century. Moreover, since wind-generated electricity respects the environment, many ancillary costs normally associated with other energy sources are saved. For instance there are no greenhouse gas emissions, no waste to be recycled, no resulting public health problems, etc. It is the ultimate clean energy”
The Sustainable Energy Authority of Ireland

“The Gweebarra Conservation Group was formed to promote the preservation of the unique landscape in the Gweebarra and adjoining townlands in South West Donegal. The Gweebarra and surrounding townlands contain many legally protected species and habitats which are now under threat from high voltage power lines, mining prospectors, industrial wind turbines and a growing litter problem subsequent to the increase in recycling charges by Donegal County Council in 2009.”
The Gweebarra Conservation Group

Consider the two viewpoints above. What is your opinion for a new wind farm in the Ballyhoura Mountains?

There are 15 points available for effort



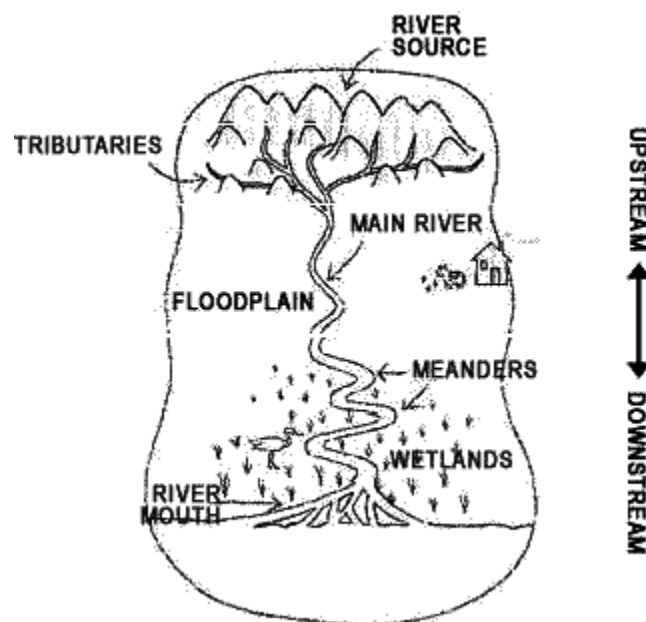
Control Point 9 – Three stages of a river course

From this viewing point, you can see down onto the fast moving stream eroding the rock underneath. Key features of this stage of the river are interlocking spurs, waterfalls and rapids.

Q1 What stage is this river at?

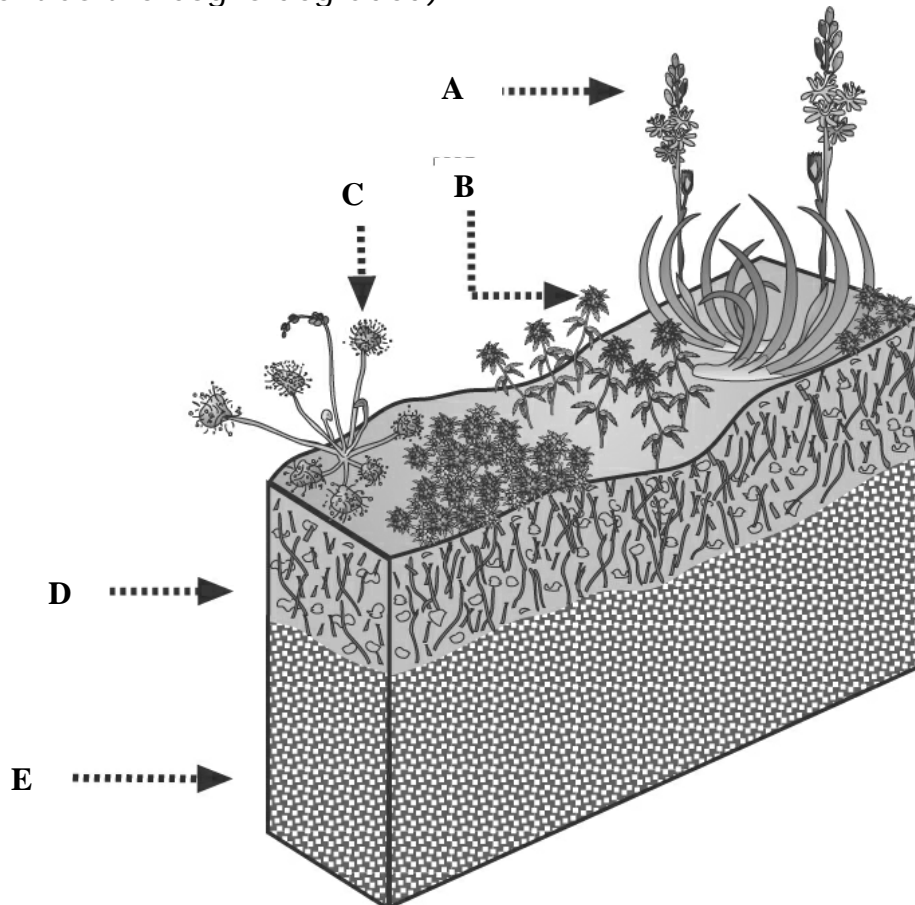
Q2 What shape is the river valley?

Each correct answer scores 2 points



Control Point 10 – Blanket bogs

Blanket bogs are valuable wetlands, not wastelands. Only a small amount of blanket bog exists in the world. Ireland possesses 8% of the world's blanket bog and is the most important country in Europe for this type of habitat. They form on the surface of mountains. Underneath the forest you can find evidence of a blanket bog. Looking at the soil cross-section at this control point, match the parts of blanket bog with the diagram. (Note: not all parts are present as the bog is degraded).



1. Sundew
2. Bog Asphodel
3. Acrotelm – Top layer the living skin of the bog
4. Sphagnum mosses
5. Catotelm – Lower peaty layer of blanket bog, dark colour
eg. 1 = C

Answer 1: _____

Answer 2: _____

Answer 3: _____

Answer 4: _____

Each correct answer scores 2 points

Control Point 11 – Deer stalking

Fallow deer have been recorded in the Ballyhoura area. Fallow deer were introduced by the Normans along with rabbits as a food source. Other deer in Ireland are Red deer which are native, Sika deer were introduced to Ireland by English gentlemen for game-shooting. Sika deer are present in Cork and Kerry and may soon be seen in Limerick. Deer are grazers and browsers which mean they feed on young shoots and leaves. During the rut in the autumn, male deer often sharpen the tines of their antlers using the trunks of trees.

Find four pieces of evidence that deer have been at this spot.

Answer 1: _____

Answer 2: _____

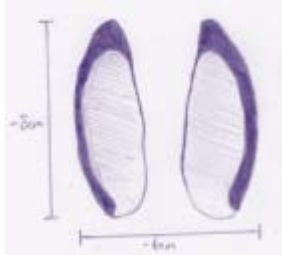
Answer 3: _____

Answer 4: _____

Each correct answer scores 2 points



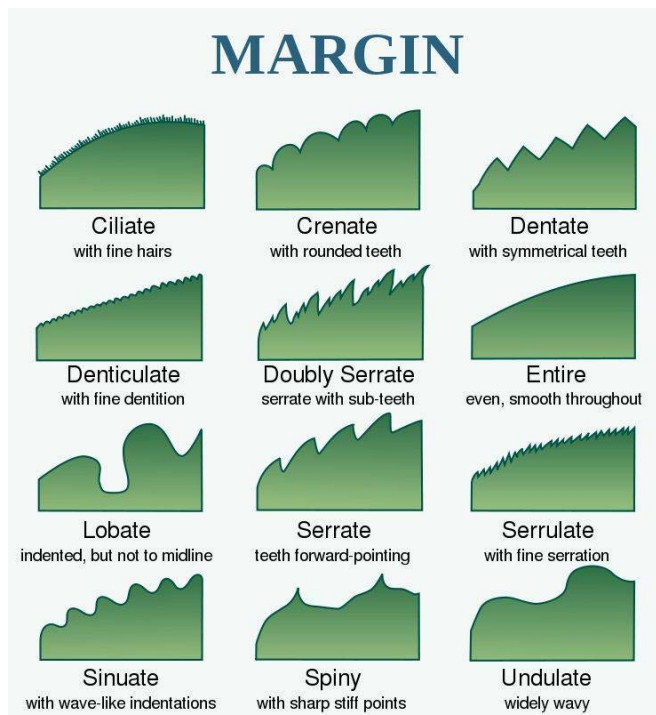
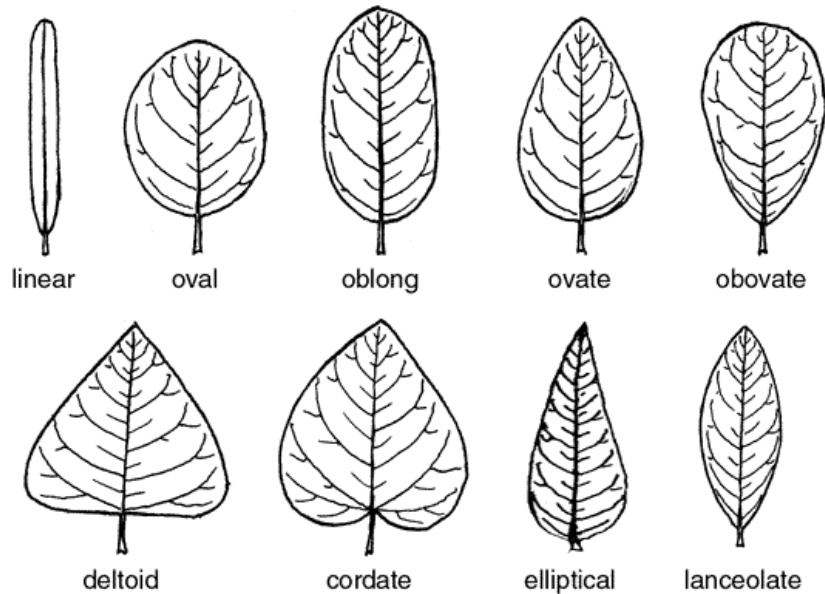
Fallow deer track (7cm x 4cm)
(a long pair of slippers)



Sika deer track (8cm x 6cm)
(raised edges)

Control Point 12 - Beech tree stand

There are 6 key identifying features of a tree: the bud, the leaf, the flower, the fruit, the bark and the scent. Pick up a beech leaf. Which one of these shapes is the beech leaf? Look at the leaf margin. Which one of these margins does the beech leaf have?



Describe the shape and margins of two other leaves found in this area. *10 points available here*

Control Point 13 – Food Chain

What is a food chain?

The transfer of energy from primary producers (green plants) through a series of organisms - primary consumers (herbivores) and secondary consumers (carnivores).

Producers (autotrophs)	Primary consumers (herbivores)	Secondary consumers (carnivores)	Top carnivores	Decomposers
---------------------------	--------------------------------------	--	-------------------	-------------

Fill in the Ballyhoura forest food chain:

Producer	Primary consumer	Secondary consumer	Top carnivores	Decomposers

10 points available here

An autotrophic organism makes its own food.

A heterotrophic organism needs other organisms to provide it with food.

Name two Ballyhoura autotrophic and two heterotrophic organisms.

Answer 1: _____

Answer 2: _____

Answer 3: _____

Answer 4: _____

Each correct answer scores 2 points

**Ballyhoura Forest
Orienteering
Secondary Workbook Answer Sheet**

Question		Answer	Total
Q1	Ballyhoura Forest & Coillte	Sitka spruce, larch, Norway spruce, oak, beech, holly etc.	<hr/> 15
Q2	Leave No Trace		<hr/> 14
Q3	Nutrient cycle	Sun-Plant, Plant-butterfly-bird, Deadwood-mites-bacteria-worms-fungi-soil, Soil-plant, Worms-bird, etc.	<hr/> 8
Q4	Extraction of natural resources	Making cement Building roads Manufacturing glass	<hr/> 15
Q5	Acid Oak Woodland	Educational walks & events Provide financial incentives Volunteer to remove invasive species Other	<hr/> 15
Q6	Sounds of the forest		<hr/> 15
Q7	Forest Recreation	<ol style="list-style-type: none"> 1. Ballyhoura Way, Blackrock Loop, Nature Trail, Lyre na Freaghaun, Canon Sheehan Loop. 2. Physical health, mental health, good value for money, exploring nature etc. 3. Horse riding, trail running, dog mushing, archery, paint balling. 	<hr/> 12

Q8	Contested Environments		
Q9	Three stages of a river course	1. Upper course or youthful stage 2. V-shaped valley	<u>4</u>
Q10	Blanket bogs	2. A 3. D 4. B 5. E	<u>8</u>
Q11	Deer stalking	1. Flattened animal paths and grass. 2. Droppings. 3. Footprints. 4. Tree leaves with bite marks. 5. Tree branches & trunks gouged and scored by antlers. 6. Sound of male during the rut.	<u>8</u>
Q12	Beech tree stand	Beech leaf is ovate and margin is entire (or ciliate in the spring).	<u>10</u>
Q13	Food Chain		<u>18</u>
		Total	142