

## Classification of Fibres (Silk)



Silk is an animal fibre derived from silkworms. Silk is produced by a moth (species) known as **silk moth**. The scientific name of silk moth is "**Bombyx mori**".

Silk is a fine, strong, soft and shining fibre produced by silkworms in making their cocoons (something that covers or protects some insects while they grow). Silk is a naturally lustrous fibre.

Silk does not conduct heat so it is a good insulator. It keeps person warm in winter and cool in summer.

The rearing of silkworm for obtaining silk is called sericulture (or silk farming). It is a very old occupation in India. India produces plenty of silk on a commercial scale.

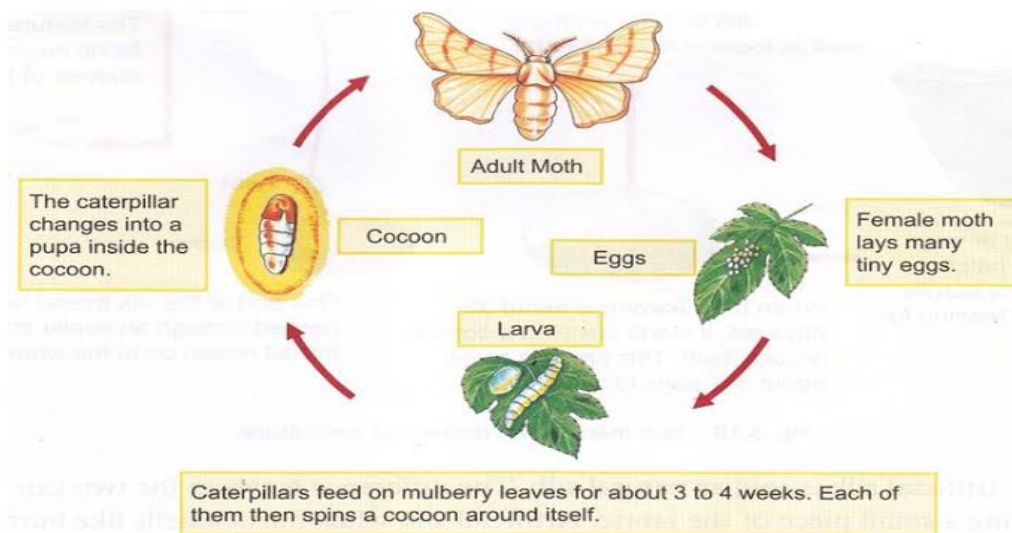
The silk thread is obtained from the cocoon of silk moth. There are varieties of silk moths which yield different types of silk yarn such as tassar silk, mooga silk, kosa silk, mulberry silk etc. The most common silk is the mulberry silk.



### Life Cycle of the Silk Moth

There are four stages in the development of silk moth:

**Egg → larva → pupa → adult moth**



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**Stage 1:** In the first stage, a female silk moth lays eggs on mulberry leaves.

**Stage 2:** When the eggs of the silk moth hatch larvae are produced called **Caterpillar** or Silkworms.

**Stage 3:** Then they grow in size (over three inches) and then the caterpillar is ready to enter the next stage of his life called **pupa**.

To enter this stage the adult silkworm first weaves a net that can hold it. Then it swings its head in the shape of an eight.

During these movements the head of the caterpillar secretes fibre made of a protein which hardens on exposure to air and becomes **silk fibre**.

The caterpillar then covers itself into silk and turns into Pupa. The covering of the caterpillar is called the **Cocoon**. The silkworm continues to develop inside the cocoon to form silk moth.

**Stage 4:** In this stage pupa which is covered in the cocoon, develops fully to form an adult silk moth. After the complete development the cocoon splits up and beautiful silk moth comes out of it. This completes the life history of a silk moth.



### **Rearing of silkworms to obtain cocoons**

Moths are reared and their cocoons are collected to get silk threads.

Female silk moth lays 100 of eggs stored under hygiene conditions, in strips of cloth, undersustainable conditions of temperature and humidity.

Eggs warmed for the larvae to hatch from eggs.

Silkworms then eat leaves of mulberry tree day and night and increase enormously in size.

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The larvae are kept in clean bamboo trays along with freshly chopped mulberry leaves. After 25-30 days, it stop eating and move to tiny chamber of bamboo in tray to spin cocoons.

The caterpillar spins the cocoon inside which develops silk moth.



### Processing cocoons to obtain silk fibre

The cocoons are collected and kept under the sun or boiled so that silk fibres can separate out from them.

The process of taking out threads from cocoon for use as silk is called reeling. Reeling is done in special machines which unwind the fibres of silk form cocoons.



### Converting silk fibre into silk cloth

Silk fibres obtained from cocoons are spun to form silk yarn which is then woven in looms by wavers to make silk cloth.