

Programme 6: Canals

BROADCAST DATES

BBC2 10.30-10.50 AM

Programme	Title	Broadcast Date
6	History - Canals	Tuesday 30th May 2006
7	History - The Textile Industry	Tuesday 6th June 2006
8	History - Nendrum	Tuesday 13th June 2006

PROGRAMME 6 - CANALS**LEARNING OUTCOMES**

By the end of the programme pupils should be able to

- describe the development of our inland waterways
- identify why canals fell into disuse
- describe why canals are being restored
- describe modern-day uses of canals

ABOUT THE PROGRAMME

Jamie Darling goes out and about in the Ulster countryside to discover our forgotten canals. The story begins in the old Tyrone coalfields and Jamie traces the development of our inland waterway system, which was designed to carry local coal to Dublin and Belfast. Some Key Stage 2 pupils show Jamie around the Newry Inland Canal and Ship Canal. We learn about the heyday of the canals and some of the problems that beset them. We learn how the advent of the railways sounded the death-knell of our canals as viable commercial routes. Jamie explores the remains of the old Lagan and Coalisland Canals and finds that a section of the Lagan Canal between Sprucefield and Moira now lies under the M1 Motorway. We see work in progress at the Island site in Lisburn where an old canal lock is being restored. Then it's over to the newly restored Shannon-Erne Waterway, which provides a model of what can be achieved in bringing a derelict canal back to life. All the leisure activities and rural regeneration that follow restoration are highlighted. Our story ends with the Ulster Canal and the hopes of canal enthusiasts and local people that it will soon be restored and prove to be an artery bringing new life-blood to some quiet corners of the Province.

In the beginning

From early times, man has used rivers and lakes as a means of transport. In densely wooded country like Ireland once was, waterways were vital arteries for travel and communication. In the ninth century, the Viking Turgesius sailed up the River Shannon into Lough Ree and up the River Bann into Lough Neagh. Where the rivers were too shallow or a natural barrier such as a waterfall blocked their passage, the Vikings would lift their longships out of the water and drag them overland around the obstacle.

Over the centuries, people have been constantly searching for ways of making natural rivers more

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useful to humankind. Over 2000 years ago, the Chinese invented vertically rising gates through which boats could be hauled upstream or lowered downstream. This method wasted a lot of water, so the early Chinese experimented with slipways. They then developed pound locks, where a chamber was built into a weir wall with vertically rising upper and lower gates into which a boat could be floated and raised and lowered. But it was left to Leonardo da Vinci to invent the swinging or mitre gates that we still use today. No one has managed to improve on his design.

The Canal Age

The first canal in Ireland was cut in the twelfth century. Known as The Friar's Cut, it allowed boats to pass from Lough Corrib to the sea at Galway. But the real Canal Age in Ireland began in the eighteenth century. The story begins in deepest Tyrone with the discovery of coal deposits. How could this 'black gold' be transported from Tyrone to the hearths and factories of the capital Dublin? The state of the roads at the time made transportation overland next to impossible. Arthur Young, writing on his tour of Ireland (1776–1779), commented that 'on tolerably level ground a single horse cart could draw a load of one ton'. A barge on water drawn by a single horse can carry as much as 70 tonnes perhaps more slowly but still increasing the efficiency by about 35 times.

The Newry Canal

A plan was made to transport coal from the Drumglass Colliery near Coalisland on horse-drawn barges via Lough Neagh and onto the Port of Newry where the same boats would hoist sail and proceed to Dublin by sea, sailing close to the coast. So in 1731 work began on the Newry Canal, which was to link one of Ireland's chief ports with Lough Neagh by means of a cut connecting Carlingford Lough with the Upper Bann near Portadown. The Newry Canal was the first true summit level canal in the British Isles. Completed in 1742, it rises up through four locks to cross the high ground and then drops down through nine locks to reach sea level at Newry. The Newry Ship Canal, which was completed below the town between 1759 and 1769, allowed larger vessels access to Newry Dock. The Victoria Sea Lock marks the seaward end of the Newry Ship Canal and is designed to keep the canal and sea separate, ensuring that the level of the ship canal does not rise or fall with the flow of the tide.

The Tyrone Navigation (The Coalisland Canal)

In 1733, work began on the Tyrone Navigation, which was to link the Tyrone coalfields with Lough Neagh via the River Blackwater. Although this canal was never successful due to the fact that it was built three miles east of the chief mining area, it is an interesting piece of engineering as it includes the only examples in Ireland of 'inclined planes', locally known as 'dry hurries', which were designed to raise and lower boats quicker than a lock or series of locks might have done. An inclined plane is a slope with big rollers on which the boats could be pulled up and down. The boats going down the slope were connected by chains round pulleys to the boats to be hauled up. The dry hurries were not a success and before long this part of the canal was abandoned and coal had to be carted to Coalisland to be loaded onto canal barges there.

The Lagan Canal

The River Lagan carved a way through the hills to within about six miles of Lough Neagh and when coal was discovered in County Tyrone, the idea of creating a navigable link with Belfast became very attractive. The construction of the Newry Canal added a new urgency to the necessity of developing Belfast as a port to rival Newry. The navigation was opened to traffic from Belfast to Lisburn in September 1763. But it was 30 years before the Lagan Canal reached Lough

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Neagh and the final link in the Northern network connecting Newry, Coalisland and Belfast was completed. However, there were frequent delays on the Lagan Canal due to floods damaging the banks, silting of the waterway and shortage of water in the summer. At the time, people joked that a vessel could make a round trip to the West Indies in the time taken to pass through the Lagan Navigation.

The Ulster Canal

At the beginning of the nineteenth century, the idea of linking the lowlands around Lough Neagh with the Erne Basin became popular with the more progressive landowners and merchants of Armagh, Monaghan and Fermanagh. The 46 mile long Ulster Canal was constructed between 1825 and 1842. It ran from Charlemont on the River Blackwater to Wattle Bridge on the River Finn, south-east of Upper Lough Erne and was planned as an important section of a great waterway that was to cross Ireland from east to west, from Belfast to Limerick.

The Strabane Canal

In 1791, an Act was passed authorising the construction of a four mile canal from the tidal waters of the Foyle, about ten miles upstream of Londonderry to Strabane. The canal brought considerable prosperity to Strabane in the first quarter of the nineteenth century and the town became a flourishing market for all sorts of agricultural produce.

The Broharris Canal

In the 1820s, a cut was made about two miles long on the south shore of Lough Foyle near Ballykelly towards Limavady. It served both as a drainage channel and a navigation, with goods being brought from the port of Derry and shellfish and kelp from the sand banks along the shore.

The Upper and Lower Bann Navigations

Finally, between 1847 and 1859 important improvements were carried out on both the Upper and Lower Bann. These involved dredging and deepening the river courses for the benefit of both drainage and inland navigation, constructing locks on the Lower Bann and building landing slips and small quays at many points around the shores of Lough Neagh.

The canals in decline

For well over a hundred years the Newry and Lagan Canals enjoyed a moderate degree of success. The chief cargoes carried from Belfast were imported coal for the industries of the Lagan Valley. Lime and grain were carried on the return journey. On the Newry Canal, the trade in coal was not as great as had been expected so the barges carried bulk agricultural produce and general merchandise instead. However, by the time the Ulster Canal was opened a new rival to the canals had arrived. The first railways were built in the north of Ireland in 1837. In 1852, the line between Dublin and Belfast was completed. The section between Portadown and Dundalk through Goraghwood ran parallel to the Newry Canal and sounded the death-knell of the Newry Inland Canal as a trading artery. In 1865, the Newry and Armagh Railway was completed with a junction at Armagh bringing Newry into direct contact with the prosperous Ulster Railway from Belfast. So by 1865, Newry was linked to its hinterland and to the Lough Neagh Basin, the Lagan Valley and Belfast by rail.

The lack of commercial success of the canals led to their neglect by the authorities and they gradually fell into disuse. Nowadays the goods once transported by lighters along quiet waterways are carried by container lorries along motorways. Indeed a section of the M1 was built on part of the old Lagan Canal route between Sprucefield and Moira.

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The Present

Now all over Europe canals are being restored and reopened as people realise their potential for leisure-based activities and both rural and urban regeneration. This can lead to the creation of permanent sustainable jobs and the enhancement of the environment.

The Shannon-Erne Waterway

Begun in 1846, the Ballinamore-Ballyconnell Canal had only nine years in operation before it was abandoned in 1869. After 120 years of neglect, the waterway was reduced to a weed-choked channel of broken bridges and missing locks. Work began to restore the Ballinamore-Ballyconnell Canal. It was reopened in 1994 as The Shannon-Erne Waterway and is now navigable for modern pleasure cruisers who operate the new locks by a push-button electro-hydraulic system. Jointly sponsored by both governments, the £30 million cross-border project was carried out over three years, reconstructing the canal to modern standards.

The Future

Waterway restoration well established in Great Britain and has begun in the Republic. In Northern Ireland, it is an adventure that is just beginning. Nature has given Northern Ireland a good start where inland waterway navigation is concerned. With a little human help, the Erne, from Belleek to Belturbet, and the two Banns and Lough Neagh still provide more than 100 miles of navigable waterway. Now in varying stages of dereliction, the Ulster Canal, the Lagan Navigation and the Newry Canal offer the possibility of another 100 miles. The Ulster Canal, lying half in Northern Ireland and half in the Republic, offers the most attractive target for restoration particularly as it would link Lough Neagh with the new Shannon-Erne Waterway.

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	Date of opening	Date of abandonment
Newry Canal	1742	1949/1956
Coalisland Canal	1787	1954
Lagan Canal	1763/1794	1954/1958
Newry Ship Canal	1769	1966
Ulster Canal	1841	1931
Strabane Canal	1796	Strabane/Dysert 1962
Ballinamore-Ballyconnell Canal	1846	1869
	(Shannon-Erne Waterway re-opened 1994)	

Key words used during programme:

CANAL, RESTORATION, NAVIGATION, LOCK, AQUEDUCT, BARGE, LIGHTER, HAULER, TOWPATH, TOLL, LEISURE, REGENERATION.

Programme 6: Canals**History****1. CLASSROOM ACTIVITIES - Before the Programme**

Activity	Tasks	Worksheets	Relevance to NI Curriculum
WHOLE CLASS			
Discussion	<p>Discuss the meaning of the keywords</p> <p>Discuss the children's understanding of what a canal is.</p> <p>Do they know of any canals in Northern Ireland?</p> <p>Is there a canal in your area?</p> <p>Do the children have any ideas about why canals were made and what they were used for?</p> <p>Explain and discuss the key words.</p>		English Develop oral skills.

Programme 6: Canals**History****2. CLASSROOM ACTIVITIES - After the Programme**

Activity	Tasks	Worksheets	Relevance to NI Curriculum
WHOLE CLASS			
Discussion	<p>Discuss the children's reactions to the broadcast. Had they any idea there were so many canals and waterways in Northern Ireland?</p> <p>Would they like to see the canals restored?</p> <p>How would it benefit people in Northern Ireland if the canals were restored?</p> <p>Distribute copies of WORKSHEET 1 The Cruise of the Callabar. Read the words together and discuss what some of the little jokes in the song lyrics tell us about what it was like to work on a canal long ago.</p> <p>Distribute copies of WORKSHEET 2 (Canal Restoration and the Environment) and read and discuss the information given on zebra mussels.</p>	Worksheet 1 "The Cruise of the Callabar."	English Reading and understanding. Worksheet 2 Canal Restoration Develop oral skills.

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Map work	<p>Distribute copies of the map on WORKSHEET 3. Ask the pupils to look at a map of Northern Ireland and then fill in the names of the towns and villages that border the canals marked on their map. Using the scale on the map, ask the pupils to work out the length of each of the canals.</p> <p>Ask the pupils to write a letter or an article to a local newspaper expressing concern about the spread of zebra mussels in Northern Ireland's inland waterways and suggesting ways in which that spread might be controlled.</p> <p>Distribute copies of WORKSHEET 4 and ask the children to read about the ways in which a canal corridor can be developed. Ask them to decide which activity or development would be most important to them and number the advantages beginning with one for their favourite etc. This task should stimulate some group discussion about how people have different priorities and how these can be accommodated.</p>	Worksheet 3 "Map"	Mathematics Working out length of canals. Geography Map work Worksheet 4 Canal Corridor
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Resources

Scarva Visitors' Centre

Covers the story of canals in Ireland.

Contact:

Main St

Scarva.

Tel: 028 3883 2163.

Moneypenny's Lockhouse

This is a beautifully restored lockhouse on the Newry canal and Ulster Way. It has resources on the history and wildlife along the canal and also shows the lifestyle of the lightermen who worked the lock.

Contact:

Angela Lavin

Ulster Way Newry Canal

Portadown

County Armagh

Tel: 028 3832 2205.

Shannon-Erne Waterway

This organisation promotes the use of and education about Ireland's canals.

Contact:

Shannon Erne Waterway Promotions Ltd

Ballinamore

County Leitrim

Ireland

Tel: 00 353 7844855

Fax: 00 353 7844856

web site: www.shannon-erne.com

Ulster Waterways Group

Contact:

4 Brown's Brae

Holywood

County Down

BT18 0HL

Tel: 028 90 425230

Fax: 028 90 425083

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Sustrans

This a charity that promotes sustainable transport. It promotes practical projects to reduce motor traffic and its pollution by encouraging people to walk, cycle and use public transport.

Contact:

Sustrans Northern Ireland
Marquis Building
89-91 Adelaide Street
Belfast
BT2 8FE

Tel: 028 9043 4569

Fax: 028 9043 4556

Web site: www.sustrans.co.uk

E-mail: sustrans.belfast@btinternet.com

Coalisland Experience

The Coalisland Experience shows Coalisland's industrial development through the past 300 years. Industries covered include potteries, corn milling, canals and brickworks.

Contact:

Coalisland Experience
Lineside
Coalisland

Tel: 028 8774 8532

Fax: 028 8774 8695

Programme 7: The Textile Industry**History****BROADCAST DATES****BBC2 10.30-10.50 AM**

Programme	Title	Broadcast Date
6	History - Canals	Tuesday 30th May 2006
7	History - The Textile Industry	Tuesday 6th June 2006
8	History - Nendrum	Tuesday 13th June 2006

PROGRAMME 7 - THE TEXTILE INDUSTRY**LEARNING OUTCOMES**

By the end of the programme, pupils should be able to

- understand the creation and production of lycra
- identify the differences between synthetic and natural materials
- understand the industrial development of linen-making in Ireland
- understand the making of linen from ancient times to modern-day production

ABOUT THE PROGRAMME

This programme compares the manufacture of two very different fibres – linen and lycra. One is a natural fibre and the other synthetic. Northern Ireland has been associated with the textile industry for many years. The North-west in particular has strong links through its supply of materials and fabrics to multinational clothing companies. It manufactures both natural and synthetic fabrics through Herdmans Mill in Sion Mills and Dupont at Maydown.

In the programme, two children are guided through the processes used to manufacture linen and lycra, and the histories of the two fabrics are compared.

Natural Fibre – Linen

Linen has been used as a fabric for over ten thousand years. From the time of the early lake dwellers in Europe through the age of the Pharaohs to modern times, linen has played an important role. It has both made history and preserved it. Linen comes from the flax plant, '*linum usitatissimum*' or 'most useful linen'. This fibre has contributed to our vocabulary – we still speak of a blonde person as being '*flaxen-haired*', an unmarried woman was called a *spinster* because traditionally only unmarried women spun flax, and lingerie got its name because at one time underwear was made only from linen.

The Bible makes reference to linen and it was used in ancient Egypt. Mummies were wrapped in shrouds of fine linen and over forty different designs of loin cloths have been discovered. The spread of the printed word owes much to the versatility of linen – it was used for making paper and linseed oil was used to make printing ink.

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History

While linen has a glorious past, the linen industry needs to concentrate on the future. Linen plays an important role in the world of clothing and household textiles, but despite advances in technology, the basic process of man

- The streams are dried and the moisture evaporated.
- The streams are wound onto 'cakes' of Lycra.
- The Lycra is exported all over the world.

Key words used during programme:

SYNTHETIC, ELASTIC, CHEMICAL, VATS, SPINNING, EVAPORATE, IMPORT, EXPORT.

Programme 7: The Textile Industry**History****1. CLASSROOM ACTIVITIES - Before the Programme**

Activity	Tasks	Worksheets	Relevance to NI Curriculum
INDIVIDUAL			
Investigation	The children could go through their clothes at home and make a list of what they think is synthetic or natural.		Science Investigating the properties of materials.
GROUP			
Discussion	Explain and discuss the keywords. Explore the differences between synthetic and natural, for example, food, clothing and roofs. What other natural and synthetic substances occur in everyday life?		English Developing oral skills.

Programme 7: The Textile Industry**History****2. CLASSROOM ACTIVITIES - After the Programme**

Activity	Tasks	Worksheets	Relevance to NI Curriculum
WHOLE CLASS			
Investigation	<p>Take an item of clothing made from lycra and stretch it. Do the same with linen. Compare the effects of this stretching on the two materials.</p> <p>Experiment with the effect of water on linen and lycra – what happens to the materials when they are wet and what is the difference between them when they dry?</p> <p>Visit the Ulster Museum and explore the Egyptology Department and the Local History Department.</p> <p>The class could visit factories in their area to find out what exactly they produce, how it is made and what happens to it when it leaves the factory.</p> <p>Explore the differences between import and export.</p>		Science Investigating the properties of materials.

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RESOURCES

Web site: www.waterni.gov.uk/

The Water Service web site has an excellent educational section, where there are interactive Flash movies covering the water cycle, water treatment, waste water treatment, conservation, pollution, water aid and a water quiz. It also has lots of information on what Water Service does. You can also access PDFs with information on each topic

Contact:

Water Service Customer Service Unit
Water Service, Eastern Division
Westland House
Old Westland Road
Belfast
BT14 6TE

Fax: 028 9035 4755

Tel: 08457 440088.

PDF: www.waterni.gov.uk/pdfs/SVALLEY.pdf

This PDF is a short history for schools of Silent Valley

The Wastewater Centre

The exhibition, which is suitable for students of all ages, shows the past, present and future wastewater treatment facilities for Belfast.

Contact:

The Wastewater Centre
115 - 121 Duncrue Street
Belfast
BT3 9JS

Tel: 028 9035 4703

Fax: 028 9035 4792

The Water Bus

The Water Bus visits P5-P7 children in schools throughout Northern Ireland teaching the importance of water and promoting the work of Water Service.

URL: www.waterni.gov.uk/home-leisur.htm

Programme 8: Nendrum**History****BROADCAST DATES****BBC2 10.30-10.50 AM**

Programme	Title	Broadcast Date
6	History - Canals	Tuesday 30th May 2006
7	History - The Textile Industry	Tuesday 6th June 2006
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PROGRAMME 8 – NENDRUM

The programme explores monastic life at Nendrum, on Mahee Island in Strangford Lough.

LEARNING OUTCOMES

By the end of the programme and activities the students should learn about:

- monastic life through the ages
- life at the monastic site at Nendrum
- monastic communities in early Christian Ireland
- defensive buildings and the threat of Viking raids
- the history of Mahee Island on Strangford Lough

ABOUT THE PROGRAMME

The presenter takes two children on a journey from the modern monastery at Portglenone to the Ulster History Park at Cullion, gathering evidence to help build a picture of life within the monastic community at Nendrum in early Christian Ireland.

BACKGROUND INFORMATION

Mahee Island is the largest island in Strangford Lough and lies close to its western shore. The monastic site of Nendrum was founded by Mochaoi after whom Mahee Island was named. Mochaoi was said to have been converted by Patrick himself and died at the end of the 5th century. From the 7th century to the 9th century, the Annals of Ulster record a succession of bishops and abbots.

Then in 987 the “herenagh of Oendrium (abbot) was burned in his own house,” probably as a result of a Viking raid of which there were many at this time in the area. Nendrum seems to have passed out of use during the 15th century, being replaced by a more accessible church on the mainland.

Programme 8: Nendrum

History

THE SITE

Monastic settlements laid the foundations for the spread of Christianity both in Ireland and abroad. Usually established in the 6th and 7th centuries, these became important centres of the community as no towns existed in that period. They attracted local craftsmen and farmers because they offered some degree of protection against Viking raids which were prevalent at the time. The custom was to build monasteries inside ring forts.

They consisted of tiny huts made of either stone or wood and wattle. The most important building was the small church which was built at the centre. This was because the worship of God was central to people's lives. In other huts were the kitchen, a dining room called the refectory and sometimes a library. The monks lived in individual cells usually called bee-hives because of their shape.

Nendrum is approached from the mainland by way of a causeway built in the nineteenth century; originally access was only by ford at low tide. Prior to excavation in the 1920s, all that was visible of Nendrum was the base of a round tower and the remains of a church. When the archaeologists dug deeper they discovered a monastic site of some importance.

It had a triple-walled cashel enclosing the buildings of a Celtic monastery. Within these three cashels was a school, workshops, a cemetery, a church and a round tower. These alone revealed that this was a site of considerable historical importance.

MONASTIC LIFE

The word monk comes from the Greek word "monachos", which means "alone". It was first used by early Christians to describe men who felt the need to go away by themselves to some lonely place to contemplate God and pray. The first monks, also called hermits, lived in caves or rough shelters. They ate little and went without all the things that ordinary people of the time wanted or needed.

The first monasteries grew up around these hermits because men who also felt the call to a religious life came to find the hermits in their lonely shelters, wanting to learn from them and to copy their way of life. One of the first hermits was a man called Benedict who at first lived in a cave. However, he realised that it might be better to start a community of like-minded men who loved each other like brothers rather than to struggle alone.

Saint Benedict, as he became later, founded the Benedictine religious order. He wrote down the things that he believed every monk should do and these became a blueprint for the many different orders that were to follow him.

It has never been easy to become a monk. A man wishing to enter an abbey must give away all that he owns and from the moment the door shuts behind him he must share everything with the community. A monk's life has always been hard and not everyone is suited to it.

He must first become a "novice" or beginner, under the tutelage of a senior monk. After two years, during which the novice is free to leave the order at any time, the other monks in the community vote on whether he will be allowed to take his vows, or promises to God, and become a monk.

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Monastic life today has changed little from its earliest beginnings. Monks still live in sparse cells and devote their lives to the service of God. Printing and literature still play a large role in their lives. Early monks used to copy and decorate beautiful religious books by hand. Today they use a printing press or computerised desktop publishing.

KEY WORDS USED DURING THE PROGRAMME

Monastery, Cashel, Monk, Manuscript, Round Tower, Vikings, Cell.

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1. CLASSROOM ACTIVITIES – Before the Programme

Activity	Tasks	Worksheets	Relevance to NI Curriculum
Keyword discussion	<p>Discuss the meaning of the keywords</p> <p>Explore the pupils' understanding of how a monk lives today.</p>		<p>Talking and Listening Taking part in discussion – obeying the conventions of discussion.</p> <p>HISTORY Life in the Early Times</p>

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History

2. CLASSROOM ACTIVITIES – After the Programme

Activity	Tasks	Worksheets	Relevance to NI Curriculum
Monastic life discussion 1	What are the differences between monastic life in early Christian Ireland and monastic life today?		<p>Talking and Listening Taking part in group and class discussion sharing, responding to and evaluating ideas</p> <p>HISTORY Life in the Early Times</p> <p>Comparison of religious life past and present</p>

Activity	Tasks	Worksheets	Relevance to NI Curriculum
Monastic life discussion 2	The earliest monks lived alone as hermits and spent all their time thinking about God. If you wanted to be a hermit and live away from everyone else, where would you go and why?		<p>Talking and Listening Taking part in group and class discussion sharing, responding to and evaluating ideas</p>

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Activity	Tasks	Worksheets	Relevance to NI Curriculum
Threat of the Vikings	<p>Many monasteries had round towers. Why was the door so high off the ground?</p> <p>Why might monasteries have been attacked?</p> <p>Pupils could draw their own comic book depicting a Viking raid on a monastery.</p>		<p>Talking and Listening Taking part in group and class discussion sharing, responding to and evaluating ideas</p> <p>History Viking expansion and settlement abroad</p> <p>Art & Design Paint and draw</p>

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RESOURCES

- Environment and Heritage Service website on Nendrum
<http://www.ehsni.gov.uk/education/monuments/nendrum.shtml>
- Information concerning school visits to The Ulster History Park can be obtained from:
The Education Officer
Ulster History Park
Cullion
Tel: 028 8164 8188