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The Making of Silk

The silkworm is not a worm at all. It is the caterpillar stage of the silkworm moth. Silk is actually hardened caterpillar saliva (spit) that the silkworm produces to make its cocoon. It comes out of the silkworm's mouth, not out of the insect's rear-end like the thread of a spider does.



The ancient Chinese bred and raised silkworms to produce the silk threads they used to make silk cloth. We do not know who first discovered how to do this—the story of Leizu is just a legend. But we do know that the entire process of making silk, from raising the worms to weaving the cloth, was originally done exclusively (only) by women.

Here's the process that the women used:

- A moth lays about 500 eggs and then dies.
- Baby caterpillars (silkworms) hatch from the eggs and are fed mulberry leaves. Mulberry leaves are the *only* leaves that silkworms will eat.
- About every five days the caterpillars molt. This means that their skins spit and fall off, leaving a larger, new skin underneath.
- After about 6 weeks of feeding, the silkworms are big and fat. They stop eating spin their cocoons. Each cocoon is made from a *single (just one)* long thread of silk—this is the reason why the thread can be used to make cloth.
- Some of the cocoons are allowed to develop into moths to produce more silk worms.
- The rest of the cocoons are steamed to kill the moths that are growing inside.
- The steamed cocoons are soaked in hot water to soften the sticky gum that keeps the threads wound tight. Each cocoon then is brushed to find the end of its single thread.
- The threads of eight cocoons are unwound at the same time and twisted together to form one thicker, stronger thread.
- Finally, the thick threads are dyed and woven into cloth.

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Because silk cloth took so much time to make, only the very wealthy could afford it. Wearing clothing made from silk became a symbol of wealth and power. In China, only members of the royal family and the nobility were allowed to wear silk clothing. Merchants and peasants were not allowed to wear silk.

Nobles and kings from foreign lands were willing to pay high prices for silk. For this reason, the emperors of China wanted to keep the silk-making process a secret. Anyone caught telling the secret or taking silkworms out of China was put to death. In this way, China was able to keep its secret for over 1,000 years.

- 1) A silkworm is not a worm. What is it?
- 2) What is silk?
- 3) What do silkworms eat?
- 4) While they are feeding, silkworms molt about every 5 days. What does it mean to molt?

Why do you think the silkworm molts?

- 5) Why is it possible to make silk cloth from the silk of silkworms, but not from spider silk?
- 6) Why was silk cloth so expensive?
- 7) Why did Chinese emperors want to keep their silk-making process secret?