



**Ebook Code:
RENZ4050**



The Earth & Life Science Series

Creepy Crawlies

**Science activities for
6 to 9 year olds**

Written by Kellie Lloyd. © Ready-Ed Publications - 2005.
Published by Ready-Ed Publications (2005) P.O. Box 276 Greenwood Perth W.A. 6024
Email: info@readyed.com.au Website: www.readyed.com.au

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ISBN 1 86397 349 4

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Teacher Information

The Earth and Life Sciences Series is designed to provide teachers of children in the 6 - 9 age range with a set of materials that will give students a more rounded and scientific understanding of their world and their place in it.

Student activities are directed towards meeting the requirements related to Science education as set down in the document **Science - A Curriculum Profile for Australian Schools** (*Curriculum Corporation, 1994*). This book, **Creepy Crawlies**, relates in particular to the conceptual strand of **Life and Living**, at Levels 1 and 2 as indicated in the Profile document. In addition the activities in the book enable children to utilize some cognitive processes which are incorporated in the **Working Scientifically** strand of the curriculum.

These are:

- identifying, distinguishing, becoming aware of, observing;
- describing, naming features, recording, describing change, describing how, listing;
- describing patterns, connecting, linking, classifying, sorting, organizing.

SPECIFIC OUTCOMES RELATED TO THE WORKING SCIENTIFICALLY STRAND

Level 1 and Level 2 children working on activities in this book could be expected to realize these outcomes related to this strand:

- Students investigate to answer questions about data and then communicate conclusions.

Specifically, students:

- Focus on problems in response to teacher generated questions or suggestions;
- Carry out sequential activities, and observe and describe their actions;
- Share observations;
- Identify some of the variables in a problem situation;
- Make simple non-standard measurements and records of data.

SPECIFIC OUTCOMES RELATED TO THE LIFE AND LIVING STRAND

Level 1 and Level 2 children working on activities in this book could be expected to realize these outcomes:

- Students understand that needs, features and functions of living things are related and change over time.

This outcome will be demonstrated by the understanding ...

- * that some 'creepy crawlies' have different coverings;
- * that different 'creepy crawlies' have different needs;
- * that 'creepy crawlies' change over time through metamorphosis.

STRUCTURE OF THIS BOOK

Books in this series are divided into two sections - the section which includes the **“Using Information”** activity pages and that containing **“General Activity”** pages.

Both sections include **Teachers’ Notes** which focus on aspects of subsequent activity pages such as:

- learning outcomes of the relevant pages;
- materials required to complete the activity page;
- teaching suggestions for each page in the section.

“USING INFORMATION” SECTION

All student activity pages in this section are preceded by an **“Information Page”** - a set of notes that provides background knowledge to the activities presented on the worksheet. It is intended that these sheets are also photocopied for students and used by them as they attempt the activity page. It is envisaged that this approach will allow teachers to link the class Science program to the Language program, through using these information pages as opportunities for Reading and Viewing activities. They are ideal for these purposes as they require students to retell meanings and make simple interpretations for the purpose of completing the accompanying worksheets.

The text in these pages may be on a slightly more difficult level than that presented on the worksheets and further assistance is given by defining some key words or phrases. These are underlined and link to the **Explanations** section at the base of the page, which contains further definitive statements and explanations about the text.

It should be noted that not all the information that is required to complete worksheets is contained in these notes. In fact, children will benefit greatly from introductory discussions and idea sharing sessions about the worksheet in conjunction with the use of the Information Page.

GENERAL ACTIVITIES SECTION

The activity pages in this section (headed ACTIVITY PAGE) utilize traditional print related reference materials for children to complete the set tasks on the sheets. It would be useful for a collection of appropriate books and materials to be assembled before commencing the unit so these can be accessed and used with as little disruption as possible. It is imperative, too, that these sheets are discussed thoroughly before children are set to work.

Lesson Notes

Pages 7 - 10

CONTENT AREA(S):

- language
- science
- technology

LEARNING OUTCOMES:

In this section students will:

- use Information Pages to find and record required information.
- identify insect body parts and sense organs.
- label the stages of bee metamorphosis.
- distinguish between insect and arachnid characteristics.

MATERIALS REQUIRED:

- Information Pages
- pencil or pen

TIME:

- Approximately 30 minutes per lesson.

TEACHING TIPS: ALWAYS GO OVER THE DIRECTIONS FIRST.

- The Information Pages are designed as an introduction to understanding insects and spiders.

PAGES 7/8: BUG STUDY

- You may want to do this page as a whole group to show students how to use the Information Pages and to cover the basics of insects.
- Emphasize that students need to focus on the underlined words and definitions in addition to reading the text.

PAGES 9/10: SPIDER OR INSECT?

- Inform children that some of the clues may be a little tricky so they will have to think before they answer.
- Preview the vocabulary of the body parts so students have a reference for pronunciation.

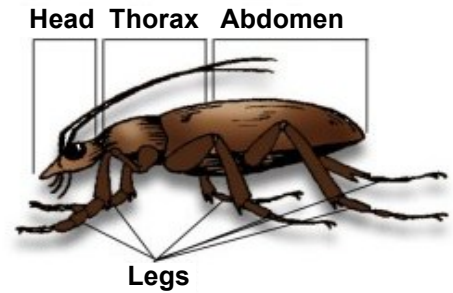
Information Page: Bug Study

An entomologist is a person who studies insects. Sometimes insects are called “bugs”.

There are a lot of insects in the world. As a matter of fact, there are over a million different kinds of insects and many more insects in the world than ALL other animals put together!

All insects have 6 legs and 3 body parts. The body parts are: the head (with 2 feelers called antennae), a thorax (the middle part), and an abdomen (belly).

Most insects also have at least one pair of wings. Instead of a skeleton on the inside, insects have an exoskeleton, which is like a skeleton on the outside.



INSECTS ARE NOT AT ALL LIKE PEOPLE

If you want to taste something, you put your tongue on it. But if a fly wants to taste something, it walks on it. Flies taste with their feet.

When you want to smell something, you put your nose near it, but a fly has no nose. Insects smell things with their two antennae.

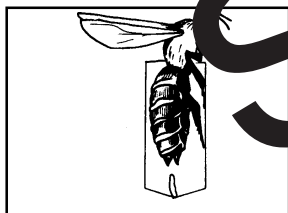
Insects don't see the way we do either. An insect's eye is made up of many tiny eye parts called lenses.

Each tiny eye, or lens, sees a part of what the insect is looking at. Dragonflies have as many as 30,000 lenses in each eye but you only have one.

YOU'VE GROWN SO MUCH!

All insects grow from eggs and change as they grow older. The changes in stages is called metamorphosis.

Butterflies, bees, ants, beetles, and flies grow in stages:



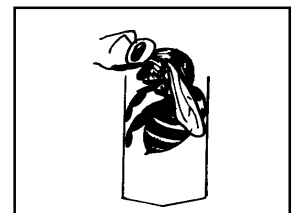
EGG - kind of like a chicken egg, but much, much smaller.



LARVAE - looks like a small worm that hatches from the egg



PUPAE - doesn't move around much but is beginning to look like an adult



ADULT - the beautiful insects that we know and love!

Dragonflies, termites, grasshoppers, and true bugs grow in three stages:

EGG - as above; NYMPH - looks like the adult insect when it hatches from the egg except it is very small and has no wings yet; ADULT - as above.

EXPLANATIONS

exoskeleton: An “outside skeleton” - a bony outer part to protect an animal. (The shell of a turtle or crab is an exoskeleton.)

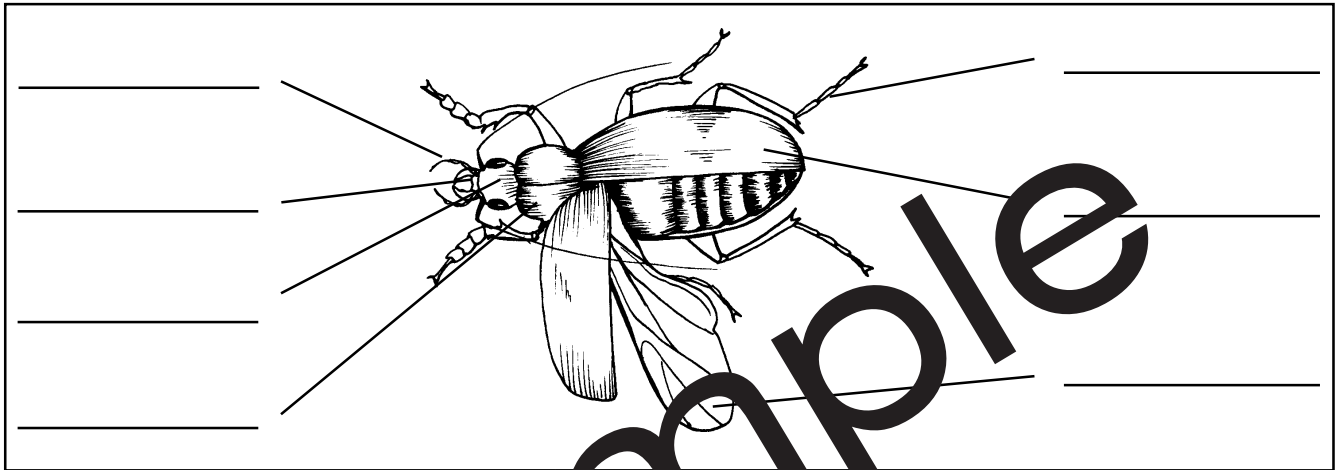
metamorphosis: A change from one thing to another. (A caterpillar goes through metamorphosis to become a butterfly.)

Bug Study

Use the Information Page on Bug Study to help you complete this page.

Answer the questions below.

1. What is a person who studies insects called?
2. A skeleton on the outside, instead of the inside, is called an
3. All insects have legs and body parts.
4. Look at the picture. Write the name of each insect body part.

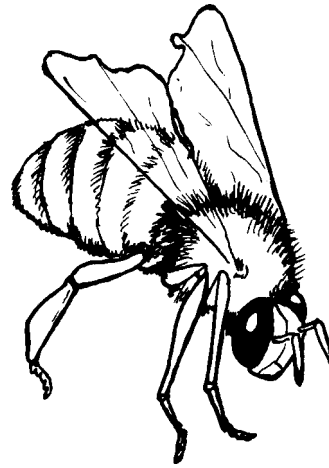


Draw a line to show what a fly uses to do these things.

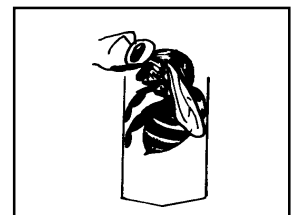
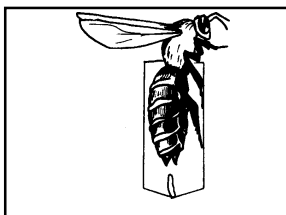
A fly tastes with...

A fly smells with...

A fly sees with...



Label each picture below to show the **four** stages of *metamorphosis*.



.....

Information Page: The Ants Go Marching

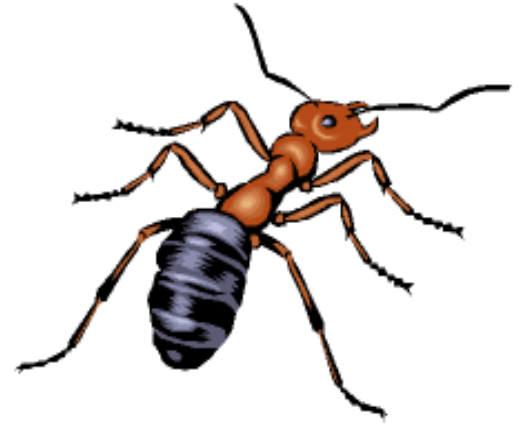
A group of insects that live together is called a colony. Each ant in a colony has a job.

ANT JOBS

The queen ant's job is to lay eggs.

Most ants in an ant colony are workers. All the workers are female. The workers build the nest, search for food, take care of the baby ants, and fight enemies.

Male ants live in the nest for a short time. The only job the male ants have is to mate with the queen. After that, they die.



SUPER STRONG

Like most small insects, ants can lift things that are much heavier than their bodies. If you had the strength of an ant, you could lift a car and carry it over your head!

ALL SORTS OF ANTS

There are many kinds of ants, but they can be grouped by the way they get food. There are six main groups: (1) army ants, (2) slave makers, (3) harvester ants, (4) dairying ants, (5) honey ants, and (6) fungus growers.

ARMY ANTS

An army is moving in the forest. Every living thing in its path is in danger. The soldiers of this army will kill any thing that can't get away.

Army ants eat any insects, spiders, and even animals that they can catch. They do not build nests. When they rest, they stay together in a large group in a tree branch, inside a log, or in a safe place.

SLAVE MAKERS

Slave maker ants attack the nests of other ants to take the nest and make the ants get food and work for them.

HARVESTER ANTS

These ants collect seeds and store them in their nests. They always have food to eat. The ants chew the seeds into what is called ant bread.

DAIRYING ANTS

Dairying ants eat a sugary liquid called honeydew. They get honeydew from insects, like aphids and other plant lice. Plant lice suck the sugary juices from plants.

HONEY ANTS

These ants get honeydew from insects or from plants. One ant eats the honeydew until it is so big that it can't move. Then, that ant is hung up. Any time other ants need food, they tap the fat ant who throws up a little honeydew for them to eat!

FUNGUS GROWERS

These ants grow gardens in their nests. The queen starts the garden with a bit of fungus (kind of mould). The fungus grows on the old leaves and the ants eat the fungus.

EXPLANATIONS

colony: Many ants live in underground nests. They have rooms for the queen, the babies, the workers, and for food storage.

mate: To help the queen make eggs that will become new ants.

The Ants Go Marching

Use the Information Page on The Ants Go Marching to help you complete this page.

Use the Information Page to find out more about ants.

1. A group of insects that live together is called a

.....

2. Name three things that rooms in an ant nest are used for.

.....

.....

.....



Ant Jobs

3. Would you rather be a male ant or a female ant? Why?

.....
.....

Super Strong

4. Name some things that you would lift if you were as strong as an ant.

.....

.....

All Sorts of Ants

Write the ant from the box that gets food in the ways described:

army ants	slave makers	harvester ants
dairying ants	honey ants	fungus growers

5. Needs slaves to feed them and work for them.

6. Makes gardens and grows fungus.

7. Collects seeds and chews them into ant bread.

8. Hangs a fat ant from the ceiling to throw up honeydew.

9. The soldiers kill any creature that can't get away.

10. Gets honeydew from aphids and plant lice.