

**Activities 1 & 2**

Read a text about a natural material. Complete the chart with information about it. Is the information correct ✓ or incorrect ✗?

	Cotton	Silk	Wool	Leather
1. Is a natural material				
2. Comes from animals				
3. Needs water				
4. Is easy to produce				
5. Can be woven/turned into thread				
6. Is a by-product of another process				
7. Was the centre of trade				
8. Comes from different animals				

Now talk to other students and find out information about the other three materials.

### Texts



#### Silk

There is an interesting legend surrounding silk. According to the legend a Chinese princess, Xi Ling-Shi, was sitting under a tree when a cocoon dropped into the cup of tea she was drinking. The silk unravelled in the tea and silk was discovered. The Chinese tried to keep the mysteries of silk production secret and the fabric was so sought after that trade between Europe and China flourished along the Silk Road.

The silk worm is an amazing creature. It feeds on the leaves of the mulberry bush before spinning a cocoon made out of silk. Each cocoon can produce up to about 1,000 metres of silk filaments. Two or three of these are spun together to create the thread or yarn which can then be woven. In recent years animal rights activists have criticised silk production as the process of harvesting kills the silk worm.





### Cotton

Cotton is a fibre that grows around the seed of the cotton plant. It has been used for thousands of years, but it was the inventions during the Industrial Revolution in the 18th century, including Eli Whitney's cotton gin in 1793, which led to mass cotton production. Cotton is a very thirsty crop, requiring quite a lot of water. So, unless there is sufficient rain, the only alternative is irrigation. Of course, water resources are becoming scarcer so this is a threat to the production of cotton. In other respects the production of cotton is very efficient as only about ten per cent of the weight is lost in the process. To begin with the cotton bolls are harvested. Once collected the cotton needs to be separated from the seed. This can be done by hand or by using a cotton gin. Once separated the cotton is spun into threads which can then be woven.



### Wool

Wool is a fibre that comes from the fur of animals. The most common animals used are sheep, but some of the most expensive wools come from other animals such as rabbits (Angora), goats (Cashmere) and Alpaca. Wool has been used for thousands of years to make clothes and is still important in textiles although its use has fallen with the increased use of synthetic fibres. Currently 25 per cent of all our wool comes from Australia while it is the biggest export from New Zealand.

The process of getting wool is very easy. The sheep are sheared and then the fleece is cleaned to remove grease and dirt. This can be done by washing it in warm water, or by using special detergents to clean it. The wool is then sorted depending on its quality, before being spun into thread which can be used to knit clothes like jumpers.



### Leather

Unlike many other natural materials used in clothing, leather is essentially a by-product. In other words, leather is produced from the animal skins which are thrown away after an animal has been killed for its meat. Today most leather is made from the skins of cattle (cows etc), although it is possible to make it from other types of animal as well. There are three main stages to turning the hides into leather. The first stage is cleaning, removing the hair and raw meat from the skins. After this they are tanned. This is an important stage as it is at this point that the raw-hides are turned into a material that won't putrefy and will become soft and flexible. The final stage is known as crusting and includes dyeing, splitting and stripping the leather. In many cases the leather is also 'finished' so that it looks nice or becomes waterproof.



Activity 3

Match the words in the left-hand column to the definitions in the right-hand column. Use the texts to help you.

- |                                    |    |  |
|------------------------------------|----|--|
| 1. <i>cocoon</i> (n)               | a) | a cover that the young of some insects such as butterflies and moths make when they start changing to their adult form |
| 2. <i>crop</i> (n)                 | b) | to separate fibres from each other so you have one strand or thread  |
| 3. <i>dye</i> (v)                  | c) | to try to find something that you really want  |
| 4. <i>flourish</i> (v)             | d) | to grow or be very successful  |
| 5. <i>fur</i> (n)                  | e) | to twist fibres of a material such as cotton into a thread   |
| 6. <i>hide</i> (n)                 | f) | a plant grown, usually for food, on a farm   |
| 7. <i>irrigation</i> (n)           | g) | as much as is needed / enough  |
| 8. <i>putrefy</i> (v)              | h) | the process by which enough water is brought to a piece of land through a series of pipes to help crops grow           |
| 9. <i>raw</i> (adj)                | i) | not very much of something / rare  |
| 10. <i>scarce</i> (adj)            | j) | the soft hair that covers the bodies of some animals   |
| 11. <i>sought</i> (v) [past tense] | k) | made from artificial materials or substances, not natural ones   |
| 12. <i>spin</i> (v)                | l) | the skin of an animal such as a cow which is used for making leather   |
| 13. <i>sufficient</i> (adj)        | m) | something which has not been cooked  |
| 14. <i>synthetic</i> (adj)         | n) | to decay or become rotten  |
| 15. <i>unravel</i> (v)             | o) | to change the colour of something such as material by using a substance  |

## Natural Materials

### Adrian Tennant

**Level**

Intermediate/Upper Intermediate

**Topic**

Natural materials (wool, cotton, silk and leather)

**Subject(s)**

Fashion/Textiles &amp; Science

**Time (approx)**

Activity 1: 10 – 15 minutes.

Activity 2: 15 – 20 minutes.

Activity 3: 15 – 20 minutes

**Preparation**

Activities 1, 2 &amp; 3: One photocopy of the table for each student.

Texts: One copy per 4 students, cut up as indicated

**Activity 1**

- 1 On the board write up the words *cotton*, *silk*, *wool* and *leather* and ask the students if they can think of anything made from each of these materials.
- 2 Next, put the students into pairs and ask them to spend a couple of minutes making notes about what they know about these materials.
- 3 Ask a few students to tell you their information and write it up on the board.
- 4 Next, divide your class into four groups.
- 5 Hand out the table and tell your students that you will give them a text about one of the materials. They should read the text and complete the column in the chart for their material. So, if the phrase is correct for their material they should tick the box ✓, if it isn't correct they should put a cross ✗.
- 6 Hand out copies of the texts to the students. Make sure that everyone in a group gets the same text.

- 7 Give the students five minutes to read the text and start completing the table.
- 8 Then, tell the students to work together in their group completing the column in the chart for their material.
- 9 Monitor and help where necessary, but do not check the answers yet.

**Activity 2**

- 1 Put the students in new groups of four, with one student from each of the groups in activity 1 working together. i.e. In the new groups there should be a student for each of the texts/materials.
- 2 Tell the students to turn their texts over so they can't read them (but they can look at them quickly if they need to check some information).
- 3 Explain that they will work together and help each other complete the table (e.g. at the moment they only have one column complete, but working together they should be able to complete the whole table).
- 4 Tell them not to look at each others tables, but to ask each other for the relevant information.
- 5 Monitor and help where necessary.
- 6 Finally, check the completed table as a class.

**Answers**

	Cotton	Silk	Wool	Leather
1 <i>Is a natural material</i>	✓	✓	✓	✓
2 <i>Comes from animals</i>	✗	✓	✓	✓
3 <i>Needs water</i>	✓	✗	✗	✗
4 <i>Is easy to produce</i>	✓	✗	✓	✗
5 <i>Can be woven/turned into thread</i>	✓	✓	✓	✗
6 <i>Is a by-product of another process</i>	✗	✗	✗	✓
7 <i>Was the centre of trade</i>	✗	✓	✗	✗
8 <i>Comes from different animals</i>	✗	✗	✓	✓

**Activity 3**

- 1 Ask students to work in the same groups of four as they did in activity 2.
- 2 Explain that there are quite a few new/difficult words in the texts and now they will have a chance to find out the meanings.
- 3 Hand out the worksheet.
- 4 Ask the students to work together.
- 5 To start with they should find the word in the text and try and use the context to help them.
- 6 Then they should look at the definitions and try to match the words to the correct definition.
- 7 Monitor and help where necessary.
- 8 Finally, check as a class.

**Answers**

- 1 *cocoon (n) a cover that the young of some insects such as butterflies and moths make when they start changing to their adult form*
- 2 *crop (n) a plant grown, usually for food, on a farm*
- 3 *dye (v) to change the colour of something such as material by using a substance*
- 4 *flourish (v) to grow or be very successful*
- 5 *fur (n) the soft hair that covers the bodies of some animals*
- 6 *hide (n) the skin of an animal such as a cow which is used for making leather*
- 7 *irrigation (n) the process by which enough water is brought to a piece of land through a series of pipes to help crops grow*
- 8 *putrefy (v) to decay or become rotten*
- 9 *raw (adj) something which has not been cooked*
- 10 *scarce (adj) not very much of something/rare*
- 11 *sought (v) [past tense] to try to find something that you really want*
- 12 *spin (v) to twist fibres of a material such as cotton into a thread*
- 13 *sufficient (adj) as much as is needed/enough*
- 14 *synthetic (adj) made from artificial materials or substances, not natural ones*
- 15 *unravel (v) to separate fibres from each other so you have one strand or thread*

### Useful websites

A really interesting webpage with information on the history of silk.  
<http://www.silk.org.uk/history.htm>

A site all about cotton with information about the crop, production, uses and much more.  
<http://r0.unctad.org/infocomm/anglais/cotton/sitemap.htm>

A brief look at cotton in the USA and how it was linked to the slave trade.  
<http://www.spartacus.schoolnet.co.uk/USAScotton.htm>

A simple page outlining the history and uses of wool and includes a video clip of a sheep being sheared.  
<http://www.historyforkids.org/learn/clothing/wool.htm>