

## **Background information**

# **Silkworm lifecycle**

The silkworm is an insect that passes through the four stages of metamorphosis: egg, larva, pupa, adult.

Silkworm eggs are lemon yellow when first laid. They will change to white if they are infertile or black if fertile. It takes around two weeks for the eggs to hatch. The eggs are ready to hatch when you can see a dark ring and clear centre in the egg. Newborn silkworms look like small black strings. They are too weak to crawl from one leaf to another. The worms need a continual supply of fresh leaves as this is the only way they can obtain moisture. If the leaves they eat have dried out they could die of thirst.

They shed their skin three times while growing. Sometimes the silkworms will eat their shed skin. It takes around a month for the silkworm to be ready to spin its cocoon. In the period since hatching the larva will have increased its size 10,000 times since birth.

When they are ready to spin their cocoon they anchor themselves to a position by making a net of glue-like filaments. It takes two or three days to spin the cocoon. Inside the cocoon the silkworm sheds its skin and turns into a brown-shelled pupa. In the next week and a half they will metamorphose into a moth.

Silkworm farmers need to be careful that they process the cocoons before the moths eat their way out of them. The silkworm farmers leave some of the moths to eat their way out of the cocoons to breed. These moths release a brownish liquid that softens the cocoon and they can then eat their way out. Their wings are very short and are unsuitable for flight. Their wings vibrate only to warm their bodies. Moths can not eat or drink. They mate, lay eggs and die within five days. Each female will lay between two hundred and five hundred eggs.

The cocoons that are not used for breeding are placed in warm water. The steam kills the moths inside and the warm water softens the glue that binds the cocoon together. The filament is then unwound and processed into thread. The thread is then woven into cloth. The unwound thread from one cocoon can be as long as one mile. You need 1700 – 2000 cocoons to make one silk dress.

**Glossary:** pupa, larvae, pupate