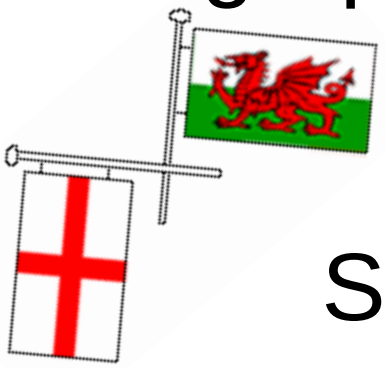
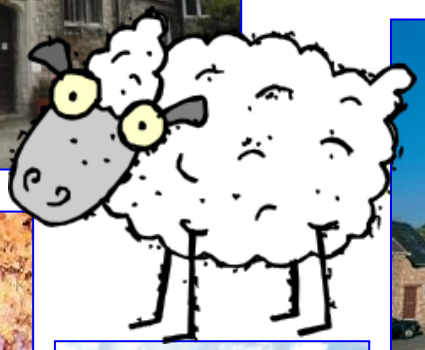
Geography Revision Weekend
Snowdonia

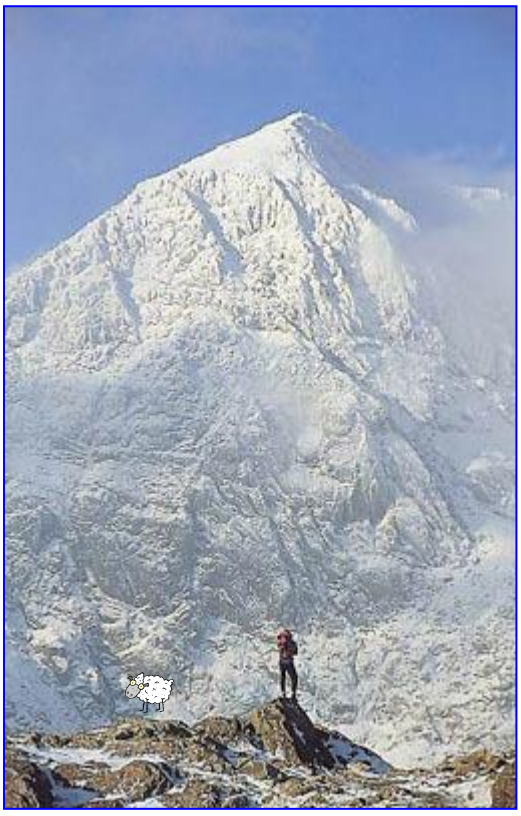


Sample Itinerary



Name _____

Bore da Good morning
Prynhawn da Good afternoon
Noswaith dda Good evening
Nos da Goodnight
Helô Hello
Sut mae? How are you?
Croeso Welcome
Hwyl Bye
Hwyl am nawr Bye for now
Y Ddraig Goch ddyry gychwyn The Red Dragon will show the way
Sais an Englishman



Study Area 1 – Coniferous Woodland Beddgelert.

People and the Natural Environment Ecosystems

Podsol soil - a soil that develops in temperate to cold moist climates under coniferous or heath vegetation; an organic mat over a grey leached layer

What are the four key ingredients of soil?

1.
2.
3.
4.

Carefully make a sketch of the Podsol profile in the box underneath.

Title.

Label the positions of the humus layer and the A,B and C horizons (you may not be able to see all three) and the Iron Pan.

Mark L for leaching in places where it occurs.

Explain why leaching occurs. _____
_____
_____

Explain how leaching has influenced the characteristics of this particular study area _____
_____
_____
_____
_____

Human Activity in Coniferous Forests

Look at the view ahead of you. Annotate the photo below to display as many ways as you can see that humans are actively using and exploiting this ecosystem.

Title

In the space to the left, sketch a diagram of a coniferous tree.

Label the following and explain why they are an adaption to climate.

1. Conical Shape
2. Downward sloping branches
3. Evergreen
4. Needle Leaves
5. Thick Bark

Study Area 2 – Sygun Copper Mines, Beddgelert

People and the Human Environment - Industry

This self guided tour of the old mines will take approximately 1 hour. Ensure that your helmet is securely fastened and watch your head.

Points to consider for discussion.

Why was copper ore so sought after?
What were the original techniques used?
At what age could you gain employment in the copper mine?
How long was an average day underground?
Were there any health and safety issues?
Where was the copper ore transported to?
What were the final products?
How many people were employed in this particular mine?
What is the difference between a stalactite and a stalagmite?

Study Area 3
Electric Mountain, Llanberis

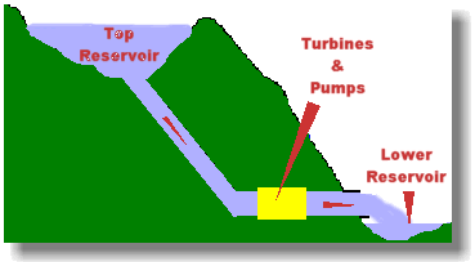
People and the human environment – HEP & Modern Industry.

You must be in the reception area of Electric Mountain for 12.55pm. Failure to arrive on time will mean you miss the tour.

What is the principle behind pumped storage HEP ?_____
_____
_____
_____

What happens to the water at the end of the process? _____
_____
_____
_____

What makes Dinorwig almost unique in terms of HEP production?
_____
_____
_____



Which two reservoirs create the set-up at Dinorwig?

_____
_____

HEP production and the environment.

Make notes on the following attempts by Dinorwig to reduce their impact on the National Park.

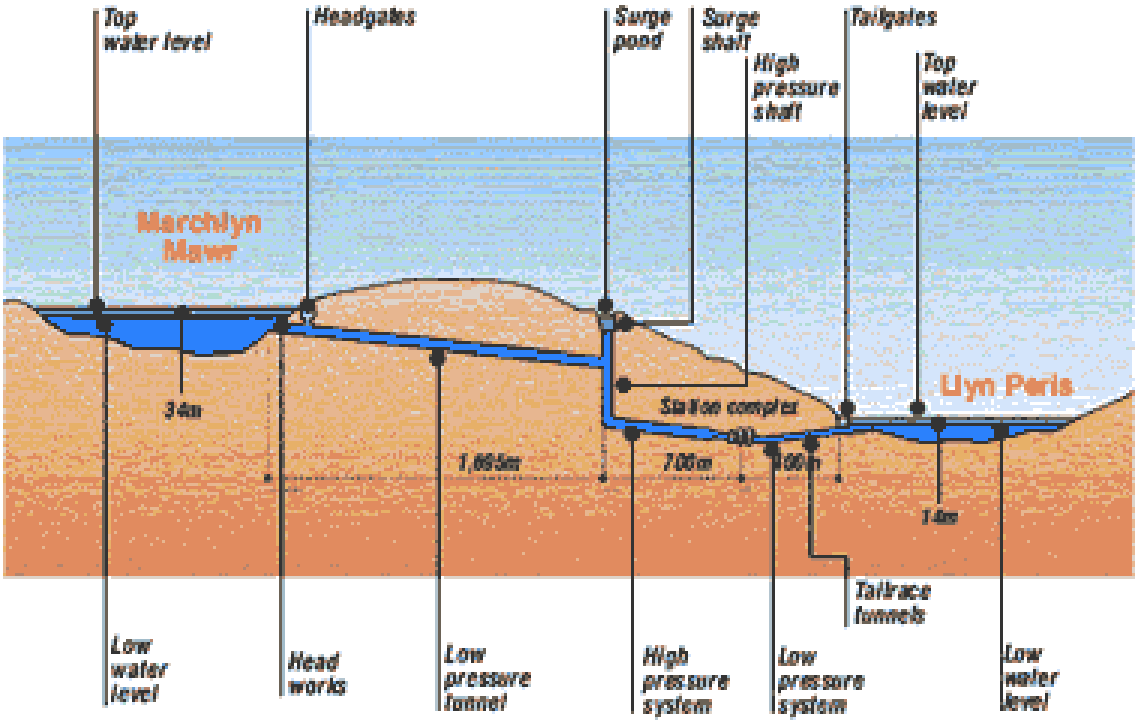
Size and shape of the dams _____
_____
_____
_____

Planting of indigenous trees _____
_____
_____
_____

Education _____
_____
_____
_____

Blending Building Materials _____
_____
_____
_____

Fish stocks _____
_____
_____
_____



Study Area 4 – Moelfre, Anglesey
Wave Cut Platform and Coastal Processes.

People and the Natural Environment – Coasts

Continued erosion enlarges the notch and causes its roof to collapse, and a cliff is formed.

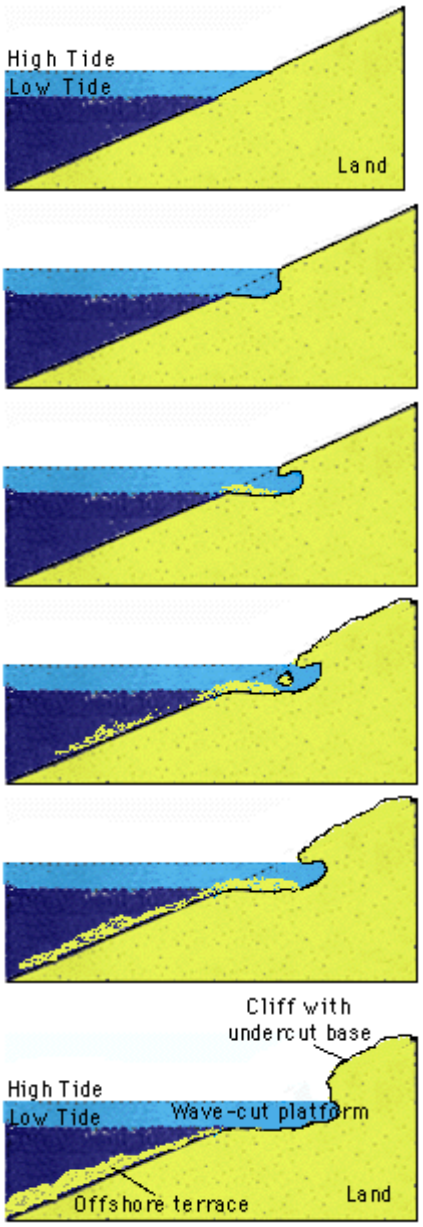
The eroded materials which are transported away may be deposited in the sea to form an offshore terrace.

Further undercutting at the base of the cliff results in an overhanging cliff which eventually collapses.

The waves erode along lines of weakness in the rock face to form a notch.

Destructive waves at an exposed coast erode a steep coastal slope through processes like hydraulic action and abrasion.

As the steep cliff retreats landwards, a flat terrace at the foot of the cliff is exposed --- wave-cut platform.



Tasks.

Whilst standing on this distinctive wave cut platform, choose the correct sentence to go next to the correct picture in the diagram above. Don't venture too close to the edge. Remember, the surface of this platform is slippery.

Using the information from the diagram above and the text boxes, annotate the photo of this wave cut platform on the previous page. You should add at least one label per information box … that's 6 in total!!

EROSION TRANSPORTATION DEPOSITION

Moelfre Pebble Beach

Coastal Erosion Processes.

Hyrdaulic Power means & label example above

_____

_____

Corrasion means & label example above

_____

_____

Attrition means & label example above

_____

_____

Corrosion means & label example above

_____

_____

Types of Waves

_____ **waves**

- operate in storm conditions
- are created from big, strong waves when the wind is strong and has been blowing for a long time
- occur when wave energy is _____(high) and the wave has travelled for a long time
- tend to remove material from the coast and associated with *erosion*
- _____ is stronger than the swash

_____ **waves**

- operate in _____(calm) weather
- are _____ (less) powerful waves
- break on the shore and tend to deposit material, building up beaches
- are responsible for _____(transporting) material
- _____ is stronger than the backwash

When a wave breaks, water is washed up the beach: this is called the **swash**. Then the water runs back down the beach: this is called the **backwash**. With a constructive wave, the swash is stronger than the backwash. With a destructive wave, the backwash is stronger than the swash.

What evidence can you see of longshore drift in action on Moelfre beach? Wander along the beach to find information.

Answer _____

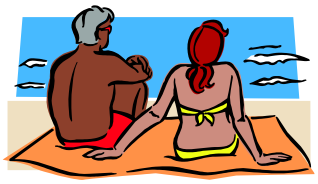
Benllech Beach Study (Optional and Time Pending)

Deposition

When the sea loses energy, it drops its load of sand, rock particles and pebbles, that it has been carrying. This is called **deposition**. Deposition happens when the swash is stronger than the backwash.

Deposition is likely to occur when:

- waves enter an area of shallow water
- waves enter a sheltered area
- there is little wind



Wander across Benllech Beach.

What factors have lead to beach formation here?

_____

_____

What evidence is there of transportation / longshore drift?

_____

_____

How have humans impacted upon the coastline?

_____

_____

Study Area 5 – West Shore of Llandudno
Coastal Protection and Management

Shoreline Evolution

The town of Llandudno was developed in the late 19th century as a seaside resort on low lying sand dunes and marshland between the limestone headlands of the Great Orme and Little Orme. A sea wall and groynes were built along the North Shore in the early 20th century to provide a promenade. The 2km long promenade, with its recharged beach protection is the primary coastal defence to the town of Llandudno, in addition to being a popular leisure facility. Numerous improvements to the defence have been made over the last century including deeper wall foundations, raising of the crest height and import of rip rap.

At the eastern end of the bay the shingle beach is backed by a series of masonry sea walls protecting private property, and a section of clay cliff vulnerable to erosion. Engineers are currently studying the feasibility of a proposed coast protection scheme for this frontage. In this area the shingle beach provides important primary protection to the sea walls. The pattern of longshore drift is west to east across the bay, though an occasional storm event can move large quantities of material west or offshore in a short period (such as in 1996 and 2005).

Task. Underline all methods of protection mentioned.

Methods of Protection.

Walk a short distance along the West Shore seafront. Straight ahead of you, you can see Snowdonia. Out to sea is Anglesey (where we were yesterday) and Puffin Island (uninhabited)

How many different hard & soft engineering approaches to coastal management can you see? _____
_____

How many separate sea walls are there? _____
_____

Why is the first sea wall a curved shape?
_____
_____

How many metres above the high tide mark would you estimate the houses and hotels to be? _____
_____

On the following page, make sketches of each type of coastal protection and how and why it has been designed to protect Llandudno from coastal flooding.

Sketches of coastal protection methods on the West Shore of Llandudno

Study Area 7 – Great Orme Summit, Llandudno

People and the Human Environment – Managing Resources

From behind the summit café, look out beyond Llandudno Bay and you will see the foundations that have been laid for one of the largest wind farms in Europe.

Look east along the coastline towards Rhyl, and you will see fully functional wind farms already in place.

Read the newspaper article below.

Giant wind farm gets the go-ahead

Page last updated at 14:39 GMT, Wednesday, 3 December 2008

One of the largest offshore wind farms in the world has been approved to be built off the coast of north Wales.

The 250 turbines of Gwynt y Môr offshore wind farm will be built eight miles off the coast, 10 miles away from Llandudno, Conwy.

Gwynt y Môr, combined with three other nearby wind farms, will provide enough green electricity to power the equivalent of 680,000 homes.

It has been approved by the Department of Energy and Climate Change (DECC).

The wind farm will start to produce power from 2012, subject to consent for onshore electricity works.

Morgan Parry, head of WWF Cymru, said the scheme's approval was "fantastic news for Wales".

"We need more projects such as Gwynt y Môr to help reduce our carbon emissions," he said.

"It is only through landmark projects such as this that we can meet the tough targets set and start to de-carbonise our economy in Wales.

"The evidence of the effects of climate change is becoming increasing apparent, scientists have predicted that sea levels will rise by about a metre by the end of the century - this will change the face of Wales especially our coastal areas."

But John Lawson-Reay, chairman of Save our Scenery, who campaigned against the wind farm, said he was "shattered" by the scheme's go-ahead.

"Tourism is the only major industry in Wales basically," he said.

"Llandudno is the queen of Welsh resorts, as has been often said, and we think and we believe and the views we get from visitors we speak to is that the scenery is the primary number one reason for people coming here.

"They want to get away from industrial areas."

Gwynt y Môr is the latest wind farm to be approved off the north Wales coast.

North Hoyle, which has 30 turbines and Burbo, which has 25 turbines, are already up and running, while Rhyl Flats, with its 25 turbines, is into the latter half of its construction phase.

Tourism versus Energy – Who wins?

Llandudno is the biggest coastal tourism resort in Wales. Tourism and its spin-off industries generate millions of pounds of revenue every year through the tourism industry and provide jobs for many thousands of local people.

Britain is running low on fossil fuels that we burn to provide our energy. Coal, oil and gas are finite fuels and will run out sooner rather than later. We need to find alternative methods to provide sustainable energy to meet our needs in the UK.

Summarise the reasons for and against wind power production in Llandudno.

For	Against

Over to you……..

In the space below discuss the pros and cons of this wind farm and present your own view on the way forward. Can we please everybody? Is this the most sustainable method open to Llandudno and the DECC? What about tourism?

That's all folks…… well done. Time for an ice cream!