



Teacher Edition

AlphaWorld

Written by Keith Pigdon
Photography by Nancye Pigdon

Silkworms



Published edition
© Eleanor Curtain
Publishing 2004
Text © Kerrie Shanahan
Photographs © Eleanor
Curtain Publishing

First published 2004

Apart from any fair dealing for the purposes of study, research, criticism or review, as permitted under the Copyright Act of Australia, no part of this book may be reproduced by any process, or transmitted in any form, without permission of the copyright owner. Where copies of part or the whole of this book are made under Part VB of the Copyright Act, the law requires that records of such copying be kept and the copyright owner is entitled to claim payment.

Developed by
Eleanor Curtain Publishing
Text: Kerrie Shanahan
Consultant: Susan Hill
Designed by
Alexander Stitt
Production by
Publishing Solutions

Printed in China

ISBN 0 7253 3060 0

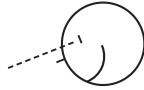
1 2 3 4 5 6 7 8 9
04 05 06

How to use this book



Before reading: Talkthrough

Talk through the book with the children. Encourage them to predict the text from the cover and the pictures, and to think about the information provided. Direct the children's attention to aspects of the text that may challenge them. Support the children as they deal with these challenges by asking the *Talkthrough* questions on each page.



During reading: Observe and support

Observe the children as they read and encourage them to monitor their own reading. Help the children to use reading strategies and cues to respond to reading challenges that arise in the text. Interruptions to the child's reading should be minimal and focused on a specific learning need.



After reading: A range of comprehension and response activities

To develop children's understanding of the text, select from the activities found on page 12 and the inside back cover. These whole text, sentence and word level activities reinforce the teaching focus of this book. Assessment ideas are provided to assist with further teaching plans.

Selected text features

- Contents page and introduction
- Colour photographs and a diagram support the text
- Captions support the photographs
- Glossary

Vocabulary

caterpillar, chrysalis, cocoon, glands, hatch, mating, moth, moult, mulberry tree, silkworm

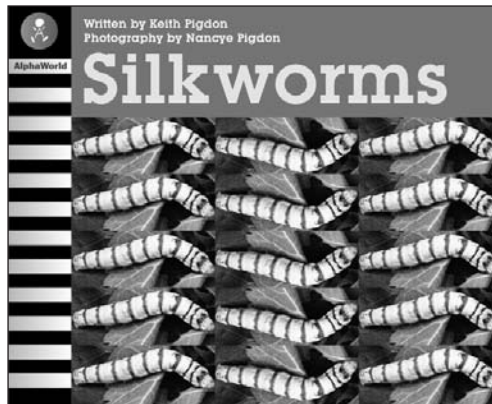
Setting the context

Ask the children: *What do you know about silkworms?*

What do you want to know about silkworms?

List the children's ideas on a chart. Keep the chart to revisit after reading the book.

What we know about silkworms (K)	What we want to know about silkworms (W)	What we have learnt about silkworms (L)



Front cover

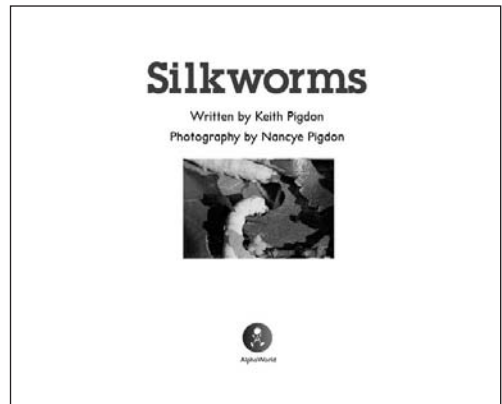
Show the front cover.

This book is called Silkworms.

What sort of information do you think it will include?

Will it be a factual book?

What makes you think so?



Title page

Turn to the title page.

This is the title page.

It tells us the title, the author's name and the photographer's name.



Talkthrough

Turn to the contents page

Read through the list of sections in the book. Which section interests you the most? Why?

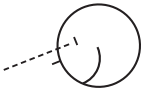
Do we need to read a book like this from the start to the finish? Why?

Turn to pages 4–5

What can you tell me about this silkworm?

What does it look like?

Do you think the silkworm looks more like a worm or a caterpillar?



Observe and support

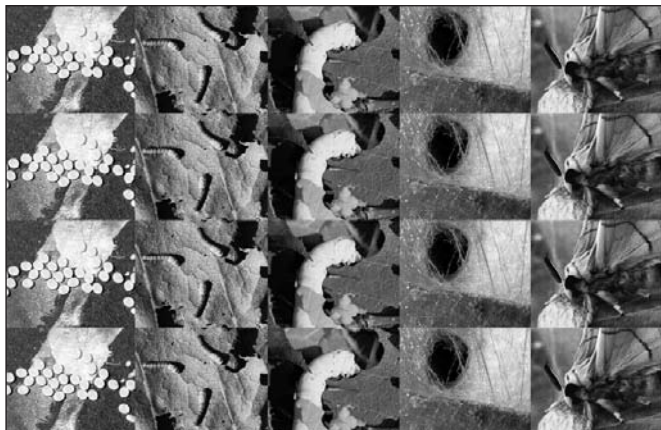
Can the children explain the purpose of a table of contents?

What is this page called?

What is the purpose of a table of contents?

Can you tell me where I could find information about eggs?

What is the section starting on page 8 about?



Contents

What is a silkworm?	4
Eggs	6
Hatching and feeding	8
Growing	10
Making silk	12
Inside the cocoon	14
Outside the cocoon	15
Mating and laying eggs	16
Life cycle of a silkworm	18
Glossary	20

What is a silkworm?

A silkworm is a caterpillar.
It is not really a worm.

Silkworm caterpillars hatch from
the eggs of the silkworm moth.





Talkthrough

Turn to pages 6–7

Point to the eggs in the photo.

What do you think these are?

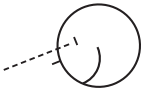
Do you think it is the moth or the caterpillar that lays the eggs?

What colour are the eggs?

Turn to pages 8–9

Why do the eggs hatch in spring?

What do you think the silkworm caterpillar eats?



Observe and support

Can the children read the text fluently?

Ask a child who is having difficulty to read aloud.

Can you read the text so that it is easy for me to understand?

You may need to model fluent reading of the text.

Did you notice that I paused after reading each paragraph?

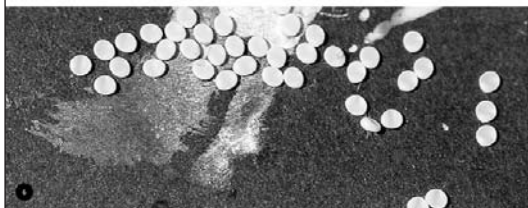
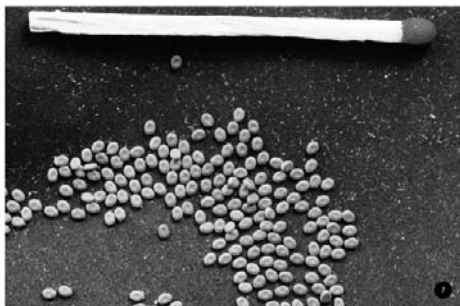
This makes it easier to hear each new idea.

Eggs

The female silkworm moth lays its eggs in summer. The eggs are yellow, but soon they change to grey. The eggs stay grey through autumn and winter.



Each egg is much smaller than the head of a match.



Hatching and feeding

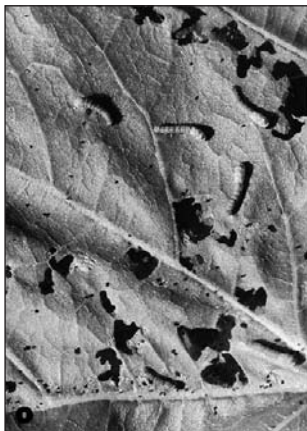
In spring, the eggs swell and become darker. Then a small caterpillar crawls out of each egg.

The mulberry trees have just started to grow new leaves in spring.



Silkworm caterpillars like to eat the leaves on mulberry trees.

They start eating as soon as they hatch.





Talkthrough

Turn to pages 10–11

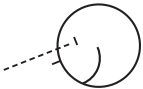
What is happening in this series of photographs?

Look at the caterpillar in the last photo. How long do you think it is?

Turn to pages 12–13

What do you think the silkworm is doing in these photographs?

Why do you think it is called a silkworm?



Observe and support

Can the children use the text to interpret the information contained in the photographs?

What is moulting?

Why does this caterpillar need to moult?

Why is there a match next to the caterpillar in the photographs?

How many days does it take the caterpillar to moult four times?

Growing

Silkworm caterpillars grow very fast.

By the time they are six days old, their skins are too small for their large bodies.

They shed their small skin and grow a larger one. This is called moulting.

Silkworm caterpillars moult four times.

After the last moult they grow very quickly.

First moult: about the 6th day



Second moult: about the 12th day



Third moult: about the 18th day



Fourth moult: about the 26th day



Making silk

In late spring, the caterpillars stop eating. Their bodies are now full of liquid silk made from the mulberry leaves they have eaten.

Each caterpillar clings to a leaf or some other safe place. It pushes liquid silk out through two glands under its mouth and spins a cocoon. This takes four or five days.





Talkthrough

Turn to pages 14–15

What do you think happens inside the cocoon?

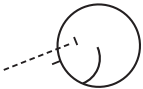
What will come out of the cocoon?

What do you think happens once it is out of the cocoon?

Turn to pages 16–17

What has come out of the cocoon?

The silkworm moth now needs to mate and lay eggs. How many eggs do you think the moth might lay?



Observe and support

Can the children use the information in the photographs and the text to understand new vocabulary such as ‘chrysalis’?

What is a chrysalis?

What helped you to work that out?

Did you look at the pictures to help you?

Inside the cocoon

Inside the cocoon, the silkworm caterpillar sheds its skin and changes into a chrysalis.

After two or three weeks, the chrysalis becomes a moth and is ready to leave the cocoon. It makes a hole in the cocoon with a liquid from its mouth.



Outside the cocoon

When the silkworm moths come out of the cocoons, they live for only three to four days. They have a small mouth, but no teeth. They do not eat or drink.



Mating and laying eggs

Silkworm moths cannot fly. The males flutter around looking for a female.

The moths mate by joining their tails together.



After the moths have mated, the female lays up to 500 tiny yellow eggs.

The life cycle of the silkworm moth begins again.





Talkthrough

Turn to pages 18–19

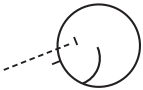
This is a diagram explaining the life cycle of the silkworm. What is a life cycle?

What can you see happening in this diagram?

Turn to page 20

This is a glossary. What is a glossary?

When would you need to use a glossary?



Observe and support

Can the children explain the diagram on this page?

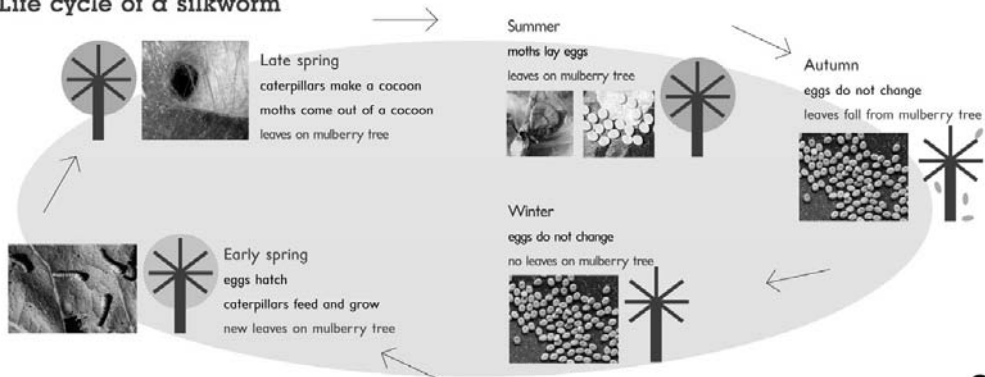
What do the arrows tell us?

What do the symbols mean?

Does this life cycle have a beginning?

Can you explain the diagram?

Life cycle of a silkworm



Glossary

chrysalis	the part of its life when a silkworm caterpillar makes a case to live in as it changes into a moth
cocoon	a home made from silk that a chrysalis lives in
glands	the part of its body where the silkworm makes liquid silk
hatch	to break out of an egg
moulling	when a caterpillar peels its skin off and grows a bigger skin
mulberry leaves	leaves from a tree that silkworms feed on
shed	peeling skin off
silk	a thin fibre that silkworms make their chrysalis from

Silkworms



After reading

Being a meaning maker

Encourage the children to support their answers to these questions with evidence from the book:

What happens when a silkworm gets too big for its skin?

What happens inside the cocoon?

How many eggs does a female silkworm lay?

Why do the eggs hatch in spring and not in summer when they are laid?

What would happen if the eggs hatched in winter?

Why does the silkworm moth only live for three to four days?

Being a code breaker

Explore the following language features:

- Verbs: feeding, growing, hatching, laying, making, mating
- Vocabulary specific to the seasons
- Punctuation: capital letters, commas, full stops, question marks
- Homophones: their/there, to/two/too

- Hearing sounds: words with the /th/ sound – moth, mouth, this, three, through
- Number of syllables in words: caterpillar, chrysalis, cocoon, glands, hatch, mating, moth, moult, silkworm

Being a text user

What sort of book is this?

What information does this book give you?

Apart from the text, how else is the information in this book presented? Why would you read a book like this?


Being a text critic


What does the author think about silkworms?


Would everyone be interested in a book like this?

How do you think the author found out about silkworms?

Responding to text

 The children could revisit the chart made before reading the book and work together to fill in the final column (L): What we have learnt about silkworms (L). If the children have any unanswered questions (W), they could use the Internet and other resources to find the answers and add this information to the final column (L).

 The children could choose a word from the text that is new to them (chrysalis, cocoon, mulberry tree). They could write the word on a card, write a sentence to explain the word and add an illustration. These could be displayed to make an information board about silkworms.

 The children could use playdough to make models of the different stages of a silkworm's life cycle. They could make labels for each different stage (eggs, silkworm caterpillar, chrysalis, silkworm moth).

Possible assessment focus

Can the children:

- explain the life cycle of the silkworm using the diagram and the text?
- explain given words from the text (chrysalis, cocoon, moulting, mulberry leaves)?


Writing links

Read the picture storybook *The Very Hungry Caterpillar* by Eric Carle to the children. Ask the children to help you write a similar story about a silkworm. It could be called *The Very Hungry Silkworm*.

The children could research another type of caterpillar and write a book about it, modelled on *Silkworms*.

 whole text activity

 sentence activity

 word activity

Silkworms

Topic: Science/ Animal Kingdom/ Time

Curriculum link: Natural Science

Text type: Explanation

Reading level: 17

Word count: 328

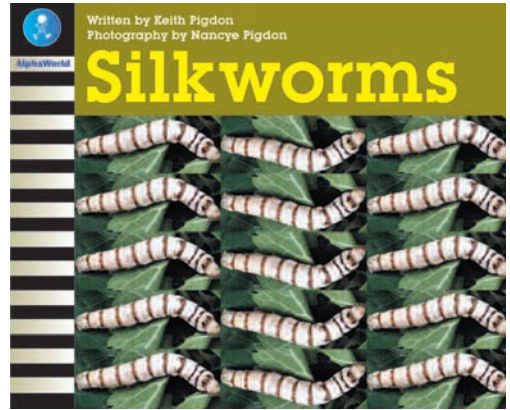
Vocabulary: caterpillar, chrysalis, cocoon, glands, hatch, mating, moth, moult, mulberry tree, silkworm

Possible literacy focus:

- Understanding the text at the three levels: literal, interpretive and inferential.
- Interpreting information from a diagram.
- Understanding new words: chrysalis, cocoon, moulting, mulberry leaves.

ESL possibilities:

- Scan the text to find words from the glossary.
- Explain the lifecycle of silkworms in your own words using the diagram as a reference.



Summary

This book is a report about the life cycle of silkworms from eggs to caterpillars, cocoons and moths.

AlphaWorld



ISBN 0-7253-3060-0



9 780725 330606