

Introduction to Linen Thematic Unit

Linen production is a central part of Northern Ireland's industrial heritage and evidence of the industry can be found in most towns and villages giving the topic a local relevance. There is a strong emphasis on the World Around Us (WAU) in this thematic Unit, with elements of Personal development and Mutual Understanding (PDMU).

Unit 1 focuses on Science and Technology and explores how linen is made. This section examines the flax plant's lifecycle and the properties which make it suitable for being woven into Linen.

Unit 2 explores the uses of linen now and in the past reflecting different aspects of the World Around Us curriculum. The characteristics of linen are explored and related to the fabric's uses.

Unit 3 looks at the effect that the linen industry has had on the people and places in Northern Ireland reflecting different aspects of the History strand of the WAU. Pupils are encouraged to look for evidence of the linen industry in their local area through buildings and place names.

Unit 4 reflects different aspects of the WAU and PDMU curricula and looks at the working conditions in the Victorian Linen mills and compares them to current conditions in sweat shops in developing countries.

Unit 5 compares the characteristics of natural and manmade fabrics. Students are encouraged to examine the fabric their clothes are made from and make connections between the properties of the fabrics and their uses.

Unit 1- How is linen made?

Introduction

This unit looks at how linen is produced from flax, a plant that was once widely grown in Northern Ireland. The pupils will be encouraged to grow their own linen, recognise the different stages of the plant's lifecycle and understand the properties that make it suitable for fabric production. The production of linen fabric is examined and compared to that of lycra.

Learning Intentions

- Pupils are learning:
- The main stages in the lifecycle of some living things (*Science and technology: Interdependence*)
- Plants and plant growth (*Science and technology: Interdependence*)
- Why materials are chosen for their use (*Science and technology: Place*)
- How some materials change (*Science and technology: Change over time*)
- Changes that occur to everyday substances (*Science and technology: Change over time*)

By

- Knowing that linen is made from flax
- Investigating how to grow flax and the key points in the plant's lifecycle
- Understanding the process for turning flax into linen
- Understanding how this process has changed over time
- Compare the production of lycra with linen.

What is flax?

Display a variety of items made from linen to the class, for example summer clothes and/or table cloths or napkins. Ask if anyone in the class owns or has any pieces of linen at home. Explain that linen is a natural fabric made from the flax plant. Use an internet search engine to find photographs of the flax plant and share these with the class.

Challenge the pupils to come up with their own explanation of how material from a plant can be used to make fabric. Encourage pupils to use magnifying glasses to look closely at linen and observe the network of threads that make up the fabric. Record the thoughts of the pupils and discuss as a whole class.

Now watch the video clip which shows that flax contains long soft flexible fibres. Explain to pupils that these fibres are spun into linen threads which are then woven into fabric.

- BBC Primary Focus: The Textile Industry : Flax
http://www.bbc.co.uk/northernireland/forteachers/linen/made/what_is_flax.shtml

Reflect on the pupils' previous suggestions. How did these compare with the information in the video clip?

How does flax grow?

Ask pupils to research how flax grows using these websites and video clips:

- BBC Your Place and Mine: Flax Sowing [*article*]
http://www.bbc.co.uk/northernireland/yourplaceandmine/tyrone/flax_sowing_tullylagan.shtml
- BBC Your Place and Mine: Fermanagh Flax update [*article*]
<http://www.bbc.co.uk/northernireland/yourplaceandmine/belfast/A859584.shtml>
- Primitiveways: Bowstring [*external link: article*]
<http://www.primitiveways.com/bowstring.html>

Key questions include:

- Where does flax grow?
- How is it sown?
- How long does it take to grow?
- What conditions does it need to grow?

Encourage pupils to try growing flax from seed. Print out the diagram of the plant's life-cycle:

- Flax Council Canada: Flax Lifecycle [*external link: PDF*]
<http://www.flaxcouncil.ca/english/pdf/fig1.pdf>

Ask the pupils to record the stages of the growth of their own plants so they can compare this to the diagram. It takes about 100 days for flax to grow from seed to harvest. Traditionally in Ireland the seed was sown on St Patrick's Day and harvested on the 12th July.

How is linen made from flax?

Watch the following video clips that show the processes used to produce linen today and in the past.

- BBC Primary Focus: Linen - How linen is made [*Extracts of Wee Blue Blossum courtesy of The Irish Linen Centre*]
- BBC Primary Focus: Linen -Linen Production [*Extracts of Wee Blue Blossum courtesy of The Irish Linen Centre*]
- BBC Primary Focus: Linen - Bleaching & Dyeing [*Extracts of Wee Blue Blossum courtesy of The Irish Linen Centre*]
http://www.bbc.co.uk/northernireland/forteachers/linen/made/how_does_flax_grow.shtml

Split pupils into groups. Give each group a flip chart sheet or a large piece of paper with a different question related to the process of linen production? The following are suggestions:

- What methods were used to harvest flax in the past?
- What methods are used to harvest flax nowadays?
- What is the process of pulling so important when harvesting flax?
- How is water used in the production process?
- What are the main stages in the production of linen from flax?
- What kinds of machinery are used to produce linen?

Pupils write down their answers and after a given time period the group changes places and move onto the next question. Each group writes their answer with a different coloured pen. Display the sheets and discuss the contributions.

Pupils can demonstrate what they have learned about flax by creating an illustration about flax and/or linen which could be printed on a linen tea towel.

Unit 2 - Uses of Linen

This unit looks at the uses of linen over the centuries. Pupils are encouraged to explore different aspects of past societies and their use of Linen. Pupils should investigate the properties of linen that make it suitable for these uses.

Learning Intentions

Pupils are learning

- Comparing an aspect of the community over a period of time (*History - Change over time*)
- Some characteristics of past societies (*History - Change over time*)
- Why materials are chosen for their use (*Science & Technology: Place*)
- Comparisons between people and places (*Geography: Place*)

By

- Find out how people used to live
- Learn about the origin and properties of some materials
- Recognise some of the uses of materials in the past
- Understand the uses of linen and other fabrics
- Understand the properties of linen and other fabrics
- Know the ways in which the use of linen has changed over time

Ancient Egypt

People have been making and using linen for thousands of years. Linen clothing appears in many illustrations from the time of ancient Egypt. Watch the following video clip and ask pupils to make a list of the different ways linen was used in Egypt.

- Primary Focus: The Textile Industry: Mummies
http://www.bbc.co.uk/northernireland/forteachers/linen/uses/ancient_egypt.shtml

Pupils can use the search function in the Explore section of the British Museum website to find a variety of ancient objects made of linen. Encourage pupils to research how and why these were used by different members of Egyptian society for example men, women, slaves, rich people.

- British Museum: Explore [*external link: article*]
http://www.britishmuseum.org/explore/explore_introduction.aspx

Find out more about the uses of linen by visiting [the Irish Linen Centre and Lisburn Museum](http://www.lisburncity.gov.uk/irish-linen-centre-and-lisburn-museum/) [*external link: article*] (<http://www.lisburncity.gov.uk/irish-linen-centre-and-lisburn-museum/>). The [Saneco](http://www.saneco.com/article.php3?id_article=13&titre=The-flax-fibre&lang=en) site [*external link: article*] (http://www.saneco.com/article.php3?id_article=13&titre=The-flax-fibre&lang=en) also describes the history of linen. Ask pupils to use the site to list the characteristics/properties of linen and explain why these properties were so important.

Vikings

Pupils can work in pairs to find out facts about two of the following fabrics which were used by Vikings: wool; linen; silk; leather; fur. Encourage pupils to describe the properties of each material that make them suitable for their purpose.

Pupils can use the clip and article below to help with their research.

- BBC Learning Zone clip 466: Viking dress [*Flash Video*]
<http://www.bbc.co.uk/apps/iff/learningzone/clips/showrecord?Id=466>
- National Maritime Museum- Viking dress teacher's notes [*external link: PDF*]
<http://www.nmm.ac.uk/>

When they have found out as many facts as they can they can choose one fact for each section and write it on a Post-it note or similar. Provide a large sheet of paper or flip chart into five columns and invite each pair to place their facts in the correct column. If someone has already put their fact up they must find a new one. At the end of the session choose a member of the class to read out the lists.

Linen at war

Use the links below to discover how linen was used to cover aircraft during the Second World War. Discuss the meaning of the word 'malleable'. Why is this a good property for a covering material? Ask pupils to find out what materials are used to cover modern aircraft. What are the similarities and differences between linen and these materials?

- BBC Your Place and Mine: Aviation Heritage [*article*]
<http://www.bbc.co.uk/northernireland/yourplaceandmine/belfast/A757037.shtml>
- BBC Your Place and Mine: Linen goes to War [*article*]
<http://www.bbc.co.uk/northernireland/yourplaceandmine/belfast/A756984.shtml>

Get Weaving!

Source or make simple weaving frames from a A4 or A5 pieces of strong cardboard with 10 to 20 notches at either end. Create the warp by taking a large ball of wool and winding it around the frame using the notches. Watch the following clip and look at the website.

- YouTube: Weaving on a cardboard loom [*External link: Flash Video*]
http://www.youtube.com/watch?v=LbtKnvc_9No&feature=related
- Montessoriworld Weaving [*external link: article*]
<http://www.montessoriworld.org/Handwork/weave/weaving3.html>

Divide the class into groups and ask them to source flexible material that they can begin weaving through the warp.

Unit 3- The Linen Industry in Northern Ireland

This unit looks at the effect the Linen Industry has had on the people and places in Northern Ireland. The personal experience of those who worked in the linen industry is used to help bring this aspect of the local community to life. Pupils are encouraged to look for evidence of the industry in the local area through buildings and place names.

Learning Intentions:

Pupils are learning:

- Comparing an aspect of the community over a period of time (*History - Change over time*)
- Some characteristics of past societies (*History - Change over time*)
- Places then and now, how our identity has been shaped by local influences (*Place - History*)
- How the world has changed over time (*History - Change over time*)

By

- Understanding the importance of the linen industry in Northern Ireland's history
- Understanding the impact on the environment
- Understanding the impact it had on people's lives
- Understanding the decline in the linen industry

The history of the linen industry in Northern Ireland

- Primary Focus Linen- History of Linen

http://www.bbc.co.uk/northernireland/forteachers/linen/ni/the_history_of_the_linen_industry_in_northern_ireland.shtml

Ask pupils to watch Linen history video clip and describe how the production of linen in Ireland was modernised by Frenchman Louis Crommelin. How important was the linen industry at the start of the twentieth century? What evidence is there to show that linen was produced all over Ulster?

Finding out about the past - People

Listen to these audio clips of those who worked in the Linen mills.

- BBC Legacies -Spinning Conditions
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/audio_3.shtml
- BBC Legacies St Patrick day fun
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/audio_4.shtml
- BBC Your Place and mine: Bess brook Mill
http://www.bbc.co.uk/northernireland/yourplaceandmine/armagh/bessbrook_mill.shtml

One way of finding out about things that have happened in the past is to interview someone about their memories. Find someone who can talk to the class about their memories of the linen industry. It could be a relative or an older neighbour.

When you think of a good person, arrange a time and place to interview them

Before you meet you can look at some of the articles here or watch the video clips to get ideas about different jobs associated with the linen industry in Northern Ireland then decide what you are going to talk about and write down some questions.

If they live in the country, you could ask your interviewee if they can tell you how flax was grown and harvested, or they live in a town, you could find out what they know about linen mills.

Make notes of what the person says – use a sound recorder and/or camera to record what they say.

The Ulster Folk and Transport: Museum also has a Living Linen archive that contains recordings of the people who would have worked in the industry:

- Ulster Folk and Transport Museum - Living Linen Archive [*external Link: article*]
http://www.uftm.org.uk/collections_and_research/archival_collections/Living_Linen_Archive/?q=linen

Linen place names

Watch the following video clips and note down the names of the different processes.

- Primary Focus: Linen: How linen is made [*Extracts of Wee Blue Blossum courtesy of The Irish Linen Centre*]
- Primary Focus: Linen: Linen Production [*Extracts of Wee Blue Blossum courtesy of The Irish Linen Centre*]
http://www.bbc.co.uk/northernireland/forteachers/linen/ni/linen_placenames.shtml

Use Multimaps or Google Earth to access maps and street names of the local area. Are there any reminders of the linen industry in any of the place names such as Sion Mills? Are there streets such as Mill Street, Flax Street or a Bleach Green?

You can also use the website to look up street names.

- Ulster Place Names [*external link: article*]
http://www.ulsterplacenames.org/street-names_project.htm

Linen buildings

Are there any old mills or warehouses in the area? What were they used for? Local libraries may contain old linen business directories which would contain a list of linen businesses that were once in your local area. Try searching online using the online catalogue or call into your local branch. NI Libraries; Online Catalogue

- NI Libraries; Online Catalogue [*external link: article*]
<http://www.ni-libraries.net/library-card/library-catalogue/>

The link below describes different kinds of houses in Victorian Belfast including that of a factory worker and linen mill owner:

- Ulster Architectural Heritage Society Education Pack: Victorian housing (Pg 20 -23)

http://www.uahs.co.uk/cmsfiles/pdf/education_pack.pdf

Are there similar houses you can identify in your local area? Describe the difference between the large linen owner's home and the tightly packed houses of the mill workers.

Imagine that you are either a linen factory owner or factory worker in Victorian Times. Describe who you are, what you do and why you live where you do. What do you think of where you live? Write a short description of your home. Then if you are the factory owner describe what you think of the type of houses where your workers live. If you are pretending to be a factory worker you can describe what you think of the house where the owner of your factory lives

Visiting the past

Carry out a class visit to find out more about the linen industry. The Ulster Folk and Transport Museum contains the Gorticashel Flax-scutching Mill (scutching is the process of extracting the linen fibres from the stem of the flax) and Tullylish Bleach Green Watch Tower (the watchtower provided shelter for the watchman guarding the linen on the bleach green.) The class could also visit the last working beetling mill in Northern Ireland at Wellbrook where pupils can enjoy hands-on demonstrations of the linen process. The Irish Linen Centre in Lisburn contains a permanent exhibition: Flax to fabric the story of Irish Linen and hosts demonstrations of spinning and weaving.

- Irish Linen centre and Lisburn Museum [*external link: article*]
<http://www.lisburncity.gov.uk/irish-linen-centre-and-lisburn-museum/>
- Ulster Folk and Transport Museum: Flax Scutching Mill [*external link: article*]
http://www.uftm.org.uk/collections_and_research/folk_collections/rural_buildings/gorticashel_flax-scutching_mill/
- Ulster Folk and Transport Museum: Bleach Green Watch tower [*external link: article*]
http://www.uftm.org.uk/collections_and_research/folk_collections/rural_buildings/tullylish_bleach_green_watch_tower/
- National Trust: Wellbrook Beetling Mill [*external link: article*]
<http://www.nationaltrust.org.uk/main/w-vh/w-visits/w-findaplace/w-wellbrookbeetlingmill/>

For Teachers

BBC Northern Ireland
KS2 Linen Thematic Unit

Changing times

Watch the following news video clips to find out more about the origin and changing times of the Herdman linen factory in Sion Mills. Ask the class to create a timeline detailing the major events in the history of the firm. Challenge pupils to identify the reasons why jobs in the linen industry have disappeared from Northern Ireland and to research how this has affected the buildings associated with the industry.

- BBC Primary Focus the Textile Industry - Sion Mills
- BBC Newline: Herdman's factory in Sion Mills Closes
- BBC Newline: Restoration of Herdman's factory in Sion Mills
http://www.bbc.co.uk/northernireland/forteachers/linen/ni/changing_times.shtml
- BBC News: [Office makeover for NI linen mill](http://news.bbc.co.uk/1/hi/northern_ireland/1926639.stm) [article]
http://news.bbc.co.uk/1/hi/northern_ireland/1926639.stm
- BBC News: [Job losses as linen plant moves](http://news.bbc.co.uk/1/hi/northern_ireland/7343196.stm) [article]
http://news.bbc.co.uk/1/hi/northern_ireland/7343196.stm
- BBC News: [Devastation as firms close](http://news.bbc.co.uk/1/hi/northern_ireland/3507471.stm) [article]
http://news.bbc.co.uk/1/hi/northern_ireland/3507471.stm

Unit 4: Is it ethical?

This unit looks at the working conditions in the Victorian Linen mills and compares them to current conditions in sweat shops in developing countries. Child labour is discussed and changes in children's rights in the UK are compared with those in other countries. The reasons for the existence of sweat shops is examined and our responsibilities as consumers are addressed.

Learning Intentions

Pupils are learning:

- Developing an understanding of their role and responsibility as consumers in society. (*PD&MU Strand 2*)
- Comparing an aspect of the community over a period of time (*History - Change over time*)
- Some characteristics of past societies (*History - Change over time*)
- Actions on a global issues (Geography - Interdependence)
- Ways people affect the environment globally (*Geography - Interdependence*)
- Our interdependence with the wider world (*Geography - Interdependence*)

By

- Understanding the working conditions in Victorian mills
- Comparing and contrasting the lifestyle of workers in factories now and then
- Investigating the lifestyle of child workers then and now.
- Understanding the need for Children's Rights
- Understanding the concept of ethical clothing

Working conditions in the linen mills

In the Victorian period, linen production moved from people's homes to large linen mills where much more material could be produced. Investigate the working conditions in the mills by playing the following video and audio clips:

- BBC Legacies: A reconstruction of a linen mill worker's lifestyle [*Real Media Video*]
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/video_1.shtml
- BBC Learning Zone Clip:147 Children working in textile mills [*Flash video*]
<http://www.bbc.co.uk/apps/ifi/learningzone/clips/showrecord?Id=147>
- BBC Legacies The damp and the dust [*Real Media audio*]
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/audio_1.shtml
- BBC Legacies The Linen processes and the doffers routine [Real Media audio]
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/audio_2.shtml
- BBC Legacies Spinning Conditions [*Real Media audio*]
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/audio_3.shtml
- BBC Legacies St Patrick day fun [*Real Media audio*]
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/audio_4.shtml
- BBC Legacies Drinking Vinegar [*Real Media audio*]
http://www.bbc.co.uk/legacies/work/northern_ireland/ni_8/audio_5.shtml
- BBC Today & Yesterday: The Doffing Mistress Teacher's notes & Worksheets [*article & PDF*]
http://www.bbc.co.uk/northernireland/schools/4_11/today/history/spr2006/pr05.shtml

In groups, ask the pupils to come up with a list of words that would describe the conditions in the linen mills. Why did people not complain about the conditions? Why did children have to work in the mills?

Most people accepted children not going to school and people working in bad conditions as normal, but some people fought to improve conditions for workers. Imagine that you are a newspaper reporter from the Victorian era. Write a newspaper report describing the conditions in Irish linen mills that you see. You can make up quotes from the mill workers, supervisors and mill owners to illustrate your article.

The United Nations Convention on the Rights of the Child (UNCRC) is an international agreement which states the rights that all children should have. Use the link below to identify which of these rights were denied to children working in Victorian Mills.

- United Nations Convention on the Rights of the Child [*external link: article*]
<http://www.unicef.ca/portal/SmartDefault.aspx>

The cost of cheap fashion

Watch the following clip:

- BBC Addicted to Cheap Clothing: How Clothes got Cheaper
http://www.bbc.co.uk/northernireland/forteachers/linen/ethical/the_cost_of_cheap_fashion.shtml

When you buy a piece of clothing, you may not think twice about where it was originally made, by whom and under what conditions. In January 2009 the real cost of cheap fashion came under the spotlight as factory workers making clothes to supply Primark shops were found to have been working in awful conditions.

- BBC Newsround: Primark linked to UK sweat shops [*Flash Video*]
http://news.bbc.co.uk/cbbcnews/hi/newsid_7820000/newsid_7826500/7826559.stm

As a class, discuss the differences and similarities in the conditions faced by textile workers in the news story and mill workers in nineteenth and twentieth century Belfast. Use the following link to help pupils understand the meaning of the terms 'sweatshop goods' and 'fair trade'.

- BBC Newsround: What are Sweat shop goods [*article*]
http://news.bbc.co.uk/cbbcnews/hi/newsid_4600000/newsid_4603800/4603845.stm
- BBC Newsround: What is Fair Trade? [*article and flash video*]
http://news.bbc.co.uk/cbbcnews/hi/newsid_3090000/newsid_3099800/3099800.stm

Ask the pupils to carry out a survey to find out attitudes in school to child labour. Challenge pupils to decide what questions they will ask and then record and present results using ICT.

Pupils can click on the link below to look at photographs of children working in the cotton industry in Egypt. Ask pupils to describe what they see in the photographs to a partner. Tell them to note down anything they saw which surprised or shocked them and then use what they have learned to write descriptions of what life is like for these children.

- Guardian: Egyptian cotton and Child Labour [*article*]
<http://www.guardian.co.uk/world/gallery/2008/jun/08/egyptcotton?picture=334613767>

Ethical fashion

Why does child labour still exist in countries today? How can Fair Trade policies improve the lives of child labourers in developing countries? Watch the video clips below and ask the children to define ethical fashion, and why it's so important. Ask the pupils to identify the key characteristic of a Fair trade garment, discuss the impact retail choices can make on workers' lives.

- BBC Citizenship Programme: Child labour and Fair Trade
- BBC News: Topshop launches Fair Trade range
- BBC Breakfast: Growth of Ethical Fashion

http://www.bbc.co.uk/northernireland/forteachers/linen/ethical/ethical_fashion.shtml

- Oxfam: Fair Trade [*external link: article*]
<http://www.oxfam.org/en/campaigns/trade>

Unit 5: Natural & Manmade fabrics

This unit looks at the similarities and differences between natural and manmade fabrics. Students are encouraged to examine the fabric their clothes are made from and make connections between the properties of the fabrics and their uses. The properties of Linen and Lycra are compared and pupils are encouraged to think of the consequences of fast fashion and explore what happens to the fabrics in their clothes when they are thrown away.

Learning Intentions

Pupils are learning:

- Why materials are chosen for their use (*Science and Technology- Place*)
- How waste can be re-used or recycled (*Science and Technology- Change Over Time*)
- Ways people affect the environment globally (*Geography - Interdependence*)
- Developing an understanding of their role and responsibility as consumers in society. (*PD&MU Strand 2*)

By

- Understanding that there are different types of fabric - manmade and natural
- Comparing and contrasting the properties of manmade and natural fabrics
- Investigating the lifestyle of child workers then and now.
- Understanding that different fabrics that have different properties that make them suitable for varied uses
- Exploring the impact of waste clothing on the environment

Materials

Northern Ireland has been associated with the textile industry for many years. Its factories and mills producing natural and synthetic materials and fabrics for multinational clothing companies. Watch the following clip and use the following flash activities to stimulate discussion on the different types of fabric our clothes are made from.

- BBC Primary Focus: The Textile Industry –Materials
<http://www.bbc.co.uk/northernireland/forteachers/linen/natural/materials.shtml>
- BBC Around Scotland - Technology: Things we wear [*Flash Activity*]
<http://www.bbc.co.uk/scotland/education/as/tech/flash/index.shtml>

Ask the pupils to describe the difference between natural and synthetic materials. Ask each pupil to bring in their favourite piece of clothing. Describe the garments using characteristics such as stretchy, coarse, lightweight, strong etc. Then find out information about the composition of the material from the label. Working in pairs create a table using Microsoft Word or another word processing package to record details of each garment, its characteristics and the material from which it is made. Was anything made out of linen?

Characteristics of Materials

Why do we have materials of different types? Watch the following clips to demonstrate that different fabrics have different characteristics and properties which make them suitable for different situations.

- BBC Learning Zone Clip 914 Extreme Weather Clothing [*Flash Video*]
<http://www.bbc.co.uk/learningzone/clips/914.flv>
- BBC Learning Zone Clip 2163 Testing Different Materials [*Flash Video*]
<http://www.bbc.co.uk/learningzone/clips/2163.flv>

Source a range of everyday and specialist clothing - from t-shirts to wetsuits. Lay them out on a desk and ask the children to look at each item and classify its fabric (using the label), its characteristics and its purpose. Then ask the pupils to determine whether similar fabrics are used for similar purposes? Ask the pupils to identify which fabrics are natural and which are man-made.

Man-made fibres

The majority of man-made fabrics were developed during the twentieth century. Divide the class into small groups and ask them to research a particular man-made fabric i.e. [Neoprene](#); describing its properties and uses. Ask the children to research equivalent natural fabrics that were used before the invention of the man-made fabric. For instance, pupils can compare the neoprene wet suit with a nineteenth century diving suit. Discuss the benefits of man-made fabrics. Can the class think of any negative effects associated with modern production methods?

- Wikipedia: Man-made fibres [external link: article]
http://en.wikipedia.org/wiki/Synthetic_fiber
- Wikipedia: Neoprene [external link: article]
<http://en.wikipedia.org/wiki/Neoprene>
- Wikipedia: Standard Diving Dress [external link: article]
http://en.wikipedia.org/wiki/Standard_diving_dress

Lycra and Linen

Lycra is a synthetic fabric which is strong and long lasting. It can be stretched four to seven times its original length but will instantly return to its original size when released. It has become one of the most important fabrics in use today, particularly in the fashion industry. Lycra is produced by the Du Pont company at its factory in Maydown in Northern Ireland.

- BBC Primary Focus: The Textile Industry: How Lycra is made
- BBC Primary Focus: Linen: How Linen is Made
http://www.bbc.co.uk/northernireland/forteachers/linen/natural/lycra_and_line_n.shtml

Show the Primary Focus Video clips showing the production of Lycra and Linen to the class. Ask them to write down the similarities and differences between the production of linen and Lycra. Focus on:

- The raw material needed to make each textile
- How the fibres are created
- How they are spun into thread
- How the threads are turned into textiles
- What are the possible environmental impact of these two types of production

Fabric and the Environment

The production and disposal of all fabrics have an impact on the environment. Ask the pupils to look at the following site.

- Sustainable Technology Education Project; eco-friendly fashion
<http://www.stepin.org/casestudy.php?id=ecofashion>
- TRAIID: Environment Overview [external link: article]
<http://www.traid.org.uk/oenviro.html>

We each throw away on average 30kg of textiles a year. Most goes to landfill and only a third to charity shops. Using the list of materials from *the Characteristics of Material* section, ask pupils to think about which fabrics would decay if buried in the ground. What is the environmental impact of all this waste, what can we do to reduce it? Explore methods of reusing and recycling fabrics and ask pupils to bring in old clothing and fabric and ask each child to customise their own outfit - hold a class fashion show for the resulting outfits.

- Recycle now: Recycling Clothing
http://www.recyclenow.com/what_can_i_do_today/can_it_be_recycled/textiles/recycling_clothes.html
- Waste Online Textiles Recycling
<http://www.wasteonline.org.uk/resources/InformationSheets/Textiles.htm>
- BBC Bloom: Clothing care [article]
<http://www.bbc.co.uk/bloom/flash.shtml#/actions/clothingcare.shtml>