



Education Pack

Cwm Idwal National Nature Reserve

Produced by the
Cwm Idwal partnership
and the Field Studies Council



www.cwmidwal.cymru



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▼ **DOWNLOAD FROM OUR WEBSITE:**

Activities and resources

- Geological drama
- Picture map
- Conflict cards
- Glaciation bingo
- Darwin comic strip
- Striation orientation
- Geomorphological mapping



Section 1:

Planning your visit

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Planning your visit

INTRODUCTION

This education pack has been produced to help teachers and group leaders plan safe and inspiring educational visits to Cwm Idwal National Nature Reserve (NNR).

It provides practical information to help plan the visit (location, facilities, contact details etc.) and some educational activities which can be carried out in the field, along with suggestions for pre/post visit sessions in the classroom.

This pack is intended as a starting point for those leading groups, in order to help develop their own approaches and activities, specific to the needs and interests of their group.

MORE INFORMATION CAN BE FOUND ON OUR WEBSITE:
WWW.CWMIDWAL.CYMRU/EN/

THE OUTDOOR CLASSROOM

Cwm Idwal is the oldest NNR in Wales, designated in 1954 to help protect its special features. It is widely regarded as being an excellent "outdoor classroom" with many interesting features to look at and study, each relevant to many different areas of the curriculum. This, coupled with the dramatic landscape makes it a highly engaging and inspiring place to learn. Learning in nature also provides a wide range of health and well-being benefits, helping learners feel happier, healthier more engaged and motivated to learn.

Some of the main topics which groups come here to study include:

GEOLGY AND GEOMORPHOLOGY:

Cwm Idwal is famous for its unique and interesting geology with abundant evidence of glaciation and is therefore a great place to study how mountains were made.

RARE SPECIES:

Cwm Idwal NNR is home to a variety of rare and highly specialised

arctic-alpine plants such as Purple Saxifrage, Mountain Avens and the Snowdon Lily. If you're lucky you might see some rare upland birds such as Ring Ouzel or Twite, but there are also plenty of other birds for the more casual visitor to see; Ravens, Dippers and Wagtails to name a few.

NATURAL SUCCESSION AND LAND MANAGEMENT:

A long-term project which studies the effect that removal of grazing animals has on vegetation makes this a great place to study natural succession. This can also facilitate debate on how we manage land sustainably and balance the different needs of society (food production, recreation, biodiversity etc.)

TOURISM AND RECREATION:

Cwm Idwal is a very popular place with visitors, making it a good place to study the effects of tourism and how the various conservation bodies work together to manage the impact of people on the landscape and habitats.

Section 1: Visiting Cwm Idwal NNR

Cwm Idwal NNR covers an area of 398ha (983 acres) at an altitude ranging from 373m to 1001m above sea level and includes some serious mountain terrain. However, despite the dramatic mountainous location, it is possible to visit the reserve relatively safely with a group by following the stone-pitched footpath up to and around Llyn Idwal lake.

Allow a minimum of 3 hours to do this walk with a group, more if you wish to carry out the suggested activities.

WHO CAN HELP ARRANGE YOUR VISIT

The Cwm Idwal Partnership Officer is based in the visitor centre at the beginning of the footpath to Cwm Idwal. They can help with advice to plan your visit and can also be booked (subject to availability) to meet your group and give an introduction to the NNR.

CWM IDWAL PARTNERSHIP OFFICER

Canolfan Cwm Idwal
Nant Ffrancon
Bethesda
Gwynedd
LL57 3LZ

01248 605535

✉ WELCOME@CWMIDWAL.CYMRU





**Cyfoeth
Naturiol
Cymru**
**Natural
Resources
Wales**

NATURAL RESOURCES WALES:

Natural Resources Wales (NRW) is a Welsh Government sponsored body whose purpose is to pursue the sustainable management of natural resources in all of its work. This means looking after air, land, water, wildlife, plants and soil to improve Wales' well-being, and provide a better future for everyone.

They are responsible for upholding various environmental regulations relating to water and land use, responding to environmental emergencies like flooding, monitoring the condition of our environment and issuing licences for certain activities to take place.

They are also responsible for designating and monitoring our network of protected areas including Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs).

Natural Resources Wales manages 56 of Wales's National Nature Reserves, either entirely, or in partnership such as here in Cwm Idwal.



NATIONAL TRUST:

The National Trust is a charity which was founded in 1895 to preserve and protect special places of historic interest and natural beauty forever for everyone.

Today, they own and care for over 250,000ha of farmland, 780 miles of coast and over 500 historic properties, gardens and nature reserves across Wales, England and Northern Ireland. They are supported by 5.6 million members and rely on the help of over 65,000 volunteers.

Cwm Idwal is part of the National Trust's Carneddau & Glyderau estate which includes high mountains, lakes, rivers and traditional hill farms.



ERYRI NATIONAL PARK

Covering a total of 823 square miles, Eryri is Wales' largest National Park. Home to over 26,000 people, Eryri's landscape is steeped with culture, history, and heritage, where the Welsh language is part of the day-to-day fabric of the area.

Eryri (Snowdonia) National Park Authority's work covers a wide range of issues from planning and development to conservation, forestry and agriculture.

The Authority is the primary public body responsible for the National Park and has statutory functions that must be fulfilled, these are:

- To protect and enhance natural beauty, wildlife and cultural heritage
- To promote opportunities for the public to understand and enjoy the special qualities of the National Parks.

In fulfilling these functions, National Park Authorities are also required to support the economic and social well-being of the National Park's local communities.

Section 1: Visiting Cwm Idwal NNR

HOW IS CWM IDWAL PROTECTED?

Cwm Idwal is among the most protected sites in Wales with a multitude of designations protecting this special place. Here are the designations that protect the site, what they do and who is responsible for them.

NATIONAL NATURE RESERVE (NNR)

These were set up to conserve and to allow people to study their wildlife, habitats or geological features of special interest. Cwm Idwal was Wales' first National Nature Reserve, established in 1954 due to its unique geology and the rare plants that are connected to that geology. In Wales, Natural Resources Wales (NRW) selects and designates National Nature Reserves under the National Parks and Access to the Countryside Act 1949, or under the Wildlife and Countryside Act 1981. Most NNRs in Wales are managed by NRW, others are managed by charities such as the National Trust, by local authorities, or in a partnership such as with Cwm Idwal.

SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)

A conservation designation aimed at protecting an area and particular features within it. These features can be plants and animals or can even be physiological and geological features. The designation allows the features to be protected by law, making it unlawful to deliberately damage them. In Wales they are designated by Natural Resources Wales.

SPECIAL AREA OF CONSERVATION (SAC)

These are chosen to make a significant contribution to conserving habitats and wildlife species that live there, named in the EC Habitats Directive. In Wales Natural Resources Wales are responsible for managing SACs.

RAMSAR SITE

Designated to internationally important wetland sites. Llyn Idwal is one of 10 Ramsar sites in Wales based. It is an excellent example of an oligotrophic upland lake (nutrient poor) and containing some very rare species that live in such conditions.

NATIONAL PARK

1. To protect and enhance natural beauty, wildlife and cultural heritage.
2. To promote opportunities for the public to understand and enjoy the special qualities of the National Parks.
3. In fulfilling these functions, National Park Authorities are also required to support the economic and social well-being of the National Park's local communities. Snowdonia National Park is also the statutory planning authority in the area.

Section 1: Visiting Cwm Idwal NNR

Cwm Idwal National Nature Reserve

THE CWM IDWAL PARTNERSHIP

Today Cwm Idwal is managed in partnership between Natural Resources Wales, The National Trust and Eryri National Park. The partnership was formed in 2010 to enable the three organisations involved in managing Cwm Idwal to work more closely together in order to protect, conserve and share the special qualities of the NNR.

The Partnership employ an officer based at the visitor centre and works closely with schools, universities, outdoor centres, volunteers and community groups to make the most of the NNR for recreation, education and well-being.

THE PARTNERSHIP'S WORK

FOOTPATH WORK

To manage the high number of visitors to Cwm Idwal each year the partnership maintains the footpaths in the reserve.

Effective footpaths help to safeguard sites like Cwm Idwal in several ways. Paths with stone surfaces and good drainage can withstand the volume of traffic and heavy rainfall seen in Cwm Idwal. They also suit the landscape and are very attractive to the majority of walkers – most visitors tend to stay on the paths meaning that the effects of erosion can be minimised. Additionally, footpaths can be used to direct traffic flow away from particularly sensitive or fragile areas.

GRAZING CONTROL

Since 1998 sheep and cattle grazing has been removed from Cwm Idwal as part of a long-term experiment observing natural succession rates. The site is too large and complex to fence completely, so sheep from neighbouring farms will naturally encroach onto the nature reserve. To manage this the Partnership employ shepherds who help direct the wandering sheep back on to their farms. The effect on the grazing removal can be seen by comparing the vegetation type on both sides of the wall adjacent to the lake. Older, smaller grazing exclusion plots established in the

1970s also contain trees, giving a hint at what wider parts of the cwm may look like in the future.

You can read more about the management of Cwm Idwal here:

➤ [CWMIDWAL.CYMRU/EN/
MANAGING-THE-RESERVE/](https://www.cwmidwal.cymru/en/managing-the-reserve/)

EDUCATION

An important part of the Partnership's work is to provide information and learning opportunities about the Nature Reserve. This includes the visitor centre, website, and interpretation material. An officer is also available who provides walks and talks about the National Nature Reserve. Not only does this help people learn about Cwm Idwal, but this in turn helps to protect Cwm Idwal also.

TEMPERATURE SENSORS

An innovative example of the Partnership's work is to protect rare arctic alpine plants from unintentional damage by winter climbing in inappropriate conditions. In winter, if the temperature is too warm, ice climbing equipment can damage plants in unfrozen turf. Temperature sensors placed at the climbing cliffs transmit live temperature data to the visitor centre and online where climbers can see if the cliffs are in good condition for ice climbing or not before they venture out. Data on the live temperature sensors can be found here

➤ [WWW.THEBMC.CO.UK/IDWAL](https://www.thebmc.co.uk/idwal)

Section 1: Cwm Idwal Walk

START / FINISH:

Canolfan Cwm Idwal
(SH 6493 6035)

RELEVANT OS MAP

OS Explorer OL17
(Snowdon and Conwy Valley)

DISTANCE: 4km / 2.5 miles

TIME: 1-2 hours

HEIGHT GAIN: 125m

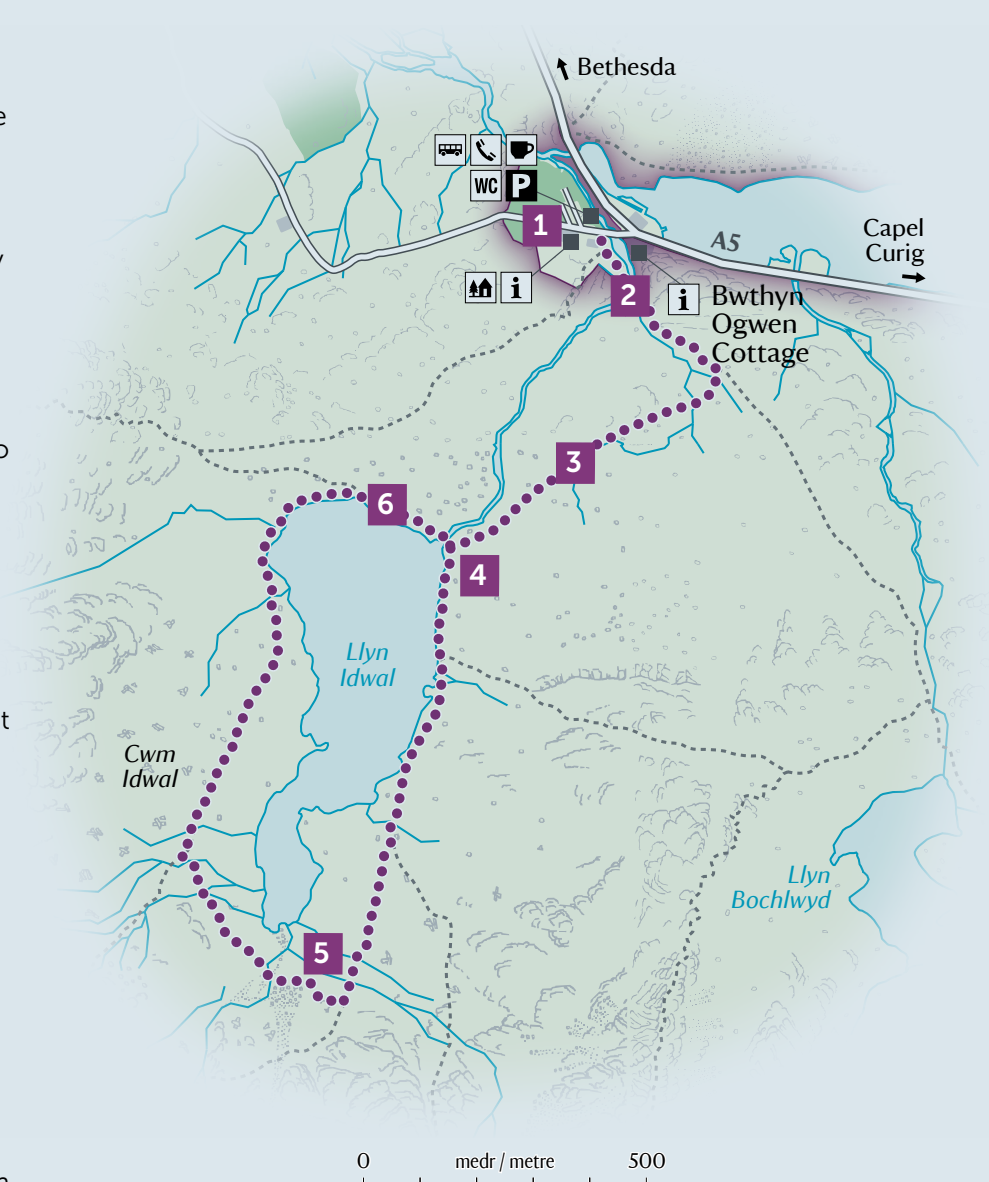
STRENUOUSNESS: 3

NAVIGATION: 2

TECHNICALITY: 2

TERRAIN: A clear, stone-pitched path for most of the route with a gentle hill up to the lake then mostly flat. Some sections can be slippery in wet or icy conditions.

- 1** From Canolfan Cwm Idwal (SH 6493 6035) follow the steps to a stone-pitched footpath and continue, ignoring the path to the right.
- 2** Go through the metal gate, cross the wooden bridge and continue along the wide path, ignoring any smaller paths which join it.
- 3** Stay on this wide path for 750m until you reach the lake shore.
- 4** From here go left to follow the path clockwise (it is possible to go anti-clockwise too) around the lake.
- 5** At the far end of the lake, just before the Idwal Slabs (huge cliffs) don't miss the path down to the right which will lead you across the flat grassy area before regaining the path, then bear right to continue around the lake.
- 6** Stop at the beach for some photos and stone-skimming competitions. Llyn Idwal is home to a sensitive collection of plants which thrive in the nutrient poor waters. It is internationally under the RAMSAR convention.
- 7** Continue along the beach to regain the path, go through a gate and cross the slate bridge to complete the circuit.
- 8** Turn left back along the wide path to return to Ogwen Cottage.



Section 1: Visiting Cwm Idwal NNR

WHEN TO VISIT

Spring, summer and autumn are generally the best times to visit although the summer holidays (July & August) can be very busy with other visitors. With this in mind, most educational groups tend to visit in the months of May, June and September. The NNR is open year-round but the winter months can bring challenging weather conditions potential for strong wind, rain, snow and ice, for these reasons when planning a visit in winter, you should allow some flexibility to make sure you get the most from your visit and to ensure your group are safe and comfortable. Always check the weather forecast beforehand and be prepared to postpone/cancel the visit if necessary.

GETTING HERE

Cwm Idwal NNR is easily accessible by coach, minibus or car. The visitor centre and car park are located on the A5 road between Bethesda (4 miles) and Capel Curig (5 miles).

LOCATION

Postcode: LL57 3LZ

Grid Reference (visitor centre): SH 649 603

Cwm Idwal can be reached by public transport via the T10 Traws Cymru (Bangor - Corwen)

➤ WWW.TRAVELINE.CYMRU

service. A local service 'Bws Ogwen' also run a small shuttle bus from Bethesda during the summer months. Contact the Cwm Idwal Partnership Officer for more information on public transport.

FACILITIES

Pay and display car park by the visitor centre (suitable for cars and minibuses).

Laybys on A5 (for coaches and overflow car parking).

Visitor centre with interpretation room for information and shelter – open daily during office hours.

Toilets – open 24h every day.

Free Public WiFi.

Ogwen Snackbar – open all year (apart from weekdays in January). Provides snacks (pies, sausage rolls), chocolate bars, hot & cold drinks, ice-creams, maps, hats etc.

Please note: Parking is an issue in the area and is currently under review, so current arrangements are subject to change. If you are unsure, contact the Cwm Idwal Partnership Officer for the latest information.

WHAT TO WEAR

The weather can change quickly in Cwm Idwal and it is vital that everyone in your group is properly equipped. Of course, you should always check the weather forecast beforehand, but be prepared for it to change. All members of your group should bring:

- Warm clothes, including a good coat (lots of layers!)
- Waterproofs
- Sturdy shoes/boots
- Hat (warm hat or sun hat, depending on the time of year) and gloves
- Sunscreen
- Rucksack
- Packed lunch
- Water bottle

In addition to this, the group leader should bring:

- Map and compass and a GPS, if you have one
- First aid kit
- Emergency group shelter
- List of group members, including medical and emergency contact details
- Mobile phone
- Torch
- Whistle

* **MORE INFORMATION CAN ALSO BE FOUND ON**
➤ ADVENTURESMART.UK

COSTS

There is no charge to visit the NNR, the surrounding mountains or to use the visitor centre. However, you will need to consider costs such as transport and parking when planning your trip.

Section 1: Visiting Cwm Idwal NNR

PREPARATORY VISIT

Visiting the site before your trip will be highly beneficial and will help you to prepare thoroughly. A pre-trip visit will be useful for informing risk assessments, checking facilities, getting to know your way around and planning your activities.

HEALTH & SAFETY

There is a legal requirement for a process of risk assessment to take place in most outdoor learning situations. You should check these requirements and guidelines with your school or local authority.

➤ WALESCOUNCILFOROUTDOORLEARNING.ORG

➤ OEAPNG.INFO

➤ EVOLVEADVICE.CO.UK

A Balanced Approach – In accordance with the Health and Safety Executive

When planning and providing learning opportunities and experiences, the goal is not to eliminate risk but to weigh up the risk and benefits and act accordingly. You could include a discussion about risks, benefits and staying safe in the outdoors as part of your visit.

FIRST AID

One of the group leaders should hold a valid first aid certificate and all adults in your group should know how to contact the emergency services.

As a minimum, you should ensure that you have:

- A suitably stocked first-aid kit, which is accessible at all times
- An appointed person to be in charge of first aid incidents
- An emergency contact list

Your school or local authority will have standard emergency procedures and these should be followed in the event of an incident.

HAZARD INFORMATION

It is the responsibility of teachers and group leaders to complete a risk assessment before any outdoor learning site visit. The potential hazards listed here are generic and should be viewed as a starting point for writing a specific risk assessment for your visit.

Potential hazards in Cwm Idwal:

- Traffic on the road and in the car park
- Uneven rocky paths
- Steep ground and cliffs
- Wet and slippery surfaces
- Snow and ice
- River – moving water and steep banks
- Lake – deep water and steep banks
- Other visitors – walkers, dogs etc.
- Livestock – cows, ponies and sheep graze alongside the approach path
- Risk of infection from soil/water microorganisms

- Risk of getting lost/separated from the group
- Bites/stings from insects
- Ticks / Lyme disease
- Gates, stiles, fences (including barbed wire)
- Extreme / changeable weather

WHAT TO DO IN AN EMERGENCY

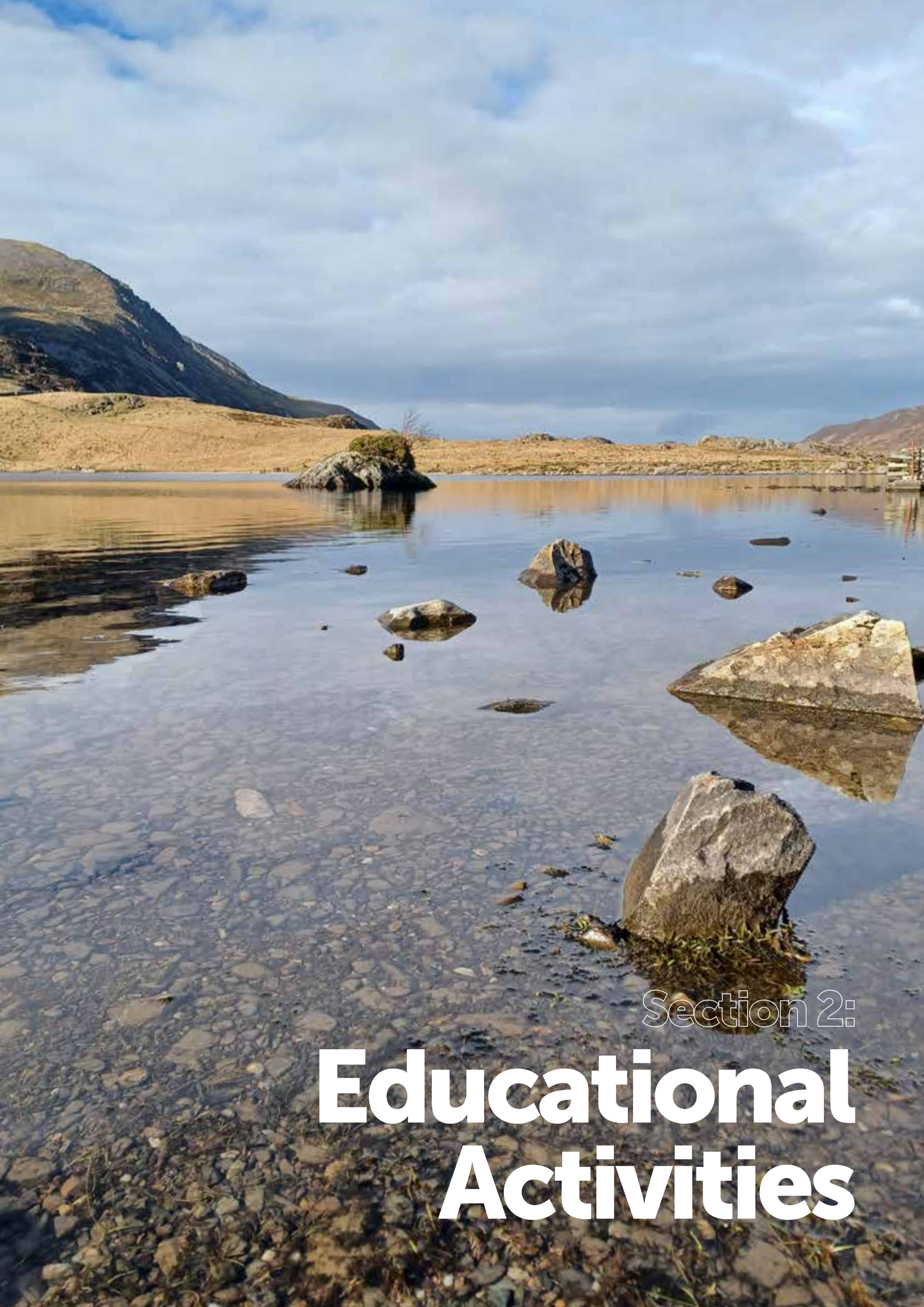
If you require assistance and are able to return to the visitor centre, then call the relevant emergency services (Ambulance, Police, Fire) by dialling 999.

If you are unable to return to the centre and require emergency assistance on the mountain you should contact the Police by dialling 999 and then ask for mountain rescue. You should provide the following details:

**YOUR NAME AND CONTACT DETAILS
DETAILS OF THE CASUALTY/
INCIDENT
YOUR LOCATION – BE
PRECISE AND GIVE A GRID
REFERENCE, IF POSSIBLE**

Mobile phone signal is patchy in the NNR, the best reception is found to the north of the lake by the viewpoint looking down Nant Ffrancon (SH 646 602). Alternatively, you could send somebody to the visitor centre to try to find help.

➤ 2021.ADVENTURESMART.UK/KNOW-HOW-AND-WHEN-TO-GET-HELP



Section 2:

Educational Activities

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Educational Activities

FIELD STUDIES COUNCIL

The activities in this section, along with the accompanying resources were developed by the Field Studies Council.

The Field Studies Council is an educational charity providing high quality teaching & learning and delivering first hand experiences in the outdoors.

They aim to get people connected to nature, advocate sustainability and improve well-being. They have 20 centres across the UK, including Rhyd y Creuau near Betws y Coed. If you would like to have a qualified Field Tutor to run your educational visit to Cwm Idwal, get in touch with the Field Studies Council.

For more information or to book your visit go to

➤ WWW.FIELD-STUDIES-COUNCIL.ORG

WHAT MAKES GOOD OUTDOOR LEARNING

Good outdoor learning experiences usually include elements of discovery, opportunities to connect with the natural world, building respect for the natural environment, improving resilience and well-being and can often (but not always) involve challenging scenarios or physical activity.

For more information have a look at the High Quality Outdoor Learning for Wales document

➤ WALES COUNCIL FOR OUTDOOR LEARNING

The guide clearly outlines the benefits of learning and teaching in the natural environment and has been written to help you evaluate and then set about improving, or further improving, the quality of outdoor learning. In support of this, ten key outcomes of outdoor learning have been identified with a range of indicators attributed to each one.

Section 2: Educational Activities

PLANNING FOR OUTDOOR LEARNING

There are so many benefits to outdoor learning, so getting senior leaders on board early will help with making your vision a reality and help the visit go smoothly. As with classroom learning; hunger, cold or other distractions can hinder good learning outcomes. Planning for this can dramatically improve the efficacy of your session.

As well as curriculum content and knowledge, outdoor learning provides lots of opportunities for inclusion of cross-curricular themes (e.g. citizenship (British / Cymraeg / global), PSHE, SMCS etc.)

Conducting lessons in the outdoor classroom also provides young people with personal challenge and opportunities for development e.g. broadening horizons through new experiences, teamwork, problem solving, building resilience, gaining confidence, increasing motivation, communication and social skills.

As a group leader in the outdoors, it's vitally important to remember to include quality reflection time.

AS A MINIMUM:

WHAT WENT WELL;

WHAT COULD WE IMPROVE ON;

HOW DO I FEEL ABOUT WHAT WE'VE DONE;

WHAT SKILLS HAVE I LEARNED/ DEVELOPED;

WHAT "NEXT STEPS" DO I WANT TO TAKE

As outdoor educators we kindly request that you impress upon your learners the importance of a "leave no trace" policy when interacting with nature. The old adage "leave only footprints, take only memories" epitomises our approach to connecting with our wild spaces.

Further information on outdoor learning is available from:

- Institute for Outdoor Learning
➤ [OUTDOOR-LEARNING.ORG](https://www.outdoor-learning.org)
- Wales Council for Outdoor Learning -
➤ [WALESCOUNCILFOR OUTDOORLEARNING.ORG](https://www.walescouncilforoutdoorlearning.org)
- English Outdoor Council -
➤ [ENGLISHOUTDOORCOUNCIL.ORG](https://www.englishoutdoorcouncil.org)
- Natural Resources Wales
➤ [NATURAL RESOURCES WALES / RESOURCES FOR EDUCATORS AND TEACHERS](https://www.naturalresources.wales/resources-for-educators-and-teachers)

Section 2: Educational Activities

SUMMARY TABLE

This table provides an overview of all the activities detailed in the resource pack; more information is given on the activity cards for specific activities.

These activities have been designed to give a range of options for differentiation as well

as opportunities for progression. Please feel free to adapt or extend these activities to meet the needs of your learners. Similarly, it would be fairly simple to adapt the activities for different ages of learners; this document is intended as a guideline only.

Our aim is to inspire and support teachers to use the nature reserve as an outdoor classroom; please ask if you want further guidance. To make the most out of your time at the reserve, you may choose to combine a variety of activities to fill a whole day.

ACTIVITY	AGE GROUP	TIME REQUIRED	AREAS OF LEARNING & EXPERIENCE
Geological Drama	KS2	1-2 hours	<ul style="list-style-type: none"> • Languages, Literacy & Communication • Humanities • Expressive Arts • Health & Well-being • Mathematics & Numeracy
Picture Map	KS2	1-2 hours	<ul style="list-style-type: none"> • Humanities • Expressive Arts • Health & Well-being
Conflict Cards	KS3	1-2 hours	<ul style="list-style-type: none"> • Languages, Literacy & Communication • Humanities • Health & Well-being
Glaciation Bingo	KS4	1-2 hours	<ul style="list-style-type: none"> • Humanities • Health & Well-being
Darwin Comic Strip	KS4	1-2 hours	<ul style="list-style-type: none"> • Languages, Literacy & Communication • Humanities • Health & Well-being • Science & Technology
Striation Orientation	KS5	2-4 hours	<ul style="list-style-type: none"> • Humanities • Health & Well-being • Science & Technology
Geomorphological mapping	KS5	2-4 hours	<ul style="list-style-type: none"> • Humanities • Health & Well-being • Science & Technology