



Smithsonian

Raising Silkworms



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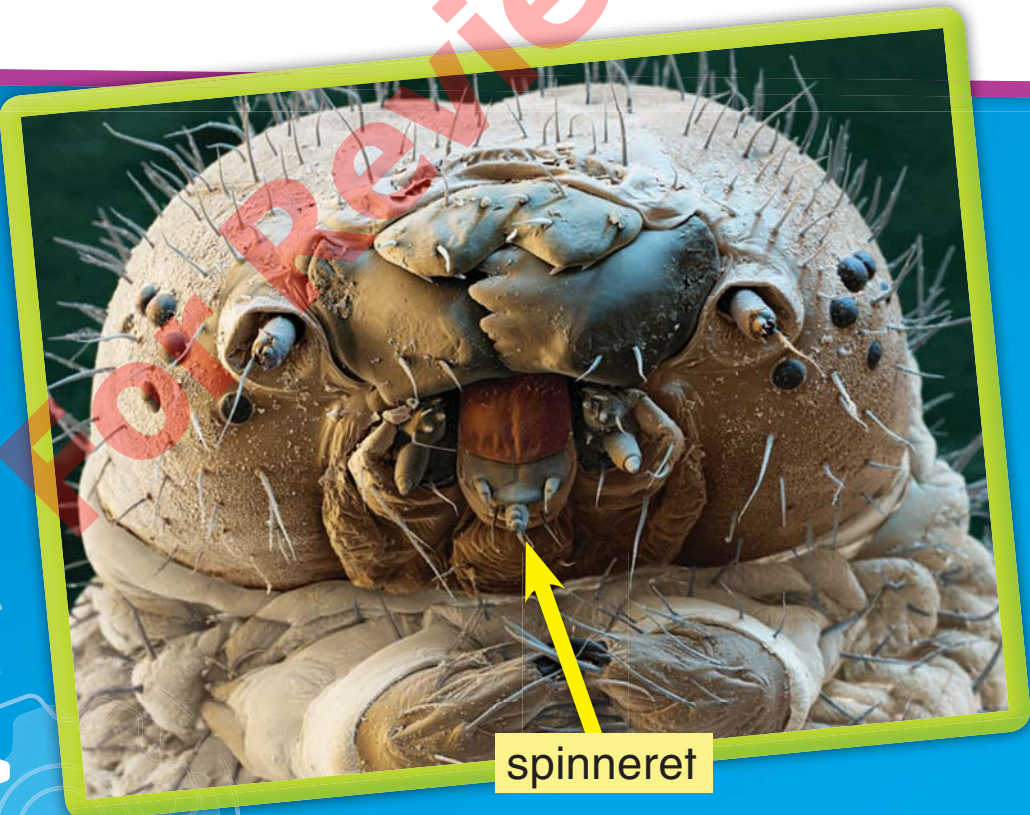
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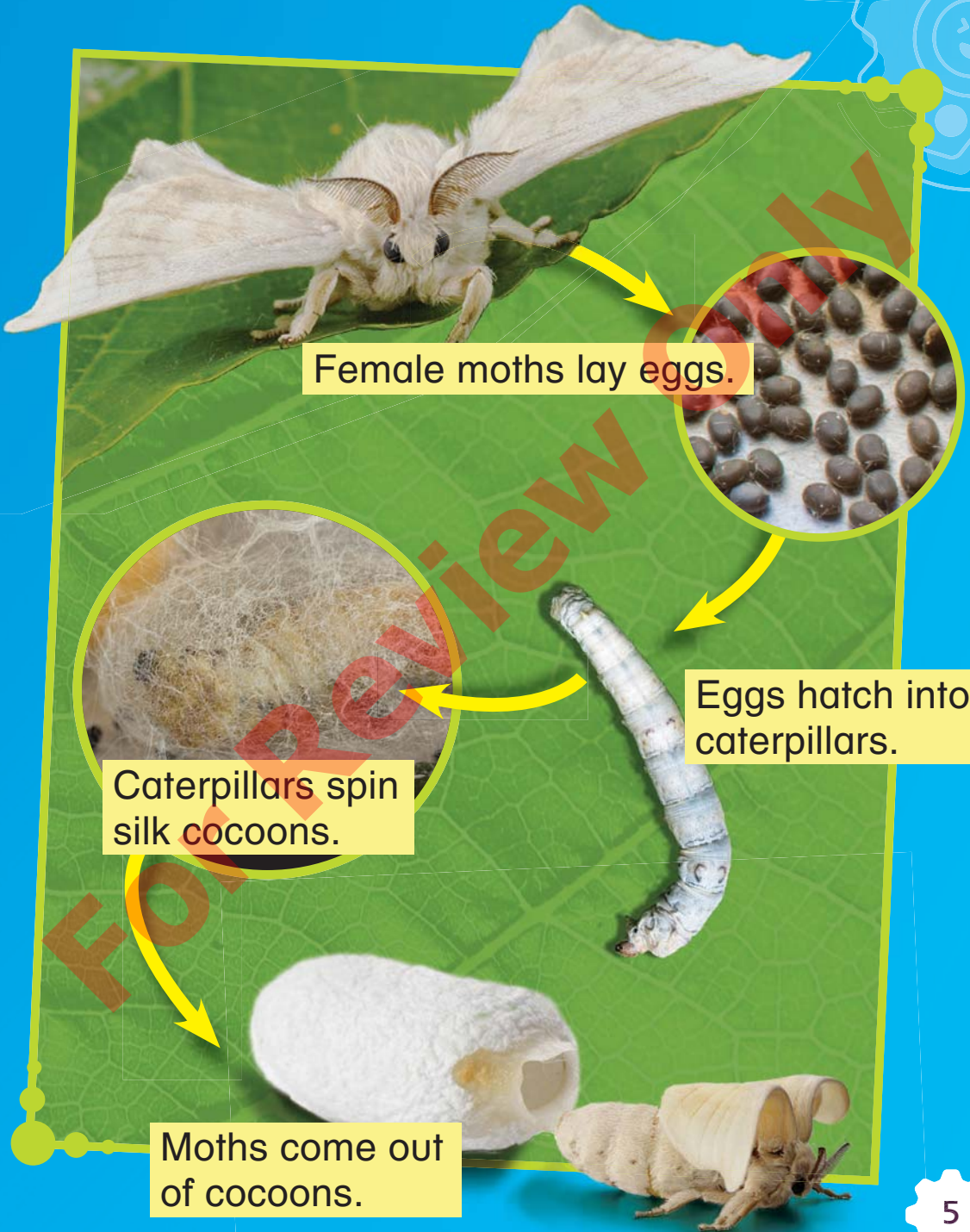
A Sad and Silky Story

A silkworm shoots threads from its **spinneret**. Slowly, it wraps itself to make a cocoon.

If it lives, the worm will become a moth. But for silk to be made, the worm does not live.



Silkworm Life Cycle



Why Silk?

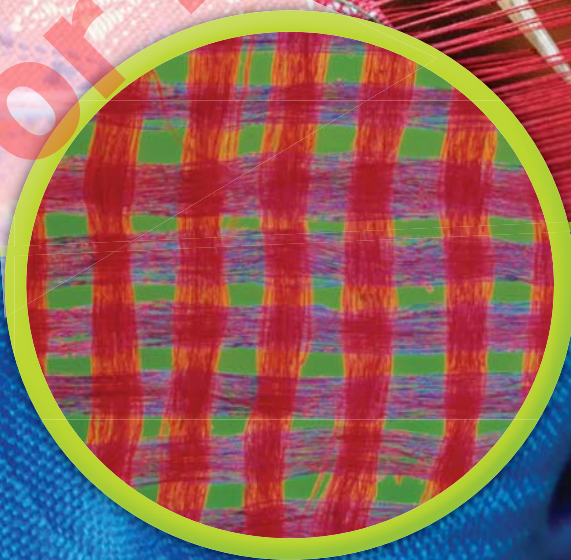
People through time have needed **fabric**. They look for fabric that is strong. They want it to give them warmth or to keep them cool. They want it to move well. Many people also want it to be beautiful.

silk fabric

Technology & Engineering

Weaving

Many types of fabric are made through weaving. To weave is to cross threads. Crossing them in the correct way makes strong fabric.



Silk solves many fabric troubles. It is strong. It can keep people warm or cool. It moves well. And many people think silk is beautiful.
But making silk is not easy!

A circular photograph of a man with dark hair, smiling, wearing a blue silk shirt. He is adjusting the collar of the shirt with both hands. The background is a blurred indoor setting. The photo is set against a yellow background with a purple circular border.

silk shirt



A woman looks at different silk fabrics.



STEAM CHALLENGE

The Problem

You are going camping! You have a great tent, but there is no place to hold your flashlight. Weave strips of fabric to make a flashlight holder. It will hang from the tent ceiling.

The Goals

- Your holder can be made of any material or threads that you can weave.
- Your holder must be big enough and strong enough to hold a flashlight.
- Your holder must be able to be attached to a tent ceiling.





Research and Brainstorm

How do you weave strips of fabric?
What materials can be woven easily but are still strong enough to make fabrics?



Design and Build

Draw your plan. How will it work?
What materials will you use? Build your model!



Test and Improve

Place a flashlight in the holder. Can it hold for five minutes without breaking?
Can you improve it? Try again.



Reflect and Share

Why do people need fabrics? Are there easier ways to make fabric?