

# Classification of Fibers



## Types of fibre

There are two types of fibres classified according to their origin.

### Natural fibres

These fibres are naturally obtained from plants and animals. Cotton and jute are fibre obtained from plants. Silk and wool are fibre obtained from animals.



### Synthetic fibre

These fibres are artificially synthesized by humans within the industry by the application of simple chemicals.

**Examples:** Acrylic, polyester, nylon, rayon, acetate, are a few examples of Synthetic fibre

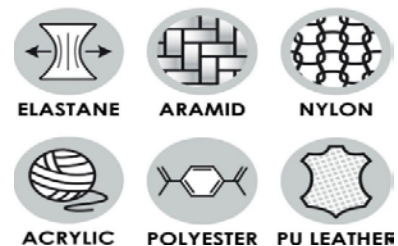
### Animal fibres

Silk and wool are fibre obtained from animals.

Wool fibres come from sheep, camel, goat, and yak.

The process involved in making animal fibres into wool follows a series of steps — Shearing, Scouring, Sorting, Cleaning, Dyeing, Straightening, Rolling and Combing.

Silk fibres are obtained from the silkworm and the process of obtaining silk from the silkworm is called sericulture. The silk thread or the yarn is obtained from the silk moth's cocoon.



## Classification of Fibers

### The life cycle of a silkworm begins from the

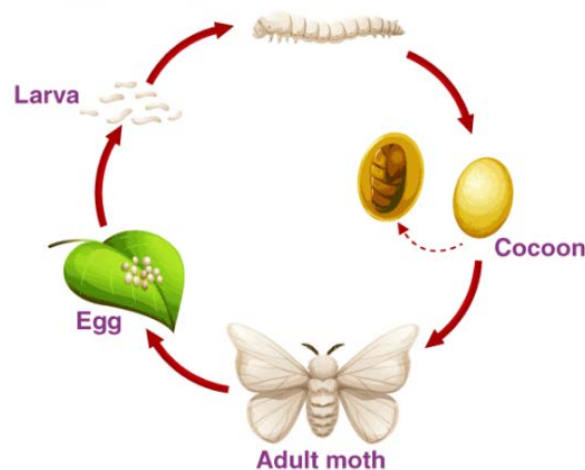
**Stage 1:** After mating, female silk moth lays around 200 – 300 eggs at a time.

**Stage 2:** The egg hatches and new silkworms arise and feed on mulberry leaves for around 30 days and move into the next stage.

**Stage 3:** Cocoon, a protective layer or a silky web spun is developed around the larvae, which is the size of a small cotton ball made of a single silk thread.

**Stage 4:** Pupa stage. A stage where silk fibres is obtained by killing the pupa and plunging the cocoon into boiling water and unwind the silk thread.

**Stage 5:** The last stage of a life cycle, in which the completely developed pupa changes into an adult moth. Again the life cycle begins from here.



## Classification of Fibers



### Plant Fibres

Cotton, wool and jute are the fibres obtained from the plant source.



### Plant Fibers - Jute

Jute fibre is obtained from the stem of jute plants. It is soft, shiny and long fibre with a silky texture.

Cultivated in rainy seasons and is basically grown in the states of West Bengal, Bihar and Assam.

### Fibre

The finer part of the thread is referred to as fibre.

Fibre is a thread-like structure that is spun into ropes, clothes and strings.

Fabrics are made from fibres obtained from natural or artificial sources. Example: rayon, nylon, polyester, etc.

### Yarn

The thin strands made from fibre are called as yarns. Spinning is the process of making yarn.

### Cotton

Cotton is obtained from cotton bolls, which are taken directly from the surface of cotton seeds.

It is grown in black clayey soil with a warm climate.

