How & Why Insects Grow and Change

A potato beetle has laid her yellow eggs on a leaf. Like the beetle, most insects hatch from eggs. Insects grow quickly and change greatly before they become adults.

An insect grows and changes, but its skin does not. An insect's skin is a hard shell. As an insect like the grasshopper grows bigger, it must molt. It sheds its old skin and steps out in a new, bigger skin.

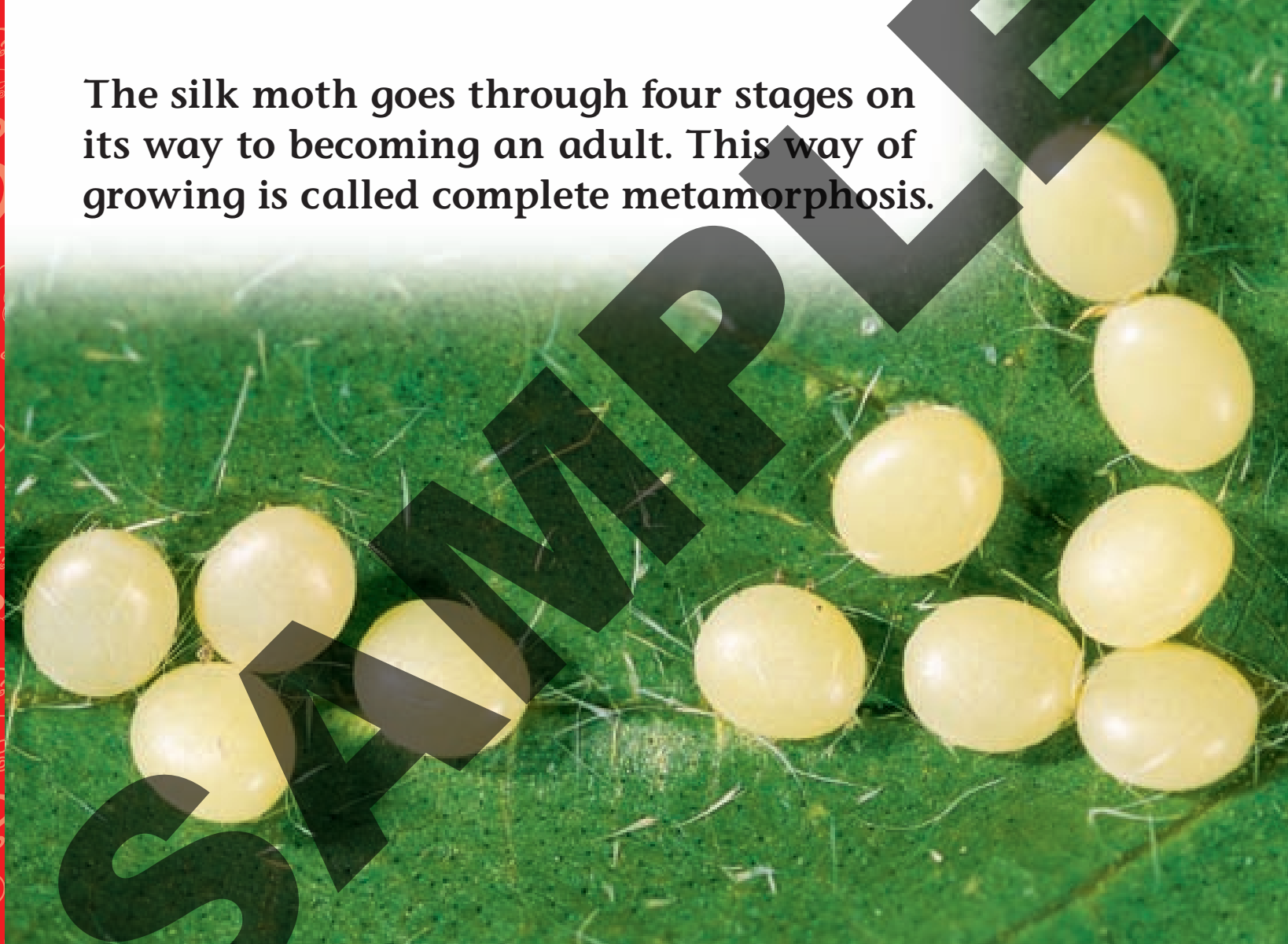
Praying mantises go through three life stages. They begin as eggs. Young mantises, called nymphs, hatch and crawl from their egg case. They look a lot like adults, but they have no wings.

The nymphs grow bigger, molting several times. Finally, the insect sheds its skin for the last time. It steps out as an adult, with wings. This set of changes—from egg to nymph to adult—is called incomplete metamorphosis. Metamorphosis means "change in form."

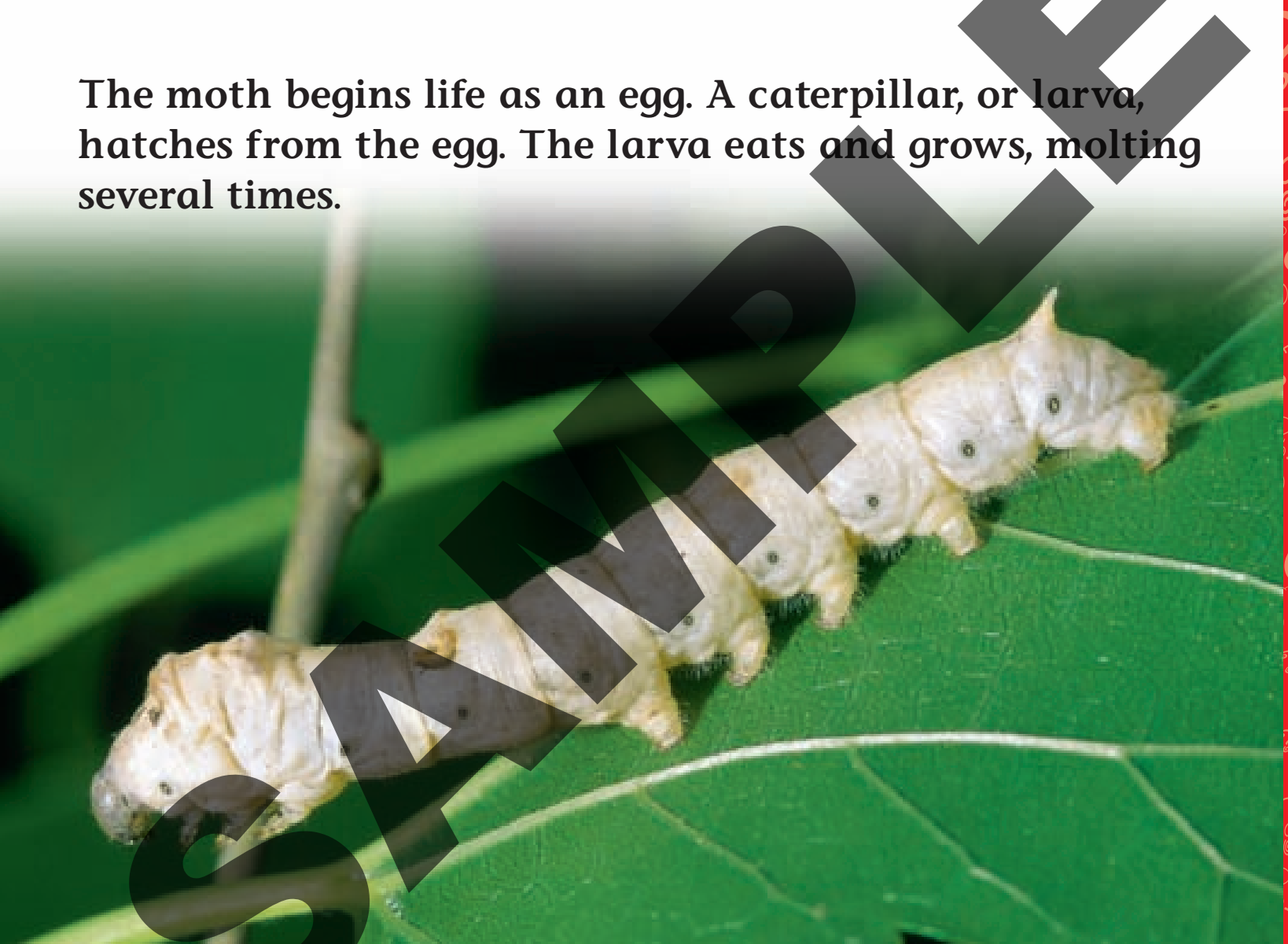
Dragonflies lay their eggs in water, and the young hatch there. Dragonfly nymphs spend the first part of their lives in the water. A growing nymph may molt as many as 15 times!

When it is nearly grown, the nymph leaves the water by crawling up the stem of a plant. It molts again and spreads its new wings. As an adult, it will live above water.

The silk moth goes through four stages on its way to becoming an adult. This way of growing is called complete metamorphosis.



The moth begins life as an egg. A caterpillar, or larva, hatches from the egg. The larva eats and grows, molting several times.



When the silk moth larva is full grown, it wraps itself in a silky cocoon. Now the insect is ready for the next stage in its life. It becomes a pupa.

The pupa rests inside the cocoon for two to three weeks. Its body changes. When it finally breaks out of the cocoon, it is an adult silk moth.

In a bumblebee nest, eggs rest inside wax cells. The larvae hatch inside the cells. They do not need to crawl around in search of food. Other members of the bee colony collect pollen and nectar from flowers.

They bring this food back to the nest for the larvae. The larvae eat and grow. Still inside their wax cells, they change into pupae.

A bumblebee finally comes out of its cell as an adult. The bee is gray at first, but its color soon changes to yellow and black.

The bee flies off to a sunflower to gather pollen and nectar. It will bring food back to the nest, so that more young bees can grow up.

Use the information in this book to answer some "how and why" questions.

- Why must growing insects molt?
- How is a young praying mantis different from an adult?
- How does a dragonfly nymph leave the water?
- How does the silk moth begin its life?
- How does the silk moth larva get ready to change into a pupa?
- Why do adult bumblebees bring food back to their nest?