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PHOTOCOPY MASTERS

Practical Science

Life and Living

for 10-12 year olds

- Practical hands-on science activities
- Contains comprehensive teachers' notes and lesson ideas

Written by Kevin Rigg. Illustrated by Melinda Brezmen.
Edited by Jane Bourke. Design & Typesetting by Shay Howard.
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Email: info@readyed.com.au Website: www.readyed.com.au

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Contents

Teachers' Notes

This book contains a package of photocopiable worksheets designed to be used to cover the Science learning area of "***Life and Living***" with 10-12 year old students.

At this level the students should be able to understand the relationships that exist between living things in an ecosystem, looking closely at the structure of living things including their own body systems. Activities incorporate skills such as researching and presenting information in written and diagrammatic form. Specific tasks involve plant comparisons and close-up studies of flowering plants. Research activities explore endangered and extinct animals, human systems and animal ecosystems.

Each lesson has the potential to:

- extend into more than one lesson by having separate parts to the lesson sheet. Some sections of a lesson may need planning on other paper before final copies are transferred to the lesson sheet. Some lessons may be too long for one lesson and could be completed at another time.
- expand into other curriculum areas using a similar theme. There are ideas for cross-curricular integration with other learning areas. Sometimes a whole day's work could be planned around one lesson sheet.

Science Materials and Equipment

The equipment needed has been kept to a minimum to facilitate ease of planning. It is readily available in schools or is easily acquired.

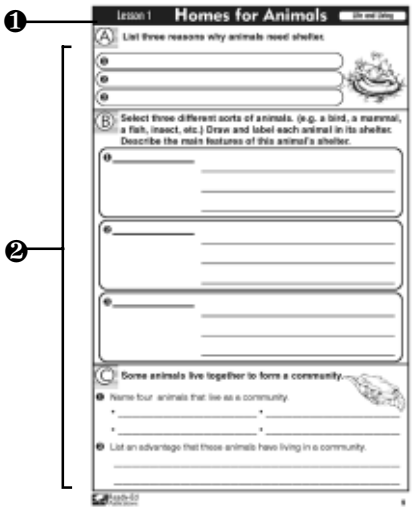
All lesson sheets are outcome linked to the various curriculum documents (see page 6).

Answers are provided where necessary (see page 26).

Other books in the Practical Science series:

- *Earth and Beyond*
- *Energy and Change*
- *Natural and Processed Materials*
- *Working Scientifically*

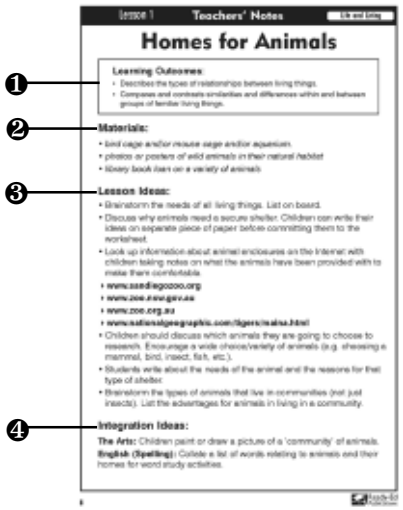
Lesson Sheets Layout



STUDENT LESSON SHEET

❶ Lesson title

❷ Student learning activities



TEACHERS' NOTES INCLUDE:

(FOR EACH LESSON)

❶ Outcome links;

❷ Required materials;

❸ Lesson plan ideas including extension ideas and teaching tips;

❹ Cross-curricular/integration ideas.

Plant Comparisons

Learning Outcomes:

- Maps relationships between living things in a habitat.
- Identifies external and internal features of living things that work together to form systems with particular functions.

Materials: (Each group/pair will need)

- *2 plants for study (weeds)*
- *magnifying glass*

Lesson Ideas:

- Children will need to have two different types of small plants including roots (weeds would be best) for their comparative study.
- Students should select the weeds from somewhere within the school grounds, taking care to note the soil type and the environment in which they are living. These notes can be written on spare paper.
- Ensure the students shake the extra soil from the roots before bringing them into the classroom.
- Names for the plant could be scientific or common. The school gardener might be able to help here. Also check this website:

  ▸ **www.weeds.org.au/weedident.htm** - *Click on your region and then click on the type of weed. Students can check the images and attempt to identify their weed specimens.*
- When drawing their weeds, students should use a sharp lead pencil. The drawings need to be as accurate as possible.
- Children can use the notes they took at the collection sites to describe the plants' habitat.
- The comparative study can be done with the magnifying glass. In the "special features" section children could do further drawings.
- Press the weeds in a plant press (or place between two sheets of paper under heavy books) and leave until dried out. Tape the dried plants onto a large piece of brown paper along with the worksheets.

Integration Ideas:

The Arts: Students can make leaf rubbings of collected leaves from around the school ground to create an interesting collage.

Science: Conduct some other plant activities using the weed samples (e.g. tests for light or orientation).

English (Speaking and Listening): Children prepare and present an oral report on the weeds they collected using the worksheet as a guide.

English (Writing): Children compose weed poems (e.g. acrostics, limericks, haiku and so on).

Plant Comparisons

A **Draw an accurate pencil sketch of each of your plants.**
Include labels and try to identify your plant.

Plant A:	Plant B:

B **Habitat:** Describe the conditions where each plant was found.
Note things like soil type, amount of sunlight, moisture, etc.

Plant A: _____

_____

_____

_____

_____

Plant B: _____

_____

_____

_____

_____

C **Comparison:** What was similiar and what was different about each of the plant parts. Note colour, feel, smell, size, shape, and so on.

ROOTS: ❶ Similarities _____
❷ Differences _____

LEAVES: ❶ Similarities _____
❷ Differences _____

STEMS: ❶ Similarities _____
❷ Differences _____

D **Special Features:** What special features do your plants have?
(E.g. leaf shape and texture, flowers/seeds, insects.)

Plant A: _____

_____

Plant B: _____

_____