Worksheet 1: Sources, origins and properties

**Task 1**

Fill in the grid following the instructions below:

**Fibres and fabrics**

Now, match the fibre or fabric to the correct raw materials.

* Nylon
* Wool
* Cotton
* Hemp
* Polyester
* Linen
* Angora
* Lycra
* Kevlar
* Silk
* Acrylic
* Bamboo
* Cashmere
* Nomex

**Raw material sources**

Match these raw material sources into the correct categories**.**

* Silkworm
* Petrol-based chemicals
* Goat
* Cotton plant
* Sheep
* Hemp plant
* Flax
* Aramids
* Rabbit
* Bamboo plant

|  |  |  |
| --- | --- | --- |
| **Animal** | **Chemical** | **Vegetable** |
| **Raw Material Source** | **Fibre or fabric** | **Raw Material Source** | **Fibre or fabric** | **Raw Material Source** | **Fibre or fabric** |
|  |  |  |  |  |  |

**Task 2**

Match the following terms and images to their definitions:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yarn |  | Long, smooth strands, usually from synthetic sources |
|  | Staple fibres |  | A thread produced from spinning fibres together which are then knitted or woven into fabrics |
|  | Filaments |  | Short, hairy fibres usually from natural sources |

**Task 3**

Dissect your fabric swatch into the warp and weft and then disassemble the yarn into fibres. Document this process in the boxes below using labelled diagrams.

**Yarn**

Draw a diagram to show the structure the yarn – is it a staple yarn or filament yarn?

**Fibre**

Draw a diagram to show the fibres that make up the yarn – are they staple or filament fibres?

**Fabric**

Draw a diagram to show structure of the fabric – is it woven or knitted, plain weave or twill weave?

**Task 4**

Study the lifecycle of a traditional t-shirt below:



In pairs, use the diagram above to list all the ways you could reduce the environmental impact along the lifecycle of a t-shirt or similar garment. Use the 6Rs to help you:

**Reduce Reuse Recycle Rethink Repair Refuse**

**Sourcing:**

**Manufacture:**

**Distribution:**

**Use:**

**Recovery:**